Focus on the first years: Correlates of substantiation of child maltreatment for families with children 0 to 4

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Abstract

The overall purpose of this study was to examine the correlates of substantiation of child neglect or child abuse in children 0–48 months of age in five areas: (1) child characteristics, (2) parent characteristics, (3) home characteristics, (4) social characteristics, and (5) maltreatment characteristics. A second purpose was to compare the results of this study to the current body of child maltreatment research.

This study uses an ex-post facto design. A random sample of cases from a large metropolitan area in the southwest was obtained. Families whose cases were substantiated for maltreatment were compared to families whose cases were not substantiated. The exposure of children to a dangerous environment and poor parental skill were predictive of the substantiation in the multivariate analysis. Parents with fewer parenting skills, such as the inability to effectively communicate, lack of impulse control and use of harsh discipline, were predictive of child maltreatment in the multivariate analysis. The bivariate analysis revealed additional 22 variables as correlates of the substantiation within the 5 factors.

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1. Introduction

Child maltreatment is a widespread phenomenon that has become a topic of great political and academic interest since the 1960s (Finkelhor, 1996). Yet the problem of child maltreatment continues. From 1986–1993 the number of seriously harmed children has increased to 299% (Sedlak & Broadhurst, 1996). Between the NIS-2 and NIS-3, the number of physically neglected children rose to 102%; the number of sexually abused children rose to 83%; and the number of physically abused children increased to 42%. Recently it has been demonstrated that there has been a dramatic decrease in the number of sexual abuse cases substantiated between 1992 and 2000 (Finkelhor & Jones, 2004).

Overall, very young children, ages 0–5 years old, have not received much attention in the child abuse and maltreatment literature, as it is related to prediction of substantiation. Yet young children suffer from abuse each year. The World Health Organization (1997) reports that as many as one in 5000 to one in 10,000 children under the age of five die each year from physical violence in countries with reliable mortality reporting. In the United States, the Department of Health and Human Services (DHHS, 2002) indicates that children in the age group of birth to 3 years have the highest overall victimization rates, followed by the 4–7 years age group. In order to gain further understanding of the patterns of physical abuse associated with young children, it is necessary to look at studies that have examined types of abuse and their relation to children’s ages. Unfortunately, it is difficult to synthesize studies due to the great variation in age groupings selected by researchers. Nonetheless, it is useful to look at studies that link age to type of abuse. First, correlates of neglect for young children will be presented, followed by correlates of physical abuse. Sexual abuse of young children is not covered in this study.

This study focuses on both child abuse and neglect among children 0–48 months of age. The rationale behind the focus on both physical abuse and neglect as separate categories in infant and toddlers are: (1) children under the age of four are more likely to experience neglect than other forms of maltreatment and will manifest different characteristics than children who experience physical abuse; (2) these children may experience the most devastating consequences, including increased risk of death; and (3) child abuse and neglect of infants and toddlers have been insufficiently researched and, therefore, preventative and intervention programs lack an understanding of the unique circumstances of these victims. It is beyond the scope of this paper to present an extensive review of the current research, but it can be found elsewhere in the literature (Berrick, Needell, Barth, & Jonson-Reid, 1998; Connell-Carrick, 2003; Scannapieco & Connell-Carrick, 2005).

1.1. Neglect of young children

While much attention has been focused on the incidence of physical abuse and sexual abuse in the popular and empirical literature, neglect has historically received less attention (Wolock & Horowitz, 1984), although this trend has been improving over the past decade (Dubowitz, 1999). More children are victims of neglect than of any
other form of child maltreatment (USDHHS, 2002) and the result of this inattention is manifested in grave consequences to the victims. Infants and toddlers are more likely to be victims of neglect than any other form of maltreatment (USDHHS, 2002) and these children also comprise those at risk of fatality due to maltreatment (Margolin, 1990; Petit & Curtis, 1997). Although neglect has been noted as a central feature in all forms of maltreatment (Erickson & Egeland, 1996), it has received much less definitional attention, which makes empirical comparison across studies difficult (Zuravin, 1991). What most broadly distinguishes neglect from other forms of maltreatment is its inherent omission of a behavior rather than a commission of behavior, as in the case of physical or sexual abuse (Zuravin, 1991; Sagatun & Edwards, 1995).

1.2. Physical abuse of young children

Children who experience physical abuse are predominately younger children, ranging in age from 0 to 9 years (Morris, Scott, Mortimer, & Barker, 1997; Marovich & Wilson, 1999). Connelly and Straus (1992) found that the age of a child was not related to abuse. This contradicts most data that indicate infants are at greater risk for physical abuse than other age groups. Connelly and Straus concluded that this result was based on the fact that their measure of abuse focused on assaults as maltreatment. Infants may in fact not be attacked more often than older children. However, in very young children and infants, shaking is more likely to produce an injury or to be fatal. Therefore, when child abuse is measured as “a resulting injury to a child”, there is a higher rate of abuse among infants, even though there is no difference in percent of assaults between younger and older children.

Similar to neglect, physical abuse of children in this age group is also an important concern, given that this type of abuse can be fatal for young children. Child fatalities are sometimes a tragic consequence of child abuse. The youngest children are the most vulnerable (USDHHS, 2002) is cause for grave concern. The Children’s Bureau reported that in the year 2000, children younger than one year old accounted for 44 percent of child fatalities; 85 percent of child fatalities were younger than 6 years of age.

Morris et al. (1997) found that women who committed physical abuse of young children were significantly younger than the men who committed an offense. Furthermore, these women physically abused children who were younger than those children abused by men. Overall, however, male abusers tended to commit physical abuse more often than female abusers (Brewster et al., 1998; Morris et al., 1997).

Other studies seeking to identify correlates of physical abuse have focused on infants (Bishop et al., 2001; Brewster et al., 1998; Cadzow, Armstrong, & Fraser, 1999; Kotch, Browne, Ringwalt, Dufort, & Ruina, 1997: Kotch, Browne, Dufort, & Winsor, 1999). Life stressors and low social support proved to be the most powerful predictors of child physical abuse potential. Kotch et al. (1997) found that life event stressors did not make a difference when high social supports were present. They concluded that life event stresses could increase the risk of a substantiated maltreatment report during infancy. However, social support may moderate the effect of life events. Other related correlates of abuse were maternal education, number of children in the home, substance abuse, maternal
depression, and receipt of Medicaid (Bishop et al., 2001; Brewster et al., 1998; Cadzow et al., 1999; Kotch et al., 1999).

1.3. Study aims and rationale

Building on the existing research, the aim of this study is to identify the predictors of substantiation of neglect or physical abuse in vulnerable victims and those most at risk for its harmful consequences: children 0–48 months of age. The study looks at the factors related to substantiation of an investigation of neglect or physical abuse. This identification is the first step in developing empirically based strategies for assessment, prevention, and intervention, which makes a significant contribution to the current risk assessment literature. Assessing infants and toddlers for the occurrence of maltreatment is challenging given their limited language abilities. This, therefore, necessitates that the unique risk factors for neglect and physical abuse be explored independently from other forms of maltreatment (Scannapieco & Connell-Carrick, 2002). This study builds on the current knowledge base of neglect and physical abuse research.

2. Methods

This study focuses on child maltreatment among children 0–48 months of age and their families; family being the unit of analysis. In 2000, Dallas County, Texas CPS formed “high-risk” units to receive all the investigations and ongoing work for children zero to four who are referred to CPS for: (1) physical abuse; (2) physical neglect; (3) medical neglect; and (4) neglectful supervision. Reports with the primary allegation of sexual abuse and emotional maltreatment are not included because these would not have been referred to this unit. The research question guiding this study is: what predicts the substantiation of neglect and physical abuse in children 0 to 48 months of age?

2.1. Design

This study uses an ex-post facto design. The unit of analysis is family and individual. Data were collected from administrative case records in the high-risk units over a nine-month time period from March 2000 to December 2000. The researchers developed a case abstraction form and case information was systematically obtained from CPS case records and applied to the abstraction form to obtain study variables. Inter-rater reliability of the case abstraction instrument is 95% based on n=50.

2.2. Sample

A computer-generated list of all investigated cases referred to the high-risk units was identified. In cases where a family was referred to CPS more than once during that time period, only the most recent investigation was used as the index incident, although all prior allegations are taken into account in the analysis of family characteristics. A random
sample based on a power analysis using the strategy of Cohen (1988) and considering the number of variables being studied resulted in a sample size of 342.

2.3. Variables and operationalization of variables

The ecological/transactional model of child maltreatment drives the inclusion of variables in this study (Belsky, 1980; Cicchetti & Lynch, 1993). While the ecological/transactional model is not being tested, it serves as the theoretical framework from which to include and organize variables.

2.3.1. Predictor variables

Variables for this study were abstracted from CPS case records. The variables in this study include information from the CPS mandatory risk assessment (Baumann, Law, Sheets, Reid, & Graham, in press) as well as other variables, such as previous history of maltreatment, ages of victims, and previous out-of-home care, to name a few. Many variables from this study were abstracted from the mandatory risk assessment form that each caseworker must complete on the family. Caseworkers rate families on a scale from 0 to 4, where 0 indicates no risk and 4 indicates extreme risk to the family on seven overall areas of concern: (1) child vulnerability; (2) home environment; (3) caregiver capability; (4) quality of care; (5) social environment; (6) response to CPS; and (7) maltreatment pattern. Within each area of concern are sub-categories as well as specific items that require a rating of yes, no, or unknown. For example, the variable home environment also includes sub-categories about specifics of the home including stressors and dangerous exposure. The sub-categories also have a 5-point rating scale from no risk to extreme risk. Similarly, individual items that require a response of yes, no, or unknown inform the rating of each sub-category. While the use of the risk assessment form has its limitations in this research, the caseworkers are trained on how to best use the form, as well as how to assess the information required by the risk assessment. Caseworkers are initially trained on the risk assessment instrument; following a period of using the instrument, caseworkers attend a follow-up training. The risk assessment itself was developed by researchers with the Texas Department of Protective and Regulatory Services and underwent extensive reliability and validity analysis prior to its utilization (Baumann et al., in press).

Five categories of variables guide the ability to answer the research question. The five factors are (1) child characteristics, (2) home characteristics, (3) caregiver characteristics, (4) social characteristics, and (5) maltreatment characteristics. Variables from the CPS Risk Assessment are measured on a 5-point rating scale as previously described. Other variables were also included that were identified in the case record (i.e., number of reports to CPS) and measured at the highest level possible in the case record.

2.3.2. Criterion variable

The overall purpose of this study is to determine what factors are associated with a substantiation decision for children between 0–4 who have experienced neglect and physical abuse. The criterion variables for the bivariate analysis are dichotomous variables that are operationalized by the substantiation of neglect and the substantiation of physical abuse. Neglect and physical abuse have 2 levels: substantiated and unsubstantiated. For the
multivariate analysis, the criterion variable was combined into a single variable that includes the aggregate of neglect and physical abuse substantiations. The multivariate criterion variable, *maltreatment*, has 2 levels: substantiated and unsubstantiated. Case-workers made the substantiation determination during their investigation and researchers collected data from case record and applied it to a researcher-constructed instrument. In the bivariate analysis, no overlap exists between those families substantiated for physical abuse and neglect. To illustrate, families substantiated for physical abuse were substantiated only for physical abuse and not for physical abuse and neglect together. Twenty families were substantiated for both physical abuse and neglect and were excluded from analysis.

3. Results

The purpose of this study was to determine the correlates of substantiation of physical abuse and neglect. Descriptive analysis will first be presented in Tables 1–3 to describe characteristics of families who were investigated within each type of maltreatment. Descriptive analysis does not present statistical significance nor does it differentiate between substantiated and unsubstantiated families. Rather, it describes the attributes and characteristics of families investigated for either neglect or physical abuse. Second, bivariate is presented in Table 4; it presents chi-square and *t*-test analysis for the substantiation of neglect and the substantiation of physical abuse independently. Lastly,

<table>
<thead>
<tr>
<th>Variable</th>
<th>Neglect (N=214)</th>
<th>Physical abuse (N=215)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>n</em></td>
<td>%</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>76</td>
<td>36</td>
</tr>
<tr>
<td>Hispanic</td>
<td>53</td>
<td>25</td>
</tr>
<tr>
<td>White</td>
<td>67</td>
<td>32</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–20,549</td>
<td>167</td>
<td>78</td>
</tr>
<tr>
<td>20,550+</td>
<td>47</td>
<td>22</td>
</tr>
<tr>
<td>Parenting status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single parent</td>
<td>103</td>
<td>56</td>
</tr>
<tr>
<td>Dual parent</td>
<td>82</td>
<td>44</td>
</tr>
<tr>
<td>Reporter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional reporter</td>
<td>132</td>
<td>63</td>
</tr>
<tr>
<td>Non-professional reporter</td>
<td>77</td>
<td>37</td>
</tr>
<tr>
<td>Placement history*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative care</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Foster care</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Out of home care, location unknown</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

*N=207 for neglect; N=211 for physical abuse. Some families had greater than 1 placement, which explains why the total types of placements are greater than placement history.*
Table 5 reveals the logistic regression results for the multivariate analysis with a combined criterion variable, maltreatment substantiation.

As shown in Table 1, an almost equal number of families were investigated for physical abuse and neglect. The majority of families investigated for both neglect and physical abuse were Blacks, 36% and 32%, respectively. Families were generally poor, with families investigated for neglect having the lowest income (78%). The majority of families investigated for both physical abuse and neglect were single parent families, with neglect having the highest percentage of single parent families (56%). Instead of looking only at marital status as a measure of parental support, parenting status was examined as to whether caregivers had another adult living in the home who served as a parental figure to the children (i.e. mother’s boyfriend).

Ten percent of neglect and physical abuse families who were investigated had previous out-of-home care, which was most likely to be relative care. Between the 2 groups, families investigated for neglect had slightly younger mothers ($M=24$) than the mothers in homes investigated for physical abuse ($M=25$) (Table 2). Families investigated for neglect had lower incomes than families investigated for physical abuse. Income is further explored in the bivariate analysis.

As shown in Table 3, 214 families were investigated for neglect of which 32% of cases were substantiated, compared to physical abuse which had only 21% of cases substantiated.

### 3.1. Bivariate results

Neglect and physical abuse are analyzed separately in this section to determine the independent correlates of the substantiation of neglect and physical abuse. Statistics to analyze the data include independent samples $t$-test for continuous variables; chi-square

<table>
<thead>
<tr>
<th>Maltreatment type</th>
<th>Substantiated</th>
<th>Unsubstantiated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>%</td>
</tr>
<tr>
<td>Neglect</td>
<td>69</td>
<td>32</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>44</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td>26</td>
</tr>
</tbody>
</table>
for categorical variables; and correlations, specifically the Pearson’s product moment correlation for interval data and phi for dichotomous variables. The table headings, neglect substantiation and physical abuse substantiation, refer to the case determination; namely,
whether the case was substantiated or not. Therefore, the bivariate analysis examines the significance of variables to determine whether each variable was significantly related to the substantiation of either neglect or physical abuse. Results are presented in Table 4.

3.1.1. Child and family characteristics

Child characteristics include variables that pertain to attributes of the child victim within the context of the family. Five variables are included within this factor and four variables were significantly related to the substantiation of neglect and physical abuse (Table 4). Families who were rated as more vulnerable and more fragile were significantly more likely to be substantiated for neglect ($t = -5.35, p \leq 0.001; t = -3.33, p \leq 0.001$) and physical abuse ($t = -5.48, p \leq 0.001; t = 4.16, p < 0.001$). Children in families substantiated for neglect ($t = -2.03, p \leq 0.05$) and physical abuse ($t = -3.19, p \leq 0.01$) had higher average ratings of the child’s behavior than unsubstantiated families, including such behaviors as fussiness, hostility and provoking. Finally, children who were substantiated for neglect ($t = 2.03, p < 0.001$) and physical abuse ($t = -5.12, p \leq 0.001$) were more likely to be unprotected by their caregivers.

3.1.2. Home characteristics

Home characteristics include variables that are indicators of the type of home environment the family lives in, including income, parenting status and number of individuals in the home. Eight variables are included within this factor. Families substantiated for neglect ($t = 7.12, p \leq 0.01$) and physical abuse ($t = -4.38, p < 0.001$) had poor home environments and more stressors (neglect $t = -5.88, p \leq 0.001$; physical abuse $t = -3.28, p < 0.01$) in the home, including toilet training (adding stress to the home environment) and overcrowding. Families who had more dangerous home conditions were also more likely to be substantiated for neglect ($t = 7.12, p < 0.001$) and physical abuse ($t = -3.05, p < 0.01$). Income was only significantly correlated with the substantiation of neglect ($X^2 = 4.73, p \leq 0.05$). Of the 69 families substantiated for neglect, 60 (87%) had incomes of US$20,549 or less.

3.1.3. Parent characteristics

Parent characteristic includes variables related to the parent, including parenting capacity and overall care of their child/children. Ten variables were included within this factor and the results are presented in Table 4. Caregivers who were rated as being less capable were more likely to have substantiated cases of neglect ($t = -7.44, p \leq 0.001$) and physical abuse ($t = -7.09, p \leq 0.001$). Families

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous exposure</td>
<td>0.39</td>
<td>0.18</td>
<td>4.59</td>
<td>1</td>
<td>0.032</td>
<td>1.48</td>
</tr>
<tr>
<td>Physical care</td>
<td>0.44</td>
<td>0.22</td>
<td>4.17</td>
<td>1</td>
<td>0.04</td>
<td>1.56</td>
</tr>
<tr>
<td>Chronicity</td>
<td>0.57</td>
<td>0.20</td>
<td>8.69</td>
<td>1</td>
<td>0.00</td>
<td>1.78</td>
</tr>
<tr>
<td>Severity</td>
<td>0.49</td>
<td>0.20</td>
<td>5.83</td>
<td>1</td>
<td>0.02</td>
<td>1.62</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.49</td>
<td>0.37</td>
<td>88.23</td>
<td>1</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>
substantiated for neglect and physical abuse were rated as having less knowledge, including lacking knowledge of child development and failing to understand the child’s needs (neglect $t=-6.34$, $p\leq0.001$; physical abuse $t=-4.67$, $p\leq0.001$). Lacking skills as a caregiver was also significantly related to substantiation for neglect ($t=-7.17$, $p\leq0.001$) and physical abuse ($t=-7.23$, $p\leq0.001$). Having a caregiver with less capacity as a caregiver, including depression, suicide attempts, substance abuse history, parent’s history of maltreatment as a child and mental illness, was significantly related to the substantiation of neglect ($t=-6.80$, $p\leq0.001$), but not physical abuse.

The quality of care that the caregiver gives the child was also significantly related to the substantiation of neglect ($t=-7.12$, $p\leq0.001$) and physical abuse ($t=-5.77$, $p<0.001$). When the caregiver and child have a poor connection, neglect ($t=-4.65$, $p\leq0.001$) and physical abuse ($t=-3.61$, $p<0.01$) were more likely to be substantiated. The emotional care a child receives was also a correlate of the substantiation of neglect ($t=-2.78$, $p\leq0.001$) and physical abuse ($t=-3.39$, $p\leq0.01$), including whether a child is targeted as a scapegoat or whether a child in the home is rejected by a caregiver. Poor physical care was significantly related to the substantiation of neglect ($t=0.69$, $p\leq0.001$) and physical abuse ($t=-4.61$, $p<0.001$).

3.1.4. Social characteristics

Social characteristics include those variables that affect the social environment of the family. Three significant variables were related to substantiation of neglect and two variables were significant for the substantiation of physical abuse.

Families with worse social environments were more likely to be substantiated for neglect ($t=-6.04$, $p\leq0.001$) and physical abuse ($t=-5.71$, $p<0.001$) (Table 4). When the social climate of the family was rated poor, including social isolation and negative family relationships, the allegation of maltreatment was more likely to be substantiated for neglect ($t=-5.50$, $p\leq0.001$). Families with more social violence, including domestic violence, were more likely to be substantiated for neglect ($t=-5.08$, $p\leq0.001$), but not physical abuse.

3.1.5. Maltreatment characteristics

Examining the history of maltreatment within a family is important in understanding the current maltreatment situation. The bivariate results of past investigations of maltreatment within the family, including history of involvement in CPS, as well as the current maltreatment situation are included in Table 4.

Families whose pattern of maltreatment was rated as more serious and more severe were more likely to be substantiated for neglect ($t=-7.18$, $p\leq0.001$) and physical abuse ($t=-8.40$, $p\leq0.001$). Families with a more chronic pattern of maltreatment were more likely to be substantiated for both physical abuse and neglect. The mean chronicity rating for substantiated cases of neglect and physical abuse was 2.2 and 2.4, respectively, compared to unsubstantiated cases with average ratings of 1.2 and 1.3, respectively. The current severity of the maltreatment was also significantly related to the substantiation of neglect ($t=-6.56$, $p\leq0.001$) and physical abuse ($t=-8.36$, $p\leq0.001$), indicating that the more severe the current maltreatment, the more likely it was to be substantiated. Although not significant for physical abuse, when the trend of the maltreatment was
rated as getting worse, the more likely the maltreatment was substantiated for neglect ($t=-5.92, p \leq 0.001$).

Having a history of out-of-home care was significant for both neglect ($x^2=4.92, p \leq 0.02$) and physical abuse ($x^2=12.64, p \leq 0.001$). Twenty families investigated for neglect had a previous history of placement and 11 were substantiated for neglect in this study. Twenty-two families investigated for physical abuse had a previous history of placement and 11 were substantiated for physical abuse in this study.

A history of maltreatment was also significantly correlated with the substantiation of neglect ($x^2=4.14, p \leq 0.05$), with 23% of substantiated families having a previous history ($N=15$) and only 1% of unsubstantiated families having a previous CPS history ($N=14$). Families with a history of physical abuse, sexual abuse, refusal to accept parental responsibility and neglectful supervision were more likely to be substantiated for neglect ($x^2=3.85, p \leq 0.05; x^2=5.05, p \leq 0.05; x^2=4.07, p \leq 0.05; x^2=5.32, p \leq 0.05$, respectively). A previous history of physical neglect was significantly associated with the substantiation of physical abuse ($x^2=6.91, p \leq 0.05$).

### 3.2. Multivariate analysis

Bivariate analysis revealed 30 significant variables. Although differences in predictor variables of substantiation of each type of maltreatment were identified, the overwhelming majority of predictor variables were similar between physical abuse and neglect. Due to low percentage of substantiated cases and the general agreement among predictor variables, the criterion variable was combined into a single, dichotomous variable of substantiation of child maltreatment, rather than analyzing physical abuse and neglect separately.

Multicollinearity data screening using variance inflation factor (VIF) and the tolerance statistic lead to the elimination of 10 variables: child vulnerability, protection, caregiver capability, caregiver skills, quality of care, emotional care, social climate, social violence, maltreatment pattern, and maltreatment trend. An approach for combating multicollinearity is dropping the problematic variable from the analysis (Sprinthall, 2000). Variables that had a VIF statistic of 6 or greater were dropped for further analysis. The significant predictor variables were analyzed using forward logistic regression.

Table 5 shows the results of the logistic regression analysis and only significant variables are presented. Logistic regression results indicate that the overall model was significant in distinguishing between unsubstantiated and substantiated cases of maltreatment ($-2 \log \text{likelihood}=292.11; x^2=359.35, p<0.001$) (Table 5). The model correctly classified approximately 80% of the cases and was slightly better at predicting unsubstantiation than substantiation. The sample size for the multivariate analysis is 325 because some variables had missing data.

The Wald statistic indicated that 4 variables were significant in predicting maltreatment substantiation at the $p \leq 0.05$ confidence level, controlling for the influence of the other variables. Dangerous exposure was significant in distinguishing between the substantiation of maltreating and non-maltreating families (Wald=4.59, $p \leq 0.05$). The Exp ($B$) statistic indicates the increase in odds of being classified in a category when the predictor variables increase by 1. As the rating of dangerous exposure increases by 1, families are 1.5 times
more likely to be classified as maltreating. Providing less adequate physical care was also significant in the multivariate analysis (Wald=4.17, \( p < 0.05 \)) and as the rating of physical care increases (gets worse), families are 1.5 times more likely to be substantiated for maltreatment. Third, chronicity was significant in predicting the substantiation of maltreatment (Wald=8.69, \( p \leq 0.01 \)). As the variable chronicity increases by 1, families are 1.8 times more likely to be classified as maltreating. The current severity of the maltreatment was also significant in predicting the substantiation of maltreatment (Wald=5.82; \( p \leq 0.05 \)). As the rating of the variable severity increases by 1, the chances of the case being substantiated increases by 1.6.

3.3. Limitations of the study

Accurate interpretation of the findings requires an explication of the limitations of this study. While other limitation exists, one obvious limitation is the use of administrative data. The use of administrative data is an obvious constraint of the study because of the limit on researcher control and the specific information collected (Drake & Jonson-Reid, 1999). However, an advantage of administrative data is the direct link between research and practice since case records are a manifestation of practice. One additional limitation is the inability to include child age as a predictor variable. The unit of analysis is family and many families have more than 1 child in the home, as well as more than 1 child under the age of 48 months. Therefore, it was impossible to extract child age as a predictor variable.

4. Discussion

Significant differences emerged between the substantiation of physical abuse and neglect in the bivariate analysis in all 5 constructs: child characteristics, home characteristics, caregiver characteristics, social characteristics and maltreatment characteristics. Children in families substantiated for neglect and physical abuse were more vulnerable, fragile, had more difficult behavior and were less likely to be protected. Previous research has also found that mothers who neglect find their children more temperamentally difficult (Brayden, Atlmeier, Tucker, Dietrich, & Vietze, 1992) and the relationship less positive (Coohey, 1995). Different from previous research, however, the ethnicity of the child had no difference on the substantiation of maltreatment, although the majority of families investigated for maltreatment within each category were Blacks (Table 1). Previous research has found significant ethnic differences in the determination of neglect (Lee & Goerge, 1999; Jones & McCurdy, 1992; Chaffin, Kelleher, & Hollenberg, 1996).

Variables within the home environment were statistically significant for the substantiation of neglect and physical abuse in both the bivariate and multivariate analysis. Families who were substantiated for neglect and physical abuse had worse home environments, more stressors and exposed children to more environmental dangers than families unsubstantiated for both types of maltreatment. While not significant for physical abuse, families substantiated for neglect had less income than the other maltreatment categories. Sixty-nine families were substantiated for neglect and 87% (\( N = 60 \)) of them had
incomes of US$0–20,549 or less. This finding supports previous research that has found a relationship between poverty and neglect (Brown, Cohen, Johnson, & Salzinger, 1998; Chaffin et al., 1996; Drake & Pandey, 1996; Jones & McCurdy, 1992; Lee & Goerge, 1999; Scannapieco & Connell-Carrick, 2003; Sedlak, 1997; Sedlak & Broadhurst, 1996). Sedlak (1997) found that the risk for neglect attributed to poverty ranged from 20 to 162 times in families with incomes less than US$15,000. There is some empirical evidence to support the lack of significance of income and physical abuse; Lee and Goerge (1999) found that the increased substantiation of neglect was mostly confined to poor communities, while increased substantiation of physical abuse was found across all income levels.

Exposure to dangers in the home, including unsanitary and hazardous home conditions and exposing children to environmental dangers, was a significant predictor of the substantiation of maltreatment in the multivariate analysis. Eighty-one percent (N=29) of children who were living in unsanitary home conditions were substantiated for maltreatment; 78% (N=34) of children whose home conditions were hazardous were substantiated for maltreatment; and 70% (N=57) of children who were exposed to dangers were substantiated for maltreatment.

Characteristics of the caregiver were also significant in the bivariate analysis to discriminate between substantiated and unsubstantiated families. Families substantiated for neglect and physical abuse had caregivers that were less capable, had less knowledge of parenting, and had fewer skills as parent. Families substantiated for neglect also had a caregiver with less capacity, including depression, suicide attempts, mental impairments, and drug and alcohol use. Seventy-seven percent (77%) of the families who were rated as “extreme” on caregiver capacity were substantiated for neglect. This finding supports previous research that has also found that neglecting mothers had more depression than non-neglecting mothers (Chaffin et al., 1996; Coohey, 1998; Gaudin, Polansky, Kilpatrick, & Shilton, 1993; Zuravin & DiBlasio, 1996). Similarly, prior research has found that mothers who neglect have fewer problem-solving skills (Coohey, 1998), fewer parenting skills (Brayden et al., 1992), and a history of substance abuse (Chaffin et al., 1996; Coohey, 1998; Scannapieco & Connell-Carrick, in press; Sun, Shillington, Hohman, & Jones, 2001).

Maternal age was not a significant correlate of physical abuse or neglect. Previous research, however, has found a relationship between young maternal age and neglect (Brown et al., 1998; Chaffin et al., 1996; Jones & McCurdy, 1992; Lee & Goerge, 1999), while Jones and McCurdy (1992) also found that the combination of low income and single-parenthood contribute to neglect. Nevertheless, most previous research has looked at all-aged victims, rather than victims only 0–4. One could speculate that since the sample in this study is a subset of all-aged maltreatment victims, maternal age becomes less of a discriminating factor.

Caregivers who provided poorer quality of care, had poorer connections, poorer emotional care and poorer physical care to their children were also more likely to be substantiated for neglect and physical abuse. These findings support previous research that has also looked at sociobehavioral aspects of parenting and their influence on maltreatment. Mothers who were identified to neglect their children rated their children as more temperamentally difficult (Brayden et al., 1992) and their relationship to be less positive
While this alone is not conclusive, it does help us understand the complexity of attachment and the provision of good care to a child. Attributes of a child, parent and the fit between the parent and the child can impede attachment and the provision of good parenting and emotional care. Although it is impossible to say with certainty that this is the case here, it does lead us to a better understanding of how parenting, attachment and maltreatment interact. Similarly, the provision of physical care to a child was a significant variable in predicting the substantiation of maltreatment in the multivariate analysis. Maltreatment was substantiated 81% of the time when the child in the home lacked overall physical care (N=42); seventy five percent (75%) of the time when a caregiver left the child inadequately supervised or with an inappropriate caregiver; and 65% of the time when a child was denied essential medical treatment.

Examining the social environment of the family is at the cornerstone of social work practice. When families were rated as having a poor social environment, both neglect and physical abuse were more likely to be substantiated. Previous research supports the link between a poor social support, including small social networks and less emotional support from social networks, and neglect (Brayden et al., 1992; Coohey, 1996; Gaudin et al., 1993); and Kotch et al. (1997) found that life stresses can increase the risk of a substantiated maltreatment report during infancy. When the family’s social climate was poor, including isolation, poor interpersonal relationships and lack of support from extended family, neglect and both physical abuse and neglect were more likely to be substantiated. Although social violence was only a significant correlate of the substantiation of neglect, this finding does support previous research in this area. Mothers identified as neglecting have been shown to be more likely to experience abuse as both a child and an adult (Zuravin & DiBlasio, 1996); and Zuravin and DiBlasio (1996) found that adolescent neglectful mothers were more than 3 times likely to have been sexually abused.

Finally, examining the current and past maltreatment of the family is important in determining the current maltreatment situation. Families whose pattern of maltreatment was getting worse, more severe and more chronic were more likely to be substantiated for neglect and physical abuse. As the trend of maltreatment was rated as getting worse and more frequent, neglect was more likely to be substantiated. Having a previous out-of-home placement was also significantly related to the substantiation of neglect and physical abuse.

A previous history of maltreatment was a significant correlate of the substantiation of neglect. Sixty-three percent (63%, N=43) of the families who were substantiated for neglect had a previous history with CPS, of which physical abuse, neglectful supervision, sexual abuse and refusal to accept parental responsibility were significant variables related to the substantiation of neglect. Half (N=22) of families who had a previous history of placement were substantiated for physical abuse and a history of physical neglect is a significant variable related to physical abuse substantiation.

Multivariate analysis also revealed significant predictors of maltreatment within this construct. As maltreatment becomes more chronic, including the incidence of prior investigations, prior removals, history of maltreatment within the family, recent incidents and violence within the home, the odds or predicting substantiation increases by almost 1.8. When the variable chronicity was rated as either extreme or considerable,
maltreatment was substantiated 78% of the time; and when chronicity was rated as extreme, maltreatment was substantiated 88% of the time. Similarly, as maltreatment gets more severe, including whether there is potential harm, immediate physical harm, multiple injuries, sexual penetration, and injuries requiring immediate medical care or sadistic maltreatment, the odds of predicting that maltreatment will be substantiated increases by 1.6. When the variable severity was rated considerable or extreme, maltreatment was substantiated 75% of the time; and when severity was rated as extreme, maltreatment was substantiated 85% of the time.

5. Conclusion

Children age 0–3, followed by 4–7, have the higher overall victimization rates of maltreatment than any other age group (USDHHS, 2002); yet, research regarding age-related patterns in maltreatment is limited (Marovich & Wilson, 1999). Identifying the unique predictors of neglect and physical abuse is imperative to developing good practice and interventions that truly target those children most at-risk of maltreatment. The consequences of maltreatment are devastating to young children and include developmental delay (Erickson & Egeland, 1996), retarded brain growth (Dubowitz, 1991), decreased emotional stability and attention deficits (National Research Council, 1993), and death (Margolin, 1990).

Although an overwhelming overlap exists between abuse and neglect in the bivariate analysis, this study did find differences between the two types of maltreatment. The multivariate analysis also adds to the understanding of child maltreatment in young victims. The findings contribute to the current body of knowledge of maltreatment and age-specific indicators of maltreatment, which is necessary in understanding the complex phenomenon of child abuse and neglect. Future research should focus on age-specific correlates, as well as the differences between abuse and neglect.

References


