



PII S0145-2134(96)00080-4

CHILD AGE AND CASEWORKER ATTENTION IN CHILD PROTECTIVE SERVICES INVESTIGATIONS

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Abstract—Infants and toddlers are at increased risk for severe/fatal abuse, often at the hands of male perpetrators. This paper examined whether child maltreatment cases involving younger children receive more casework services, overall caseworker activity (e.g., home visits, phone contacts), and are more likely to be substantiated, particularly if a male perpetrator is involved. The randomly selected sample consisted of 293 child abuse and neglect reports in a large county in Western New York in 1993. Hierarchical regression analyses showed that younger children generally receive more overall services and caseworker activity, and that while age makes a significant contribution after the decision has been made to substantiate a case, it does not have the same effect on the initial decision of whether or not to substantiate. Gender of the perpetrator did not reliably predict caseworker attention.

Key Words—Child age, Young children, Decision-making, Child protection, Child abuse.

INTRODUCTION

THE PROBLEM OF child maltreatment is a basic and crucial research priority for three reasons (Melton & Flood, 1994). First, it is correlated with a wide array of social and personal problems such as crime and substance abuse. Second, child abuse and neglect tie into ecological issues such as community disintegration, social isolation, and economic inequality (Garbarino & Kostelny, 1992). Third, and perhaps most important, child maltreatment compromises children's fundamental human rights. Attention to the problem of child maltreatment has increased substantially in recent years, as evidenced by federal and state legislation, an extensive and growing research base, and expressions of public concern about the problem and its prevention.

Funding for this project was provided by the Baldy Center for Law and Social Policy, State University of New York at Buffalo, Buffalo, New York.

Received for publication December 19, 1995; final revision received April 5, 1996; accepted April 9, 1996.

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While the state of knowledge about child maltreatment has grown, child maltreatment itself appears to be growing as well. Reports of suspected maltreatment have leapt from 669,000 children in 1976 (U.S. Bureau of the Census 1989, Table 291) to 2.9 million children in 1993 (NCCAN, 1995). Additional data indicate that every year approximately 2,000 children will die (a conservative estimate), 18,000 will be permanently injured, and 141,700 will be severely injured as a result of child abuse and neglect (Baladerian, 1991; McClain et al., 1993; McClain et al., 1994; NCCAN, 1991; U.S. Advisory Board on Child Abuse and Neglect, 1995). It is not an understatement to say that the problem of child maltreatment is a national emergency.

In May of 1995, the U.S. Advisory Board on Child Abuse and Neglect published a report that focused specifically on the most extreme end of the child abuse continuum: child maltreatment related fatalities. The report examined the scope of fatal child abuse and neglect in the United States as well as goals for programs to prevent such unnecessary deaths (U.S. Advisory Board on Child Abuse and Neglect, 1995). This report as well as other studies in the field have suggested that some basic kinds of high-risk victim, perpetrator, and community characteristics may be associated with both fatal and severe maltreatment (Hegar, Zuravin, & Orme, 1994; Levine, Freeman, & Compaan, 1994; U.S. Advisory Board on Child Abuse and Neglect, 1995). The most striking, although not intuitively surprising, victim characteristic is the young age of the child. According to the Advisory Board report, "violence towards very young children has reached the level of a public health crisis and is similar in scope to the destruction of teenagers by street gunfire" (U.S. Advisory Board on Child Abuse and Neglect, 1995, p. xxiv). Additionally, child maltreatment deaths in young children (those under 4) outnumber deaths caused by falls, choking on food, suffocation, drowning, house fires, and car accidents (U.S. Advisory Board on Child Abuse and Neglect, 1995).

Children under age 4, and in particular those under age 2, are at highest risk for fatal maltreatment (both abuse and neglect) as well as severe physical abuse. Levine and colleagues (1994) report that the data they reviewed on child fatalities are highly consistent in showing that 75% or more of those fatalities occur in children under the age of 4, a large percentage of which are children under age 1. Additional victim characteristics include female children appearing to be more at risk for severe and fatal physical abuse while male children are more likely to be severely or fatally neglected (Levine et al., 1994; Margolin, 1990; U.S. Advisory Board on Child Abuse and Neglect, 1995).

Perpetrator characteristics identified as risk factors for severe and/or fatal abuse include age, gender, and relationship to the victim. Data indicate that male and female perpetrators are most often in their mid-20s and appear to act alone in a similar number of maltreatment related fatalities. Quite notably, males (even when acting with females) are predominantly the perpetrators of abuse-related fatalities and severe injuries. Many male perpetrators also appear to be a live-in spouse or boyfriend not related to the child victim (Levine et al., 1994; U.S. Advisory Board on Child Abuse and Neglect, 1995). Social/environmental characteristics such as membership in a racial or ethnic minority group, low socioeconomic status, social isolation, and prior contact with Child Protective Services also appear to be useful risk factors that may define certain subpopulations for prevention efforts, however, these kinds of broad indices are difficult to disentangle from one another.

The specific focus of this paper is limited to exploring individual level characteristics about child victims of maltreatment and their involvement with Child Protective Services. As noted above, one of the most striking findings in the recent reviews of child maltreatment related fatalities and severe injuries due to abuse and neglect is the vast overrepresentation of very young children as victims. The goals of this study are also consistent with national research priorities which include: examining the operation of Child Protective Services and child welfare agencies, promoting child safety and prevention efforts, and identifying children and families at risk of severe or potentially fatal abuse (National Research Council, 1993; U.S. Advisory Board on Child Abuse and Neglect, 1995).

Children at different stages of development have varied needs that must be identified and addressed by those in a position of providing services to these children. Younger children are at greater risk of those kinds of injuries that lead to permanent injury and death and therefore may deserve increased attention of some forms during investigation into a report. While the physical size of infants and preschoolers plays an obvious role in their increased vulnerability, throughout the early developmental stages of childhood there are also behavioral "triggers" that have been tied to age-related patterns of injuries. Injuries and fatalities in infants are most often characterized by injuries to the central nervous system, seen less frequently in older children. Colic, or fussy and unexplained crying in infancy not due to hunger or pain, may result in shaking injuries, including subdural hematomas and retinal hemorrhages (Schmitt, 1987). Frustrated caretakers of colicky infants may also inflict grab marks, rib fractures, or tears in the tissue of the mouth caused by the forcing of a bottle or a pacifier. Similar kinds of injuries are also seen in infants who awaken repeatedly throughout the night (Schmitt, 1987).

In toddlers, specific injuries such as slapping, spanking, or grabbing a child with excessive force are often the response to normal exploratory behavior, negativism, and separation anxiety. In addition to bruising a child, there are often injuries to children's eyes or ear drums. Schmitt (1987) reports that the normal decrease in a child's appetite between 18 months and 3 years may result in power struggles with the potential for violent caretaker response, including slap marks and pinch marks on the face, injuries to the lining of the mouth, or most severely aspiration of food into the lungs. Finally, a large majority of child maltreatment injuries in preschool age children appear to be precipitated by toilet training struggles/failures. Injuries commonly associated with toilet training include genital bruises and burns, as well as blunt trauma injuries (Levine et al., 1994; U.S. Advisory Board on Child Abuse and Neglect, 1995). Focusing on the unique risks of children as a function of developmental level has for the most part supported the hypothesis that younger children are more often victims of physical abuse and neglect and less often victims of sexual abuse and emotional maltreatment (Eckenrode et al., 1988; Jones & McCurdy, 1992; Winefield & Bradley, 1992; Wolfner & Gelles, 1993). This is not to imply that a given type of maltreatment is worse than another, but simply to point out where there are statistically significant differences.

Thus, there are strong data to suggest that younger children are at greater risk for severe injuries and that these injuries often correspond in some way to developmental stages or expected behaviors. In reviewing the literature, some have argued that younger children (preschool age and below) are not being reported to appropriate agencies and are therefore not identified before it is too late. According to the U.S. Advisory Board (1995), even when a report is made, many professionals do not trust child protective services to conduct thorough investigations of abuse and neglect when a young child is reported (although it is worth noting that child protection agencies, like many other organizations under public scrutiny, are far more likely to receive negative than positive attention). Additionally, many researchers have found it problematic that the vast bulk of all reports to child protection, whether substantiated for maltreatment or not, end with the investigation process. The relevant question is whether child age has been given sufficient attention in the decision making and investigatory process of child protective services. Specifically, how does a child protection worker respond to cases of alleged abuse or neglect involving younger children?

Interestingly, however, there is also a fairly large body of child welfare literature which suggests that young age of the victim is an empirically validated indicator of risk which is frequently used by caseworkers when making decisions about the outcome of a case as well as in formal risk-assessment models (Jones, 1993; McDonald & Marks, 1991). For example, Jones (1993) reviewed the literature on decision making in child welfare with the intention of identifying those variables that caseworkers use to make decisions about whether to investigate, substantiate, or intervene in a case of child maltreatment. Variables that suggest increased vulnerability, such as young age of the victim or physical disability, were found in many studies to influence positively the caseworker's

decision to intervene (DiLeonardi, 1980; Jones, 1993; McDonald & Marks, 1991; Meddin, 1984). However, the majority of these studies did not look beyond the caseworker's decision to accept and/or substantiate a report of abuse or neglect. There are no data that look at other aspects of the caseworker decision making process, such as the provision of services or relative attention to a case, as it relates to the age of the child.

Overall, it is still somewhat unclear how young age of a child victim of maltreatment is addressed once the case has been accepted into the protective services system. One hypothesis is that young age is viewed as a risk factor and predictive of investigation and substantiation of a case, but it may not predict added attention and/or protective interventions. A second hypothesis is that young age of the child predicts investigation and substantiation as well as increased attention. Given that a child abuse report in New York State may be not substantiated, substantiated and closed the same day, or substantiated and kept open for further services, variables that influence these kinds of decisions are important. An equally relevant question that has not yet received research attention concerns the actual resources that go into an investigation. While the major focus of a child protective services investigation is and should be the protection of children, a report to child protection typically means a troubled family. As a result, we were also interested in knowing the extent of services being delivered to such families during the investigatory process—particularly to those with young children.

The central focus of this study is on the extent to which young age of a victim is used by caseworkers as an indicator of case risk or added effort. Specific hypotheses are as follows:

1. The age distribution of the entire sample and age by type of maltreatment interaction will be similar to recent national estimates suggesting a gradual decrease in reported child maltreatment for older children and an overrepresentation of younger children (under age 5) as victims of abuse and neglect and an underrepresentation of younger children as victims of sexual abuse or emotional maltreatment.
2. The source of the report for younger children will most often be family members, neighbors, or medical providers in contrast to other mandated reporters. The exception would be when a younger child is reported when an older sibling is identified first.
3. In all cases involving younger children as compared with older children (particularly those in the two substantiated groups), and controlling for race and gender of the child and gender of the perpetrator, there will be: (a) more caseworker activity (phone calls, home visits, office visits, visits to other locations); (b) a larger number of services offered to the family.
4. In all cases involving younger children as compared with older children (particularly those in the two substantiated groups), and controlling for race and gender of the child, there will be an age of the child by gender of the perpetrator interaction in which cases with younger children and male perpetrators will involve: (a) more caseworker activity (phone calls, home visits, office visits, visits to other locations); (b) a larger number of services offered to the family.
5. Cases involving younger children as compared to older children will most likely be grouped as substantiated and kept open; next, most likely be substantiated and closed the same day; and will be least likely to be not substantiated.

METHOD

Design and Sample

The 293 cases examined in this study were drawn randomly from child abuse and neglect reports received by a large county in Western New York between July 1 and December 31 of 1993. The county has a population of nearly 1,000,000 people and includes a large urban

area, suburban areas, ex-urban and rural areas. The county includes Whites of several ethnic backgrounds and racial minorities, including African Americans, Latinos, and Native Americans. The minority populations constitute close to 40% of the urban center and about 13% of the overall county's population (State University of New York, 1994). The data were collected as part of a larger study that examined differences in case characteristics between cases that were not substantiated, substantiated and closed upon determination, or substantiated and kept open for services.

The County Department of Social Services investigates over 8,000 cases of alleged child abuse and neglect every year. These 8,000 cases fall into three groups: (a) about 70% are not substantiated, (b) about 18% are substantiated and closed the same day, and (c) about 12% are substantiated and kept open for services. While these percentages do vary on a state by state basis, the numbers in this county are highly consistent with both New York State totals (73.9% not substantiated, 26.1% substantiated—closed and open) as well as national totals (69.6% not substantiated, 30.4% substantiated—closed and open) (NCCAN, 1995). Because of the high incidence of not substantiated reports and the low incidence of substantiated reports, a stratified sampling plan of cases was adopted. Specifically, substantiated cases were over-sampled so as to obtain a relatively equal number of cases (approximately 100) in each of the three groups.

Procedure

Nonsubstantiated cases are maintained in each team supervisor's file for a period of about 2 weeks after the determination of the case. During this period the case is reviewed at the State Department of Social Services and an order is given for the case to be expunged. These cases were abstracted during the window while the case was not substantiated but not yet expunged. Every fifteenth case was selected. The substantiated cases (both those which are immediately closed as well as those which are kept open) are maintained in a central computer database at the county child protective services office. We drew random samples of approximately 100 cases from each of the two groups.

The study consisted of a case-records review conducted by trained undergraduate and graduate student abstractors. In order to minimize the likelihood that any single coder's bias might be confounded with a specific condition, each coder completed approximately the same number of cases from the randomly selected pool of cases in each group. Each record contained computer-generated forms, case narratives, and risk assessment protocols. For the most part, reviewing the records was a clerical task that required transferring data from the case file to the abstracting form without additional judgment on the part of the abstractor. Coders were trained with a standardized manual and supervised to code a category only if there was clear language in the case narrative pertaining to that item. Training lasted for 6 months and took place both on and off site. Pilot work indicated high inter-rater reliabilities for almost all coding categories. For the purposes of this study, the youngest child to have been maltreated was selected as the unit of analysis in families where more than one child was reported, in order to control for the clustering of case characteristics within reports that involve many victims (e.g., ethnicity, perpetrator variables).

Measures

CPS Case Record Data Form. We operationalize attention for the purposes of this study as: (a) caseworker activity such as number of attempted phone calls, visits with the family, and visits to other locations; (b) the number of services offered to the family during investigation (e.g., counseling, parent training, referrals to social service agencies); and (c) the outcome of the case as either not substantiated, substantiated and closed the same day, or substantiated

and kept open. A case abstracting instrument was developed for use in this study that enabled us to assess this broad range of case characteristics correlated with the decision making process. This instrument was based on a measure developed and used in previous studies (Doueck, Levine, & Bronson, 1993) and was extensively pilot tested and adapted. The instrument consisted of 29 questions pertaining to individual case characteristics such as descriptors of victims and perpetrators, alleged maltreatment, substantiated maltreatment, and prior contact with child protective services. Next, there were forty possible services listed where the coder was instructed to code "0" if no evidence of the service or activity appeared in the record, "1" if specific evidence of the service or activity exists in the case record, "2" if the service or activity was "refused," and "3" if information about the service or activity was given without recommendation or suggestion. There were five additional questions pertaining to family substance abuse, other contact with service agencies, harassment, and reasons for case closure. The Caseworker Activity Count consisted of the number of times the caseworker engaged in the following activities: home visits with clients and/or others, office visits with clients or others regarding the case, visits to other agencies or locations to discuss the case, and telephone contacts. These were recorded systematically by caseworkers in their daily case notes. Last, there were two different Department of Social Services formalized risk assessment scales, one preliminary (filled out for all cases) and one overall case risk assessment (filled out once the cases had been substantiated), included in the measure. It should be noted that filling out a risk assessment form after substantiation is one part of the New York State protocol. Although we might think of risk assessment as part of an intake or investigative process, in practice, assessment of risk is not uniformly defined and risk assessment models vary considerably. That is, they are used to support or facilitate many different kinds of decisions at one or several points during an investigative or ongoing process (English & Pecora, 1994; Keller, Cicchinelli, & Gardner, 1988; MacDonald & Marks, 1991).

RESULTS

Based on our sample size of 293 cases, an alpha of .05 and power of .80, this study had sufficient power to detect medium effects for both the univariate chi-square analyses (medium effect = .30) and multivariate regressions (medium effect = .15) (Cohen, 1992).

Descriptive Statistics

The overall age distribution of our sample of reports was comparable to national data that show the majority of cases cluster in the younger age groups and gradually decrease as children get older (NCCAN, 1995). The overall age distribution was also compared to an age distribution of all children in the County to address the concern that young children may be underrepresented in child abuse reports in proportion to their actual population numbers (U.S. Advisory Board on Child Abuse and Neglect, 1995). Contrary to these concerns, the percentage of children between 0–4 in our sample was nearly twice what it is in the County (State University of New York, 1994).

Table 1 compares the three groups (not substantiated, substantiated and closed the same day, and substantiated and kept open) on the major variables used in the analyses. The substantiated and kept open group had the youngest children while the substantiated and closed the same day group had the oldest. Ethnicity and gender of the child as well as gender of the perpetrator were similarly distributed across groups. With regard to gender of the perpetrator, however, about half the cases were females alone and about half the cases were males and females acting together or males acting alone. There were very few cases where males acted

Table 1. Summary of Variables Used in Multivariate Analyses by Group

Variable	Not Substantiated (N = 103)	Substantiated and Closed (N = 108)	Substantiated and Open (N = 82)	Total Sample (N = 293)
Age of Child (years)				
<i>M</i>	5.5	7.3	4.6	5.9
<i>SD</i>	5.3	5.4	4.8	5.4
Race of Child (%)				
White	46.6	48.1	51.2	48.5
Black	43.7	41.7	46.3	43.7
Other	9.7	10.2	2.4	7.8
Gender of Child (%)				
Male	43.7	51.9	48.8	52
Female	56.3	47.2	50.0	48
Gender of Perpetrator (%)				
Female Alone	52.4	51.9	63.4	55.3
Males Alone/Males and Females Together	46.6	47.2	36.6	44
Total Casework Services				
<i>M</i>	.58	1.6	3.5	1.8
<i>SD</i>	1.1	1.5	2.2	2.0
Number of Home Visits				
<i>M</i>	3.0	3.7	4.4	3.7
<i>SD</i>	2.2	2.3	4.0	2.9
Number of Office Visits				
<i>M</i>	.47	.41	.95	.58
<i>SD</i>	1.05	.77	1.33	1.1
Number of Phone Contacts				
<i>M</i>	5.14	8.82	13.69	8.96
<i>SD</i>	6.08	7.60	10.26	8.66
Number of Visits to Other Locations				
<i>M</i>	.51	.65	1.7	.904
<i>SD</i>	.99	.93	2.07	1.46

alone. This appears to be a result of the fact that unlike females, male caregivers rarely live alone, and even when a male is the primary perpetrator, females are often cited for failure to protect the child. Comparing the groups on the measures of caseworker activity, the findings matched the expectations that not substantiated cases received the fewest services and activity while substantiated and kept open cases received the most. The relatively low numbers of services offered (mean for all groups = 1.8) and overall caseworker activity are worth noting. Looking at some of the services most relevant for younger children, however, the results can be seen as mixed (Table 2).

Univariate Analyses

Age of primary victim by type of maltreatment. Chi-square analyses were used to examine the relationship between age of the primary victim and type of alleged and substantiated mal-

Table 2. Number of Children Offered and/or Receiving Selected Service Types by Age of Child

Type of Service	Children Under Age 3	Total Sample
Placement with Relatives/Neighbors	26	48
Placement in Foster Care	18	28
Referral for Parenting Classes	9	14
Information Given About Child Development	5	15
Discussion of Parenting Techniques	15	43

treatment and to compare our sample to national data. For the allegations, 62 of the 293 cases involving multiple forms of maltreatment were excluded from the analyses because there was not national data for comparison. For the same reason, 18 of the 190 cases with substantiated charges were excluded. Both allegations of suspected maltreatment as well as substantiated charges of maltreatment were significantly related to age of child, $\chi^2_{(12)} = 82.6, p < .000$ and $\chi^2_{(12)} = 40.1, p < .000$, respectively. As expected, children age 3 and under were over represented in cases of neglect and other maltreatment (almost all of which were positive toxicology cases) and children between the ages of 4–12 had higher rates of sexual abuse as compared to younger or older children. However, in contrast to national data, physical abuse was less frequent in children 3 and under and overrepresented in children 4–13 and older. These findings suggest that the physically abused children in this sample were somewhat older than in comparable samples.

We thank an anonymous reviewer for suggesting an examination of post hoc gender differences in maltreatment types. As noted above, there was evidence to suggest that young girls were at greater risk of severe and fatal physical abuse while young boys were at greater risk for severe and fatal neglect. We found no significant differences, although there seemed to be slightly more neglect of young boys than young girls and more sexual abuse of girls over age 4.

Age of primary victim by source of reporter. Chi-square analyses were used to examine the relationship between child age and the source of the abuse or neglect report. As expected, young age of the child was significantly related to a report by a family member or medical professional while older children were more likely to be reported by other mandated reporters, counselors and teachers. $\chi^2_{(16)} = 50.5, p < .000$.

Multivariate Analyses

Hierarchical regression analyses were used to determine if after controlling for differences in race and gender of the child (entered on step 1), the addition of the age of the primary victim and the gender of the perpetrator (entered on step 2), and then the interaction of these two variables (entered on step 3) improved prediction of: (a) the overall number of services offered to a family during a child protection investigation; (b) the overall level of caseworker activity (phone calls, home visits, and office visits) during a child protection investigation; and (c) the prediction of group membership (not substantiated, substantiated and closed the same day, or substantiated and kept open). Table 3 displays the correlations among all the variables in the multivariate analyses. For the most part, the independent variables are not

Table 3. Correlation Matrix for Variables in Multiple Regressions

	1	2	3	4	5	6	7	8	9	10
1. Race of Child	1.00	-.03	-.11	-.25**	.05					
2. Gender of Child		1.00	-.14*	-.03	.06					
3. Age of Child			1.00	.20**	-.22**					
4. Gender of Perpetrator				1.00	-.08					
5. Total Casework Services					1.00					
6. Home Visits	.09	-.02	-.17**	-.02	.39**	1.00				
7. Office Visits	.01	-.05	.02	.05	.32**	.15*	1.00			
8. Visits to Other Locations	.00	.00	.01	.03	.42**	.18**	.17**	1.00		
9. Telephone Contacts	.01	.02	-.12	-.07	.58**	.46**	.27**	.38**	1.00	
10. Group Membership	-.04	.05	-.05	-.08	.57**	.19**	.17**	.31**	.39**	1.00

* $p < .05$. ** $p < .01$.

Table 4. Hierarchical Regression of Child and Perpetrator Variables on Overall Number of Casework Services

Predictors	Overall Number of Casework Services			
	Model 1		Model 2	
	ΔR^2	Beta	ΔR^2	Beta
Step 1	.01		.01	
Race of Child		.009		.032
Gender		.032		-.037
F_{inc}		.86		1.12
Step 2	.05		.11	
Age of Child		-.410***		-.467***
Gender of Perpetrator		-.040		-.002
F_{inc}		6.90**		11.36***

** $p < .01$. *** $p < .001$.

highly correlated with one another making assessment of the contribution of each to the multiple regression more straightforward (Tabachnick & Fidell, 1989).

Two regression models were estimated for each dependent variable (except group membership). The first included all cases ($N = 293$) while the second included only those which were substantiated (either substantiated and closed the same day or substantiated and kept open) ($N = 190$) because, as expected, services and caseworker activity were greater in these groups. The age of the child by gender of the perpetrator interaction (entered on step 3 in both models) failed to account for more than 1% of the variance in any of the analyses.

Overall Number of Services

Table 4 shows the results of both model 1 and model 2 for overall number of services offered to a family. Age (entered on step 2) was the only independent variable to add a significant increment to the variance accounted for in either model accounting for 5% of the variance in model 1 and 11% of the variance in model 2. The younger the child, the more services offered.

Caseworker Activity

Table 5 shows the results of both model 1 and model 2 for home visits and telephone calls. Looking at both models, for home visits, age but no other variable significantly accounted for 3%–4% of the variance. For telephone calls, age but no other variables significantly accounted for 4% of the variance in model 2, but not in model 1.

Group Membership

Which variables discriminate assignment to the groups not substantiated, substantiated and closed the same day, and substantiated and kept open? Table 6 displays the hierarchical regression results for 3 different equations. Although group membership is a categorical variable (with which one would normally use a logit model), ordinary least-squares (OLS) regression procedures are reported here. In situations where you have a dichotomous outcome variable and where positive (or negative) cases are infrequent (i.e., under 10% of the cases), logistic regression procedures are more appropriate than OLS (Tabachnick & Fidell, 1989). However, when the values of the outcome variable are fairly evenly distributed, as in this

Table 5. Hierarchical Regression of Child and Perpetrator Variables on Caseworker Activity

Predictors	Home Visits				Telephone Contacts			
	Model 1		Model 2		Model 1		Model 2	
	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta
Step 1	.01		.01		.00		.00	
Race of Child		.078		.073		-.002		.026
Gender of Child		-.045		-.062		-.003		-.045
F_{inc}		1.33		.932		.107		.382
Step 2	.03		.04		.01		.04	
Age of Child		-.251**		-.141**		-.109		-.004*
Gender of Perpetrator		.034		.073		-.067		-.024
F_{inc}		6.90**		4.01*		.946		3.40*

* $p < .05$. ** $p < .01$.

study, the logistic function approximates a linear function, with both procedures yielding similar results (Eckenrode et al., 1988). Both OLS and logistic models were tested and the results did not differ. For each regression, group membership was coded as a dichotomous variable: (a) not substantiated versus substantiated and closed the same day; (b) substantiated and kept open versus substantiated and closed the same day; and (c) not substantiated versus substantiated and kept open.

First, comparing not substantiated versus substantiated and closed the same day, age of the child was the only significant variable accounting for 3% of the variance. Contrary to what was expected, cases involving younger children were actually more likely to be not substantiated than to be substantiated and closed.

Next, comparing substantiated and kept open versus substantiated and closed the same day, age of the child was the only significant variable accounting for 7% of the variance. Thus, cases involving younger children were more likely to be substantiated and kept open than to be substantiated and closed. The results here represent what was expected, cases involving younger children are more likely to be substantiated and kept open than substantiated and closed the same day.

Finally, comparing not substantiated versus substantiated and kept open, none of the predictor

Table 6. Hierarchical Regression of Child and Perpetrator Variables on Group Membership

Predictors	Group Membership					
	Not Substantiated vs. Substantiated & Closed		Substantiated & Closed vs. Substantiated & Open		Not Substantiated vs. Substantiated & Open	
	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta
Step 1	.01		.00		.01	
Race of Child		-.020		-.088		-.095
Gender of Child		.124		-.094		.040
F_{inc}		.849		.191		.416
Step 2	.03		.07		.02	
Age of Child		-.141*		-.004		-.095
Gender of Perpetrator		-.155		-.005		-.152
F_{inc}		3.15*		7.33**		2.16

* $p < .05$. ** $p < .01$.

variables reliably explained a significant portion of the variance in this group distinction. In some contrast to what was expected, younger children were not less likely than older children to have a case not substantiated as compared to being substantiated and kept open. These results seem to suggest that a case involving a younger child appears to be just as likely to be not substantiated as a case involving an older child.

DISCUSSION

The central focus of this study was to examine the kind of help that is delivered to children and families during an investigation where a child is noted to be at an increased risk for many serious kinds of outcomes due to his/her age. Despite clear limitations of using case records to operationalize caseworker attention, this study provides useful information about what occurs during a child protection investigation and how various individual level child and perpetrator variables affect the investigative process.

How are young children identified to the system in the first place? The source of the report of child maltreatment was examined in relation to the age of the child. Although the sources of child abuse and neglect reports have been examined previously (Eckenrode et al., 1988), this variable has not been looked at in relation to the child's age. As expected, younger children (under age 4) were far more likely to be reported by medical professionals (usually hospitals), and relatives or neighbors, while older children were consistently more likely to be reported by other professionals (e.g., teachers and counselors/therapists). While this does not address the question of whether young children were not being adequately identified or reported to child protective service agencies, it does confirm common sense beliefs about how young children are reported to the system. Given that friends and neighbors are important sources of reports of younger children, strategies for the prevention of abuse and neglect in this age group should focus on enhancing reporting by these groups (U.S. Advisory Board on Child Abuse and Neglect, 1993).

Once in the system, how does a child's age relate to the investigation as represented by: (a) the number of services that are offered to the family during investigation; (b) caseworker activity; and (c) decision-making about substantiating the case or closing it? Of the child and perpetrator characteristics examined in this study, child race, child gender, child age, perpetrator gender, and the child age by gender of perpetrator interaction, age of the child was the only variable that significantly added to the prediction of services, caseworker activity and group membership. This effect was strong, however, with age alone accounting for between 3 and 11% of the variance in a given dependent variable.

For number of services provided to a family during investigation, as expected young age of the child predicts an increased number of casework services. This supports the suggestion in the child welfare/decision-making literature that cases with younger children may receive more help and direction from child protection. However, the small number of services provided to families (even with young children) was still striking. It appears that very few services were being provided to any family during the investigation, even when the child was young and the case was substantiated. However, the fact that any services were offered is noteworthy because, in New York State, services are not a requirement of the investigative process. An alternative hypothesis, however, is that caseworkers do not consistently log highly routinized offers of services.

Increased risk in a case (e.g., young age of the victim) should also lead to increased activity on the part of a caseworker during investigation. For caseworker activity, age of the child had a differential effect. Cases involving younger children were more likely to receive an increased number of visits and telephone calls by the worker, but not office visits or visits to other

locations. In support of the decision making literature, increased risk does for the most part appear to lead to increased caseworker activity. For young children, the lower rates of visits to other locations may reflect the fact that younger children are not in school and would not be interviewed there.

Caseworkers may not routinely record every referral, suggestion or attempt to contact a family. The narrative reports provided all of the data for operationalizing caseworker attention. These notes are kept as part of routine contact with a family and are generally recorded shortly after contact is made. While these notes are not standardized, they provide the basis for testimony if a worker is petitioned to family court and it is likely that a basic description of the investigation as well as offers of services that were made will appear in the record. Clearly, there are limitations associated with abstracting data from case records, but such records are useful sources to document the actions that occur in a case and are often underutilized by researchers in the field (Eckenrode et al., 1988).

For group membership (i.e., not substantiated versus substantiated and closed the same day, substantiated and closed the same day versus substantiated and kept open, not substantiated versus substantiated and kept open), age of the primary victim again had a differential effect. Reports involving older and younger children have similar chances of being not substantiated. However, when a case is substantiated, cases involving younger children are more likely to be kept open for continuing Child Protective Services involvement than cases involving older children. From a developmental perspective, certain types of abusive or neglectful acts clearly pose differential risk (e.g., leaving a 3-year-old versus a 9-year-old home alone). It appears from these data that while child age makes a significant contribution after the decision has been made to substantiate a case, it does not have the same effect on the decision of whether or not to substantiate in the first place. One hypothesis is that the differential risk associated with developmental factors is not being adequately noted. Alternatively it may be that the overall decision to substantiate a case is based most strongly on the nature of the abuse or neglect, while the decision to substantiate and close versus substantiate and keep open a case is more clearly related to age as a risk factor.

Several other risk factors were not associated with the dependent variables. Gender of the child had no significant effect. While evidence suggests that types of severe and fatal abuse may be different in young girls and boys, we did not presume that this would cause differences in overall caseworker activity or rate of substantiation. Race, more surprisingly, also had no significant effect. This suggests that there is not differential caseworker attention or substantiation of cases as a function of membership in a minority group, at least in our sample. If we consider membership in a minority group as a risk factor for severe or fatal abuse (even if it is just a proxy for low socioeconomic status or membership in a social and political underclass; Levine et al., 1994), these results suggest that this risk factor is not receiving adequate attention. Alternatively, however, the finding does not support criticism of the child protection system that alleges racial bias or harassment as a function of membership in a minority group (Hampton & Newberger, 1985).

Similarly, it is striking that gender of the perpetrator does not reliably add to the prediction of any of the caseworker attention measures. Given that recent literature in the field so clearly points to involvement of a male perpetrator (alone or acting with females) leading to a substantially increased level of risk for the involved child, differential attention was expected. The absence of an age by perpetrator interaction brings out the same questions. Young children who were in situations with male perpetrators were arguably among the children at greatest risk of severe or fatal abuse.

One possible explanation for the lack of significant findings may stem from the fact that there were few male perpetrators acting alone in our sample, in contrast to the number of females acting alone. Given these numbers, the gender of perpetrator variable compared female

perpetrators acting alone to males and females acting together. Although the literature suggests that risk to a young child is increased when a male is involved (regardless of the presence of a female), actual casework practice may treat these cases differently. For example, in reviewing the case records, it was apparent that in a number of cases a male caretaker was the primary perpetrator but a female caretaker was also charged with inadequate guardianship or some other form of neglect due to failure to protect the child. Male perpetrators may be ignored when female caretakers make agreements to protect the children. Additionally, many male perpetrators may be mothers' boyfriends who were more difficult to identify in the course of an investigation.

Overall, the results suggest that young age of the child as a risk factor is far from ignored, but possibly deserves increased attention. In particular, it would be important to examine in a future study how many of the young children whose cases are not substantiated or substantiated and closed the same day become victims at a later time. An overall goal of child protection agencies is as Jones (1993) suggests, to develop common indicators and procedures which would both increase the reliability in investigative efforts as well as result in more accountable practice. If we accept this as a useful goal, we need to understand how risk and protective factors are used from the moment an investigation begins, as well as in case determination and in the provision of services.

Acknowledgement—The authors wish to thank James Brace, Robert L. Deisz and the staff of the Erie County Department of Social Service for their efforts in facilitating the research.

REFERENCES

- Baladerian, N. J. (1991). *Abuse causes disabilities. Disability and the family*. Culver City, CA: SPECTRUM Institute.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, **112**(1), 155–159.
- DiLeonardi, J. W. (1980). Decision making in protective services. *Child Welfare*, **59**(6), 356–364.
- Doueck, H. J., Levine, M., & Bronson, D. E. (1993). Risk assessment in child protective services: An evaluation of the child at risk field system. *Journal of Interpersonal Violence*, **8**(4), 446–467.
- Eckenrode, J., Powers, J., Doris, J., Munsch, J., & Bolger, N. (1988). Substantiation of child abuse and neglect reports. *Journal of Consulting and Clinical Psychology*, **56**(1), 9–16.
- English, D. J., & Pecora, P. J. (1994). Risk assessment as a practice method in child protective services. *Child Welfare*, **73**(5), 451–473.
- Garbarino, J., & Kostelny, K. (1992). Child maltreatment as a community problem. *Child Abuse & Neglect*, **16**, 455–464.
- Hampton, R. L., & Newberger, E. H. (1985). Child abuse incidence and reporting by hospitals: Significance of severity, class, and race. *American Journal of Public Health*, **75**(1), 56–60.
- Hegar, R. L., Zuravin, S. J., & Orme, J. G. (1994). Factors predicting the severity of child abuse injury: A review of the literature. *Journal of Interpersonal Violence*, **9**, 170–183.
- Jones, E. D., & McCurdy, K. (1992). The links between types of maltreatment and demographic characteristics of children. *Child Abuse & Neglect*, **16**, 201–215.
- Jones, L. (1993). Decision making in child welfare: A critical review of the literature. *Child and Adolescent Social Work Journal*, **10**(3), 241–262.
- Keller, R. A., Cicchinelli, L. F., & Gardner, D. M. (1988). *A comparative analysis of risk assessment models: Phase I report*. Denver, CO: Applied Research Associates.
- Levine, M., Freeman, J., & Compaan, C. (1994). Maltreatment-related fatalities: Issues of policy and prevention. *Law and Policy*, **16**(4), 449–471.
- Margolin, L. (1990). Fatal child neglect. *Child Welfare*, **69**, 309–319.
- McClain, P. W., Sacks, J. J., Ewigman, B. G., Smith, S. M., Mercy, J. A., & Sniezek, J. E. (1994). Geographic patterns of fatal abuse or neglect in children younger than 5 years old, United States, 1979 to 1988. *Archives of Pediatrics and Adolescent Medicine*, **148**, 82–86.
- McClain, P. W., Sacks, J. W., Froehle, R. G., & Ewigman, B. G. (1993). Estimates of fatal child abuse and neglect, United States, 1979 to 1988. *Pediatrics*, **91**, 338–343.
- McDonald, T., & Marks, J. (1991). A review of risk factors assessed in child protective services. *Social Service Review*, **65**, 112–132.
- Meddin, B. J. (1984). Criteria for placement decisions in protective services. *Child Welfare*, **63**(4), 367–373.

- Melton, G. B., & Flood, M. F. (1994). Research policy and child maltreatment: Developing the scientific foundation for effective protection of children. *Child Abuse & Neglect*, *18*(1), 1-28.
- National Center on Child Abuse and Neglect. (1991). *National incidence and prevalence of child abuse and neglect: The 1988 revised report (NIS-2)*. Washington, DC: Department of Health and Human Services.
- National Center on Child Abuse and Neglect. (1995). *Child maltreatment 1993: Reports from the states to the National Center on Child Abuse and Neglect*. Washington, DC: Department of Health and Human Services.
- National Research Council. (1993). *Understanding child abuse and neglect*. Washington, DC: National Academy Press.
- State University of New York. (1994). *1994 New York State Statistical Yearbook* (19th ed). Albany, NY: Author, in cooperation with the New York State Division of the Budget.
- Schmitt, B. D. (1987). Seven deadly sins of childhood: Advising parents about difficult developmental phases. *Child Abuse & Neglect*, *11*, 421-432.
- Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics* (2nd ed.). New York: Harper Collins.
- U.S. Advisory Board on Child Abuse and Neglect. (1995). *A nation's shame: Fatal child abuse and neglect in the United States*. Washington, DC: Department of Health and Human Services, Administration for Children and Families.
- U.S. Advisory Board on Child Abuse and Neglect. (1993). *Neighbors helping neighbors: A new national strategy for the protection of children*. Washington, DC: Department of Health and Human Services, Administration for Children and Families.
- U.S. Bureau of the Census. (1989). *Statistical abstract of the United States: 1989* (109th ed). Washington, DC: Department of Commerce.
- Winefield, H. R., & Bradley, P. W. (1992). Substantiation of reported child abuse or neglect: Predictors and implications. *Child Abuse & Neglect*, *16*, 661-671.
- Wolfner, G. D., & Gelles, R. J. (1993). A profile of violence toward children: A national study. *Child Abuse & Neglect*, *17*, 197-212.

Résumé—Les tout petits sont plus aptes à devenir des victimes de mauvais traitements graves ou fatals, et ceci aux mains d'agresseurs masculins. Cet article considère dans quelle mesure les cas de mauvais traitements des tout petits bénéficient de plus de services sociaux, de soins individuels tels que des visites à domicile et de contacts téléphoniques et dans quelle mesure ils s'avèreront des cas prouvés de maltraitance, surtout lorsque l'agresseur est un homme. Dans un échantillon aléatoire de 293 cas d'enfants maltraités et négligés dans un vaste comté de l'état de New York en 1993, on a noté que les plus jeunes enfants recevaient plus de services en général. Alors que l'âge constitue un facteur important une fois que les mauvais traitements ont été confirmés, il ne joue pas un rôle d'égale importance dans la prise de décision à savoir si on cherchera à confirmer qu'il y a eu mauvais traitements. Le sexe de l'agresseur ne constitue pas un élément servant à prédire si on prodiguera des services sociaux.

Resumen—Muchas veces los infantiles y niños están en mayor riesgo de abuso severo/fatal de perpetradores masculinos. Este estudio examinó si los casos de maltrato a los niños relacionados con niños más pequeños, recibía más servicios, actividad asistencial (por ejemplo, visitas domiciliarias, contactos telefónicos), y tienen más posibilidad de ser comprobados, particularmente si está envuelto un perpetrador masculino. La muestra seleccionada al azar consistió en 293 reportes de abuso y negligencia a los niños en un gran condado en el oeste de Nueva York en 1993. El análisis de regresión jerárquica presentó que los niños más pequeños generalmente reciben más servicios y actividad asistencial, y que apesar de que la edad tiene una influencia significativa después que la decisión ha sido tomada de comprobar un caso, no tiene el mismo efecto en la decisión inicial de sí comprobar el caso o no. El género del perpetrador no fue un predictor confiable de los servicios asistenciales.