

Fourth National Incidence Study of Child Abuse and Neglect (NIS–4)

Report to Congress



U.S. Department of Health and Human Services (DHHS)
Administration for Children and Families (ACF)
Office of Planning, Research, and Evaluation (OPRE)
and the Children's Bureau

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This document, as well as the NIS–4 technical reports (*NIS–4 Data Collection Report* and *NIS–4 Analysis Report*) and reports on six NIS–4 supplementary studies (*CPS Structure and Practices Mail Survey*, *CPS Screening Policies Study*, *Sentinel Definitions Survey*, *Comparison of NIS–4 and NCANDS*, *Supplementary Analysis of Race Differences in the NIS–4*, and *Incidence Projections in the 2009 Recession Economy*) will be available at the Office of Planning, Research, and Evaluation (OPRE) website http://www.acf.hhs.gov/programs/opre/abuse_neglect/natl_incid/index.html.

The NIS–4 public use data file will be available from the National Data Archive on Child Abuse and Neglect, www.ndacan.cornell.edu.

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EXECUTIVE SUMMARY

This executive summary describes the Fourth National Incidence Study of Child Abuse and Neglect (NIS–4). It discusses the NIS–4 background and objectives, reports on the design and methods, and presents the key findings and implications.

1. Background and Objectives

The National Incidence Study (NIS) is a congressionally mandated, periodic effort of the United States Department of Health and Human Services. In 1974, Public Law (P.L.) 93–247 mandated the first NIS (NIS–1), which collected data in 1979 and 1980. The NIS–2 was mandated under P.L. 98–457 (1984) and collected data in 1986. The NIS–3, mandated by the Child Abuse Prevention, Adoption, and Family Services Act of 1988 (P.L. 100–294) and the Child Abuse, Domestic Violence, Adoption and Family Services Act of 1992 (P.L. 102–295), collected data in 1993. The Keeping Children and Families Safe Act of 2003 (P.L. 108–36) mandated the NIS–4, which collected data in 2005 and 2006. The principal objectives of the NIS–4 were to provide updated estimates of the incidence of child abuse and neglect in the United States and measure changes in incidence from the earlier studies.

2. Design and Methods

Main study. The NIS serves as the nation’s needs assessment on child abuse and neglect. It offers a unique perspective on the scope of the problem beyond the children that child protective service (CPS) agencies investigate. While the NIS includes children who were investigated by CPS agencies, it also obtains data on other children who were not reported to CPS or who were screened out by CPS without investigation. These additional children were recognized as maltreated by community professionals. Thus, the NIS estimates include both abused and neglected children who are in the official CPS statistics and those who are not.

The NIS follows a nationally representative design, so the estimates reflect the numbers of abused and neglected children in the United States who come to the

attention of community professionals. The fact that there have been three previous cycles using comparable methods and definitions means that one can compare NIS–4 estimates with those from the earlier studies in order to identify changes over time in the incidence and distribution of abused and neglected children.

The NIS–4 data derive from a nationally representative sample of 122 counties. The 126 CPS agencies serving these counties were key participants, providing basic demographic data on all the children who were reported and accepted for investigation during the 3-month study reference period (either September 4 through December 3, 2005 or February 4 through May 3, 2006). The NIS–4 obtained further details about the child’s maltreatment and the outcome of the CPS investigation for a representative sample of these cases.

Like the earlier NIS cycles, the NIS–4 employed a sentinel survey methodology. In this approach, community professionals who work in certain categories of agencies and who typically encounter children and families in the course of their job duties serve as lookouts for victims of child abuse and neglect. In each county, these professionals, called “sentinels,” represent all staff that have contact with children and families in police and sheriffs’ departments, public schools, day care centers, hospitals, voluntary social service agencies, mental health agencies, the county juvenile probation and public health departments, public housing, and shelters for runaway and homeless youth and for victims of domestic violence. The participating sentinels in the NIS–4 were 10,791 professionals in 1,094 sentinel agencies. They submitted data forms on any children they encountered who were maltreated during the study data period. The NIS–4 collected a total of 6,208 completed data forms from sentinels and 10,667 completed forms on the investigation outcomes and the abuse and neglect involved in cases sampled at participating CPS agencies.

The NIS uses standard definitions of abuse and neglect, so its estimates of the numbers of maltreated children and incidence rates have a calibrated, standard meaning across the various sites (multiple states and agencies), sources (CPS and community professionals), and NIS cycles. As in previous cycles, children submitted by sentinels and those described in the CPS sampled cases were evaluated according to standard study definitions of abuse and neglect, and only children who fit the standards were used in generating the national estimates.

In the NIS classifications, maltreatment encompasses both abuse and neglect. Abuse includes physical abuse, sexual abuse, and emotional abuse. Neglect includes physical neglect, emotional neglect, and educational neglect. Each of these categories comprises more specific forms of abuse or neglect. The standardized NIS definitions describe the acts and omissions for each specific form. The NIS-4 applied a more differentiated system for classifying the specific forms of maltreatment than the earlier NIS cycles used. However, the NIS-4 definitional standards were identical to those used in the NIS-2 and NIS-3. These standards specify the criteria for deciding whether a child's situation "counts" as maltreatment to include in the study estimates. The criteria specify a number of required features, such as the child's relationship to the perpetrator (the abuse or neglect must be within the jurisdiction of CPS, perpetrated or permitted by a parent or caretaker), the severity of the injury or harm that resulted, and the degree of evidence for holding the alleged perpetrator(s) responsible for the maltreatment.

The NIS applies two definitional standards in parallel: the Harm Standard and the Endangerment Standard. The Harm Standard has been in use since the NIS-1. It is relatively stringent in that it generally requires that an act or omission result in demonstrable harm in order to be classified as abuse or neglect. It permits exceptions in only a few specific maltreatment categories, where the nature of the maltreatment itself is so egregious that one can infer that the child was harmed. The chief advantage of the Harm Standard is its strong objectivity. Its principal disadvantage is that it is so stringent that it provides a perspective that is too narrow for many purposes, excluding even many children whom CPS substantiates or indicates as abused or neglected.

The Endangerment Standard has been in use since the NIS-2. It includes all children who meet the Harm Standard but adds others as well. The central feature of the Endangerment Standard is that it counts children who were not yet harmed by abuse or neglect if a sentinel thought that the maltreatment endangered the children or if a CPS investigation substantiated or indicated their maltreatment. In addition, the Endangerment Standard is slightly more lenient than the Harm Standard in allowing a broader array of perpetrators, including adult caretakers other than parents in certain maltreatment categories and teenage caretakers as perpetrators of sexual abuse.

Following procedures that corresponded to those used in earlier NIS cycles, the NIS-4 study team unduplicated the data (so the study estimates represent each maltreated child only once), weighted the records (so the sample data could generate

national estimates of the number of maltreated children), and annualized the final weights (to enable the 3-month reference period to provide estimates reflecting a full year).

Supplementary studies. In addition to the main study, the NIS–4 included several supplementary studies, three of which are used in this report to interpret the main study findings. Two were surveys of CPS agencies—one on their overall policies, procedures and practices and the second on their screening standards, to determine how they would treat referrals concerning the uninvestigated cases that sentinels identified. The third supplementary study was a survey of sentinels on their backgrounds and definitions of child abuse and neglect and concerning their standards for reporting suspected maltreatment to CPS or submitting data on maltreated children to the NIS.

The *CPS Structure and Practices Mail Survey (SPM)* was modeled after the Local Agency Survey (LAS) in the 2002 National Study of Child Protective Service and Reform Efforts. The SPM questionnaire included 4 modules, each focused on a specific CPS function: Administration, Screening/Intake, Investigation, and Alternative CPS Response. CPS agencies that participated in the NIS–4 responded to the SPM.

The *CPS Screening Policies Study (SPS)* involved telephone interviews with intake/screening supervisors (or their delegates) in participating NIS–4 CPS agencies to identify the criteria their agency used in deciding whether to investigate a referral. The SPS coders then applied these screening criteria to the uninvestigated children in the NIS–4 main study to infer whether CPS agencies would have screened these children in for an investigation according to their stated policies.

The *Sentinel Definitions Survey (SDS)* asked sentinels who had participated in the NIS–4 about their characteristics and backgrounds—including their demographics, job title and tenure, whether they had received any written information or training on reporting child abuse and neglect while working at their agency, their agency’s policy on reporting to CPS, and whether they had made any reports while working at their agency. The questionnaire also included vignettes that described situations of Harm Standard abuse and neglect. Follow-up questions asked whether the respondent considered the case to be maltreatment, would report it to CPS, would submit it to a national study on child abuse and neglect, or would not respond in any of these ways.

3. The National Incidence of Child Abuse and Neglect

The findings of the Fourth National Incidence Study of Child Abuse and Neglect (NIS–4) show an overall decrease in the incidence of maltreatment since the NIS–3, as well as decreases in some specific maltreatment categories and increases in others.

Incidence of Harm Standard maltreatment. Using the stringent Harm Standard definition, more than 1.25 million children (an estimated 1,256,600 children) experienced maltreatment during the NIS–4 study year (2005–2006). This corresponds to one child in every 58 in the United States. A large percentage (44%, or an estimated total of 553,300) were abused, while most (61%, or an estimated total of 771,700) were neglected. The NIS classifies children in every category that applies, so the components (here and throughout the NIS findings) sum to more than 100%. Most of the abused children experienced physical abuse (58% of the abused children, an estimated total of 323,000). Slightly less than one-fourth were sexually abused (24%, an estimated 135,300), while slightly more than one-fourth were emotionally abused (27%, an estimated 148,500). Almost one-half of the neglected children experienced educational neglect (47% of neglected children, an estimated 360,500 children), more than one-third were physically neglected (38%, an estimated 295,300 children), and one-fourth were emotionally neglected (25%, an estimated 193,400 children).

Unlike the dramatic increase in the incidence of Harm Standard maltreatment that occurred between the NIS–2 and NIS–3, where the rate increased by 56%, the NIS–4 reveals a smaller change since the NIS–3, in the opposite direction. The NIS–4 estimate of the incidence of overall Harm Standard maltreatment in the 2005–2006 study year reflects a 19% decrease in the total number of maltreated children since the NIS–3 in 1993. Taking into account the increase in the number of children in the United States over the interval, this change is equivalent to a 26% decline in the rate of overall Harm Standard maltreatment per 1,000 children in the population. This decrease is close-to-significant, meaning the probability that it is due to chance factors is less than 10%. This decrease returned the incidence of Harm Standard maltreatment to a level that does not differ from the NIS–2 estimate for 1986.

The number of children who experienced Harm Standard abuse declined significantly, by 26%, from an estimated 743,200 in the NIS–3 to 553,300 in the NIS–4.

This reflects a 32% decrease in the rate of Harm Standard abuse per 1,000 children in the nation. Moreover, the incidence of all specific categories of abuse decreased: The incidence of sexual abuse decreased significantly, while the declines in physical abuse and emotional abuse were both close-to-significant:

- The estimated number of sexually abused children under the Harm Standard decreased from 217,700 in 1993 to 135,300 in 2005–2006 (a 38% decrease in the number of sexually abused children and a 44% decrease in the rate of sexual abuse);
- The number of children who experienced Harm Standard physical abuse decreased from an estimated 381,700 at the time of the NIS–3 to an estimated 323,000 in the NIS–4 (a 15% decrease in number and a 23% decline in the rate);
- The estimated number of emotionally abused children under the Harm Standard was 204,500 at the time of the NIS–3, which decreased to 148,500 during the NIS–4 (a 27% decrease in number; a 33% decline in the rate).

The incidence of Harm Standard neglect showed no statistically reliable changes since the NIS–3, neither overall nor in any of the specific neglect categories (physical, emotional, and educational neglect).

Classifying these abused and neglected children according to the level of injury or harm they suffered from Harm Standard maltreatment revealed only one change: a significant decrease in the incidence of children for whom injury could be inferred due to the severe nature of their maltreatment. This group declined from 165,300 children in the NIS–3 to 71,500 in the NIS–4 (a 57% decrease in number; a 60% decline in the rate in the population).

Incidence of Endangerment Standard maltreatment. Defining maltreatment according to the more inclusive Endangerment Standard provides a very different picture of the incidence and distribution of child abuse and neglect. Nearly 3 million children (an estimated 2,905,800) experienced Endangerment Standard maltreatment during the NIS–4 2005–2006 study year. This corresponds to one child in every 25 in the United States. While 29% (an estimated 835,000 children) were abused, more than three-fourths (77%, an estimated 2,251,600 children) were neglected. Most abused children (57%, or 476,600 children) were physically abused, more than one-third

(36%, or 302,600 children) were emotionally abused, and less than one-fourth (22%, or 180,500 children) were sexually abused. Under the Endangerment Standard definitions, more than one-half of the neglected children were physically neglected (53%, or 1,192,200 children) and a similar percentage were emotionally neglected (52%, or 1,173,800), whereas 16% (an estimated 360,500) were educationally neglected.

Between 1993 and 2005–2006, the overall incidence of children who experienced Endangerment Standard maltreatment showed no statistically reliable change. However, within Endangerment Standard maltreatment, counterbalancing changes occurred in the incidence of abuse and neglect. Significant decreases in the incidence of abuse and all specific categories of abuse contrast with a significant increase in the incidence of emotional neglect:

- The estimated number of children who experienced Endangerment Standard abuse decreased from 1,221,800 to 835,000 (a 32% decrease in number, a 38% decline in the rate);
- The estimated number of physically abused children decreased from an estimated 614,100 children to 476,600 (a 22% decrease in number, a 29% decline in the rate);
- The incidence of children with Endangerment Standard sexual abuse decreased from 300,200 in 1993 to 180,500 in 2005–2006 (reflecting a 40% decrease in number and a 47% decline in the rate);
- The incidence of emotionally abused children decreased from 532,200 to 302,600 (a 43% decrease in number, a 48% decline in the rate); and
- The estimated number of emotionally neglected children more than doubled in the interval between the studies, rising from 584,100 in 1993 to 1,173,800 in 2005–2006 (a 101% increase in number, an 83% increase in the rate).

Classifying these children according to the severity of harm they suffered as a result of their Endangerment Standard maltreatment revealed no significant changes in the incidence of children with any specific level of injury or harm.

4. Distribution of Child Abuse and Neglect by the Child's Characteristics

The child's sex, age, race, disability status, and school enrollment were all related to rates of maltreatment.

Child's sex. Girls were sexually abused much more often than boys, under both the Harm Standard and the Endangerment Standard. This finding is consistent with earlier NIS results, so females' disproportionately greater risk of sexual abuse has been stable over time. This sex difference in incidence rates of sexual abuse leads to higher rates of abuse in general among girls. Also, because the definitional guidelines permit the inference that injury or harm occurred in connection with the more extreme forms of sexual abuse, girls' greater risk of sexual abuse also accounts for their higher incidence rates for inferred injury.

Boys' rates of Harm Standard physical neglect and of serious harm under both standards decreased more since the NIS-3 than the corresponding rates for girls. The incidence of boys who experienced Endangerment Standard emotional neglect increased less since the NIS-3 than that of girls. Moreover, trends in the incidence of inferred harm from Endangerment Standard maltreatment moved in opposite directions for girls and boys—the incidence of girls with inferred harm declined slightly since the NIS-3, while the incidence of boys with inferred harm rose.

Child's age. A consistent feature of the age differences in NIS-4 incidence rates is the lower incidence of maltreatment among the youngest children in the Harm Standard abuse and neglect rates and in the rates of Endangerment Standard abuse. In most cases, the 0- to 2-year-olds had significantly lower maltreatment rates than older children. It is possible that the lower rates at these younger ages reflect some undercoverage of these age groups. That is, prior to attaining school age, children are less observable to community professionals.

In contrast, the age differences in Endangerment Standard neglect (overall, as well as in the specific categories of physical neglect and emotional neglect) revealed a distinctly different pattern. In these categories, the oldest children (15- to 17-year-olds) have the lowest rates and 6- to 8-year-olds have the highest rates. This curvilinear age pattern may reflect the combination of opposing age distributions for different

maltreatment outcomes—rates of children with serious and moderate harm from maltreatment generally increase with increasing age, whereas rates of children who were endangered, but not demonstrably harmed, by their maltreatment experiences sharply decrease across the age continuum. Because the endangered children are more prevalent among those who experienced Endangerment Standard physical and emotional neglect, this opposing age trend primarily affected the age distribution in these categories, shaping the curvilinear pattern.

Another recurring theme in connection with age was that of disproportionate increases since the NIS–3 in the incidence of maltreatment among the youngest children (ages 0 to 2). This occurred for rates of Harm Standard sexual abuse and, in the Endangerment Standard, for overall maltreatment, neglect, emotional neglect, and the endangerment outcome. All of these are categories where the NIS–4 maltreatment rates for the youngest children are not lower than those for the older children. The changes since the NIS–3 have essentially flattened the age differences in incidence rates, evidencing broad vulnerability across the age spectrum. These changes may reflect true increases in maltreatment of the youngest children or could instead represent improvement in the NIS coverage of these maltreatment events among 0- to 2-year-olds.

Race/ethnicity. Unlike previous NIS cycles, the NIS–4 found strong and pervasive race differences in the incidence of maltreatment. In nearly all cases, the rates of maltreatment for Black children were significantly higher than those for White and Hispanic children. These differences occurred under both definitional standards in rates of overall maltreatment, overall abuse, overall neglect, and physical abuse and for children with serious or moderate harm from their maltreatment. They also occurred in the incidence of Harm Standard sexual abuse, in the incidence of children who were inferred to be harmed by Harm Standard maltreatment, and in Endangerment Standard rates for physical neglect, emotional maltreatment, and children who were endangered but not demonstrably harmed by their maltreatment.

In part, the emergence of race/ethnicity differences in the NIS–4 may stem from the greater precision of the NIS–4 estimates. Statistical tests are able to detect more of the underlying differences when estimates are more precise. However, the recently identified race/ethnicity differences are also consistent with changes in maltreatment rates since the NIS–3. While general declines in rates of maltreatment were noted since the NIS–3, these declines did not occur equally for all races and ethnicities. Rather, under

both definitional standards, rates of maltreatment for White children declined more than the rates for Black and Hispanic children in the incidence of abuse, physical abuse, and children seriously harmed by maltreatment. For Harm Standard emotional neglect, maltreatment rates for White children declined while rates for Black and Hispanic children increased. For Endangerment Standard emotional neglect, rates for White children increased less than the rates for Black and Hispanic children.

Disability. The NIS–4 is the first NIS cycle to examine the relationship between the incidence of maltreatment and children’s disability status. Under the Harm Standard, children with confirmed disabilities had significantly lower rates of physical abuse and of moderate harm from maltreatment, but they had significantly higher rates of emotional neglect and of serious injury or harm. Using the Endangerment Standard to define maltreatment revealed more extensive differences, some similar to the Harm Standard findings, but also some quite different results. Children with disabilities had a significantly lower rate of Endangerment Standard abuse overall, consistent with their lower rate of physical abuse under both standards. Children with disabilities also had significantly lower rates of Endangerment Standard sexual abuse, neglect, physical neglect, and emotional neglect; and they were significantly less likely to be moderately harmed or endangered but not demonstrably harmed by the maltreatment. Similar to the Harm Standard finding, the children with disabilities were significantly more likely to be seriously injured or harmed when they experienced maltreatment. The findings on the incidence of emotional neglect are exactly opposite under the two standards. This indicates that, although children with confirmed disabilities were less likely to be emotionally neglected, they more often suffered harm from that maltreatment (in fact, serious harm) and so were more often countable under the Harm Standard in this category.

School enrollment. For the first time in the NIS, the NIS–4 gathered information about children’s enrollment in school. Across both definitional standards, school-aged children who were not enrolled in school were sexually abused more often than enrolled children and more often qualified for inferred harm, an outcome frequently associated with sexual abuse. Enrolled children had significantly higher rates of moderate harm as a result of maltreatment and they were at marginally higher risk of educational neglect. This latter finding warrants explanation. On the one hand, simply knowing that a school-age child is not enrolled in school is not sufficient to classify the child as educationally neglected in NIS. Data on most nonenrolled children lacked

details that would exclude legitimate reasons for their circumstance, such as the child being seriously ill, suspended, expelled, or recently moved and not yet enrolled at a new location. On the other hand, since schools regularly track absences of enrolled children, NIS sentinels are likely to describe these to the study.

Enrolled children had higher rates of Harm Standard physical abuse and of overall Harm Standard maltreatment. In contrast, nonenrolled school-age children had higher rates of Endangerment Standard maltreatment, overall and in the categories of neglect, physical neglect, and emotional neglect. The nonenrolled children were also more likely to be classified as endangered, but not demonstrably harmed, by their Endangerment Standard maltreatment.

5. Distribution of Child Abuse and Neglect by Family Characteristics

The incidence of child maltreatment varied as a function of several characteristics of children's families, including their parents' employment, family socioeconomic status, family structure and living arrangement, grandparent caregivers, family size, and the metropolitan status of the county.

Parents' employment. Unemployed parents were those described as unemployed or laid off but looking for work either currently (at the time of maltreatment) or at any time during the past year. Employed parents were those who had steady full- or part-time work, with no reported unemployment currently or in the previous year. Parents who were not in the labor force were not employed or actively looking for work. These included parents who were retired, disabled, homemakers, receiving Temporary Assistance for Needy Families (TANF), on maternity leave, in the hospital, or in jail. Under both definitional standards, the incidence of maltreatment and of all severities of injury or harm was higher for children with no parent in the labor force and those with an unemployed parent and lowest for those with employed parents. Compared to children with employed parents, those with no parent in the labor force had 2 to 3 times the rate of maltreatment overall, about 2 times the rate of abuse, and 3 or more times the rate of neglect. Children with unemployed parents had 2 to 3 times higher rates of neglect than those with employed parents.

Socioeconomic status. To contend with missing data on individual items, the NIS–4 analyses combined three indicators into a general measure of socioeconomic status: household income, household participation in any poverty program, and parents’ education. Low socioeconomic status households were those in the bottom tier on any indicator: household income below \$15,000 a year, parents’ highest education level less than high school, or any member of the household a participant in a poverty program, such as TANF, food stamps, public housing, energy assistance, or subsidized school meals. Children in low socioeconomic status households had significantly higher rates of maltreatment in all categories and across both definitional standards. They experienced some type of maltreatment at more than 5 times the rate of other children; they were more than 3 times as likely to be abused and about 7 times as likely to be neglected.

Family structure and living arrangement. Family structure reflects the number of parents in the household and their relationship to the child; living arrangement reflects their marital or cohabitation status. Considering both factors, the NIS–4 classified children into six categories: living with two married biological parents, living with other married parents (e.g., step-parent, adoptive parent), living with two unmarried parents, living with one parent who had an unmarried partner in the household, living with one parent who had no partner in the household, and living with no parent. The groups differed in rates of every maltreatment category and across both definitional standards. Children living with their married biological parents universally had the lowest rate, whereas those living with a single parent who had a cohabiting partner in the household had the highest rate in all maltreatment categories. Compared to children living with married biological parents, those whose single parent had a live-in partner had more than 8 times the rate of maltreatment overall, over 10 times the rate of abuse, and nearly 8 times the rate of neglect.

Comparable data were available to assess changes since the NIS–3 in maltreatment rates for two groups of children: those living with two parents and those living with one parent. In nearly all categories, the incidence of maltreatment and levels of harm increased since the NIS–3 for children living with one parent but decreased for those living with two parents. The largest rate increase for children with one parent was in Endangerment Standard neglect (58% higher in NIS–4 than in NIS–3), especially the specific category of emotional neglect (a 194% increase). The largest decrease for children living with two parents occurred in the rate of Harm Standard sexual abuse, which declined by 61% from its level at the time of the NIS–3.

Grandparents as caregivers. The NIS–4 could identify a grandparent as a child’s caregiver under three conditions: when the grandparent was the child’s primary caregiver, when the primary caregiver did not have a spouse or partner and the grandparent was the secondary caregiver, and when the grandparent was a caregiver and maltreated the child. Children whose grandparent cared for them had lower rates of physical abuse compared to those with no identified grandparent caregiver: they had two-thirds the rate of Harm Standard physical abuse and less than four-fifths the rate of Endangerment Standard physical abuse.

Family size. The incidence of maltreatment was related to the number of dependent children in the family, in Harm Standard categories of overall maltreatment and all neglect and in Endangerment Standard maltreatment, abuse, neglect, and in physical and emotional maltreatment, both abuse and neglect. The general pattern was nonlinear: the incidence rates were highest for children in the largest families (those with 4 or more children), intermediate for “only” children and those in households with 3 children, and lowest for children in families with two children. The largest differences occurred in the Endangerment Standard maltreatment rates, especially for the neglect categories, where the incidence rates for children in the largest households were more than twice the rates for children in households with 2 children.

County metropolitan status. Except for educational neglect, the incidence of all categories of Endangerment Standard maltreatment was higher in rural counties than in urban counties and similar patterns also emerged in rates of most categories of Harm Standard maltreatment. Rural children had a nearly 2 times higher rate of overall Harm Standard maltreatment and nearly 2 times higher rate of overall Endangerment Standard maltreatment. Whether this reflects better coverage of maltreated children in the rural counties or higher rates of actual maltreatment in rural communities is not clear. Nor is it clear how differential distribution of other factors, such as socioeconomic status and family size differences, may contribute to these metropolitan status differences.

6. Distribution of Child Abuse and Neglect by Perpetrator Characteristics

The NIS–4 classified children who experienced Harm Standard maltreatment according to their perpetrator’s relationship to them. Analyses examined associated differences in the distributions of the perpetrator’s sex and age, type of maltreatment, severity of harm to the child, the child’s race, and the extent to which the perpetrators’ problems with alcohol use, drug use, or mental illness played a role in the maltreatment.

Perpetrator’s relationship to the child. The majority of all children countable under the Harm Standard (81%) were maltreated by their biological parents. This held true both for the abused children (64% were abused by biological parents) and for those neglected (92% were neglected by biological parents).

Biological parents were the most closely related perpetrators for 71% of physically abused children and for 73% of emotionally abused children. The pattern was distinctly different for sexual abuse. More than two-fifths (42%) of the sexually abused children were sexually abused by someone other than a parent (whether biological or nonbiological) or a parent’s partner, whereas just over one-third (36%) were sexually abused by a biological parent. In addition, severity of harm from physical abuse varied by the perpetrator’s relationship to the child. A physically abused child was more likely to sustain a serious injury when the abuser was not a parent.

Perpetrator’s sex. Children were somewhat more likely to be maltreated by female perpetrators than by males: 68% of the maltreated children were maltreated by a female, whereas 48% were maltreated by a male. (Some children were maltreated by both.) Of children maltreated by biological parents, mothers maltreated the majority (75%) whereas fathers maltreated a sizable minority (43%). In contrast, male perpetrators were more common for children maltreated by nonbiological parents or parents’ partners (64%) or by other persons (75%).

The predominant sex of perpetrators of abuse was different from that of neglect. Female perpetrators were more often responsible for neglect (86% of children neglected by females versus 38% by males). This finding is congruent with the fact that mothers (biological or other) tend to be the primary caretakers and are the primary persons held accountable for any omissions and/or failings in caretaking. In contrast,

males more often were abusers (62% of children were abused by males versus 41% by females). The prevalence of male perpetrators was strongest in the category of sexual abuse, where 87% of children were abused by a male compared to only 11% by a female.

Among all abused children, those abused by their biological parents were about equally likely to have been abused by mothers as by fathers (51% and 54%, respectively), but those abused by nonbiological parents or parents' partners, or by other, perpetrators were much more likely to be abused by males (74% or more by males versus 26% or less by females).

Perpetrator's age. Among all maltreated children, only a small percentage (11%) was maltreated by a perpetrator in the youngest age bracket (under 26 years of age). However, younger perpetrators were much more predominant among children who were maltreated by someone who was not a parent (34%).

Child's race and relationship to the perpetrator. The NIS-4 explored whether the children's race was systematically related to the perpetrator's relationship to them, either overall or in specific maltreatment categories. Overall, and across most maltreatment categories, the racial distribution of maltreated children did not vary with their perpetrator's relationship. The exceptions were in overall neglect and in the specific category of physical neglect, which displayed the same pattern. The majority of children physically neglected by a biological parent were White (58%), whereas children neglected by a nonbiological parent or parent's partner were predominantly Black (53%).

Perpetrator's alcohol use, drug use, and mental illness. CPS investigators and NIS-4 sentinels indicated whether they considered these issues to be factors in the child's maltreatment. Perpetrator's alcohol use and drug use were approximately equivalent factors in Harm Standard maltreatment, each applying to 11% of the countable children, while mental illness was a factor in the maltreatment of 7% of the children. Perpetrator's alcohol use was slightly more often implicated in abuse situations than drug use (13% versus 10%), largely because alcohol was more frequently involved in physical abuse and emotional abuse. Alcohol use was most involved in emotional abuse (22% of the children), while drug use was most involved in emotional neglect (21% of the children). The perpetrator's mental illness was most often cited as a factor in emotional abuse (17% of the children). All three factors were more often involved in maltreatment when the perpetrator was a biological parent.

7. Sources of Recognition for Maltreated Children

School staff predominated as a source of recognition for maltreated children. School sentinels recognized 52% of the children who suffered Harm Standard maltreatment and 39% of the Endangerment Standard total. Other important sources of abused and neglected children were hospitals (11% and 13%), police and sheriff departments (12% and 19%), and the general public (6% and 10%). For maltreatment defined under the Endangerment Standard, day care centers and mental health agencies also joined the group of agency categories that recognized more than an estimated 100,000 abused and neglected children nationwide.

Since the NIS-3, recognition rates of Harm Standard maltreatment decreased at three sources. They dropped by 70% at social service agencies (including runaway/homeless youth and domestic violence shelters), by 36% at schools, and by 41% among the general public. Recognition rates of Endangerment Standard maltreatment increased by 86% in police and sheriff departments, by 55% in juvenile probation departments, and by 81% in professional agencies not represented by NIS sentinels. Endangerment Standard recognition rates decreased by 53% at social service agencies (including runaway/homeless youth and domestic violence shelters) and by 33% at schools. To the extent that these changes represent real changes in the rates at which agency staff encounter and identify maltreated children, they may reflect changes in the incidence of maltreatment itself or derive from changes in maltreated children's contacts with the agencies. To an unknown degree, these changes could also reflect shifts in agencies' standards for submitting data on maltreated children to the NIS.

8. Child Protective Services (CPS) Investigation of Maltreated Children

Throughout its history, the NIS has consistently found that child protective services agencies (CPS) investigate maltreatment of only a minority of the children the NIS identifies. The NIS-4 again verified that result, finding that CPS investigated the maltreatment of only 32% of children who experienced Harm Standard maltreatment and of 43% of those whose maltreatment fit the Endangerment Standard. Moreover, this was not an artifact of the relatively short (3-month) NIS reference period. The NIS-4 examined an additional full month of CPS data to increase the opportunity for more

maltreated children to enter CPS investigations. This additional time made essentially no difference to the percentages of children investigated.

Overall, the percentages of maltreated children who received CPS investigation represented more than one-half of the children in only a few maltreatment categories except fatalities. Under both definitional standards, the highest investigation rates (50% or higher) occurred for physically abused (52% or more) and sexually abused children (55% or more), and for those with maltreatment so severe that their harm could be inferred (53% or more). Also, among children with Endangerment Standard maltreatment, those who were deemed to be endangered, but not demonstrably harmed, also had a high rate of CPS investigation (60%). Considering the sentinel sources that recognized the children as maltreated, investigation rates were above 50% only among children with Harm Standard maltreatment recognized in police or sheriff departments (53%) or at public housing agencies (68%) and among children with Endangerment Standard maltreatment recognized at juvenile probation departments (63%), police or sheriff departments (64%), mental health agencies (53%), social services agencies (94%), and public housing agencies (67%). The lowest rates of investigation occurred for children recognized at schools (20% or less across the definitional standards), day care (12% or less), or shelters (19% or less).

The overall percentage of children with Harm Standard maltreatment who received CPS investigation did not statistically change since the NIS-3, but investigation rates did increase since the NIS-3 for Harm Standard abuse (from 40% to 50%), sexual abuse (from 42% to 55%), emotional abuse (from 21% to 36%), emotional neglect (from 18% to 30%), and in children recognized as maltreated by juvenile probation (from 17% to 42%), public health (from 3% to 26%) or social services (from 25% to 91%). The investigation rate for Endangerment Standard maltreatment increased significantly, from 33% in the NIS-3 to 43% in the NIS-4. Increased investigation rates were evident in all abuse (from 39% to 49%), sexual abuse (from 44% to 56%), emotional abuse (from 28% to 40%), all neglect (from 28% to 41%), emotional neglect (from 22% to 50%), and in children recognized as maltreated at juvenile probation departments (from 23% to 63%), public health departments (from 4% to 33%), day care centers (from 3% to 12%), or social services (from 33% to 94%).

The NIS methodology generates information that speaks only to the end result of several processes, indicating whether or not a given maltreated child was among

those children investigated by CPS. Children who do not receive a CPS investigation represent an enigma to the study, in that it is not possible to say whether sentinels who recognized their maltreatment did not report it to CPS or whether they did report it but CPS screened their reports out without an investigation. These alternatives have quite different implications for policy. The NIS–4 included several supplementary studies to help understand the countable children who do not receive CPS investigation.

The *CPS Screening Policies Study (SPS)* obtained detailed information about CPS screening criteria to determine what role they might play in screening out countable children from CPS investigations. The NIS–4 reviewed the children identified in the main study as maltreated but not investigated at CPS to determine whether CPS probably would have investigated them, based on the screening criteria described in the SPS interviews. This exercise indicated that CPS probably would have investigated nearly three-fourths (72%) of the uninvestigated children who experienced Harm Standard maltreatment and two-thirds (66%) of the uninvestigated children with Endangerment Standard maltreatment. Therefore, if CPS agencies consistently apply the criteria they described, and if sentinels had reported the uninvestigated children to CPS, then CPS would have investigated the majority. The “presumptive investigation rates,” reflecting the percentages of maltreated children CPS would have investigated if sentinels had reported them to CPS, were 81% of all children with Harm Standard maltreatment and 80% of those with Endangerment Standard maltreatment.

Another NIS–4 supplementary study, the *CPS Structures and Practices Mail Survey (SPM)*, collected information about various agency characteristics, examining whether these related to CPS investigation rates. Investigation rates were significantly lower when a state or regional hotline screened incoming referrals for children with Harm Standard physical abuse (48% versus 65%) or emotional neglect (25% versus 37%). When CPS had no assistance in investigating certain categories of maltreatment, investigation rates were lower: if the agency had sole responsibility for investigating non-severe physical neglect, then the rate of CPS investigation was significantly lower for children with Harm Standard physical neglect (26% versus 43%); sole responsibility for investigating abandonment correlated with lower investigation rates for Endangerment Standard physical neglect (37% versus 50%). When CPS could provide a response other than an investigation (commonly termed an “alternative response”), then investigation rates were lower across a range of maltreatment categories under both definitional standards. Agencies with alternative responses investigated only 23% of the children

with Harm Standard maltreatment and 29% of those with Endangerment Standard maltreatment, whereas agencies without any alternative response offering investigated 38% and 52% of these groups, respectively. CPS agencies that did not prioritize recommended responses to referrals investigated more children who experienced Harm Standard physical abuse than did agencies that did (75% versus 55%) as well as more educationally neglected children (23% versus 8%).

NIS sentinels also participated in the *Sentinel Definitions Survey (SDS)*, which asked them about their training on mandated reporting, their specific agency's policies governing CPS reporting, their personal experiences in reporting to CPS, and whether they would report a variety of maltreatment situations to CPS. One-fourth of the sentinels (24%) had neither received written instructions nor attended a workshop about their state's reporting requirements while working in their current agencies. Training mattered, since more sentinels who received some form of training said they had reported suspected child maltreatment to CPS (67% versus 53%). More sentinels from health and law enforcement (96% or more) said their agencies allowed them to report directly to CPS (versus having to go through an agency representative or committee) than did sentinels in schools (80%) or other agencies (83%). Moreover, when allowed to do so, fewer sentinels in schools and other agencies said they had ever reported a case (54% and 50%, respectively) compared to 87% of law enforcement sentinels and 77% of sentinels in health agencies. An average of nearly one-fourth (23%) of sentinels predicted they would not report described situations of Harm Standard maltreatment to CPS, verifying that sentinels recognize a substantial number of maltreated children whom they do not report to CPS. Nevertheless, whereas the NIS-4 found that majorities of countable children were not investigated, only minorities of sentinels said they would not report the countable cases presented in the SDS. The contrast was strong across all maltreatment categories. Thus, the SDS results cannot explain the large percentages of uninvestigated children in the NIS-4.

9. Conclusions and Implications

The NIS-4 revealed several important changes in the incidence of maltreatment since the time of the NIS-3. These observed changes may reflect real changes in the scope of the problem, or they may reflect changes in how sentinels and other reporters respond to the maltreated children they encounter. The current

information suggests that both of these dynamics contributed to the observed changes, each dynamic affecting a different sector of the abused and neglected population.

The NIS–4 documented declines in rates of all categories of abuse across both definitional standards. The declines in sexual abuse and physical abuse are consistent with trends in CPS data gathered by the National Child Abuse and Neglect Data System (NCANDS, U.S. Department of Health and Human Services, Administration on Children, Youth and Families, 2007) and they also parallel declines in victim self-reports. However, since no independent information is currently available that bears on the incidence of emotional abuse, it is not clear whether the NIS decline in this category reflects a real decrease in its occurrence.

The increase in the rate of emotional neglect since 1993 could, in part, signify a real increase in the occurrence of maltreatment, but it is fairly clear that it also reflects some change in policy and focus. Since the NIS–3, a number of CPS systems have undertaken initiatives to increase collaboration between CPS and agencies that serve domestic violence and alcohol and drug problems (U.S. Department of Health and Human Services, Administration for Children and Families/Children's Bureau and Office of the Assistant Secretary for Planning and Evaluation, 2001, 2003). The increased emotional neglect incidence may predominantly reflect the heightened CPS attention to these problems, which are involved in certain types of emotional neglect. Further analyses will clarify whether the increases in emotional neglect primarily occurred in specific types of emotional neglect or for children recognized at specific types of agencies.

Another area where further analyses can illuminate the implications of the NIS–4 findings is in the interrelationships among the different factors associated with the incidence of maltreatment. Factors such as parents' labor force participation, household socioeconomic status, family size, and family structure and living arrangement are not only associated with the incidence of maltreatment but are also correlated with each other. Further analyses could determine their independent relationships to maltreatment, such as whether households with more children have higher incidence rates even when household socioeconomic status is taken into account. Moreover, for the first time in NIS, the NIS–4 found race differences in the incidence of maltreatment, with higher incidence rates for Black children. Future analyses should examine whether these race

differences in maltreatment rates remain when the disadvantaging effects of these family circumstances are taken into account.

The NIS–4 findings on the strong correlations between socioeconomic status and all categories of maltreatment are consistent with earlier NIS findings on household income. As with the previous results, the recent observations cannot be plausibly explained by the claim that lower socioeconomic families are simply more visible to the community professionals who provide most of the data. The NIS sentinels observe substantial numbers of children and families at the middle- and upper-income levels. Sentinels in schools alone recognized the majority of the maltreated children.

Despite some increases in CPS investigation of maltreated children, the NIS–4 shows that investigation rates still remain fairly low. Similar to previous NIS findings, the NIS–4 again determined that the majority of maltreated children do not receive CPS investigation. The NIS–4 obtained information that shed additional light on this issue:

- The NIS–4 determined that the finding is not an artifact of the relatively short (3-month) NIS reference period, since adding a full month of CPS data to increase the opportunity for more maltreated children to enter CPS investigations made essentially no difference to the percentages of children investigated.
- Certain features of CPS structure and practice were associated with percentages of maltreated children who received investigation. Children were less likely to receive CPS investigation if they were in the jurisdiction of CPS agencies that received their referrals about suspected maltreatment through a centralized regional or state hotline, that combined a new report into an ongoing open investigation on the child or family, or that could offer an alternative response (other than an investigation) to the children and families referred to them for suspected maltreatment. Also, children who experienced physical neglect were less likely to receive investigation if their CPS agency had sole responsibility for investigating non-severe physical neglect.
- The *CPS Screening Policies Study* found that if all maltreated children were reported to CPS and CPS agencies followed their current screening policies, then a large majority of the maltreated children (80% or more) would receive CPS investigation. Assuming that agencies follow their stated screening policies, the implication is that mandated reporters do not report most of the uninvestigated children (two-thirds or more).

- In the *Sentinel Definitions Survey*, sentinels responded to descriptions of maltreated children, indicating that they would not report some of these to CPS. More sentinels who had received information or training on their state's reporting requirement while working in their current agency had reported suspected child maltreatment.

Although schools predominated as a source of recognition for maltreated children, 20% or less of the maltreated children recognized at schools received CPS investigation. One factor that may contribute to the low investigation rate for school-recognized children is school policy barring staff from making direct reports to CPS. In the *Sentinel Definitions Survey*, 20% of school sentinels indicated that their schools do not permit them to report directly to CPS. However, other factors also contribute to low investigation rates for the school-recognized children, because even when agencies permitted direct reports, fewer sentinels in schools said they had reported a case (54%) compared to staff in health agencies (77%) or law enforcement (87%). Similar patterns emerged in the previous NIS cycles. To repeat the earlier recommendation: better working relationships should be forged between CPS agencies and schools, capitalizing on the unique role of school professionals as front-line observers.

1. INTRODUCTION

This report presents the findings of the Fourth National Incidence Study of Child Abuse and Neglect (NIS–4). It includes nontechnical descriptions of the study design and methodology and provides national estimates of the incidence of abused and neglected children, the nature and severity of their maltreatment, the relation between incidence rates and various demographic factors, characteristics of the perpetrators, the sources who recognized the maltreated children, and the percentages of these children investigated by child protective service (CPS) agencies.

The NIS–4 meets several mandates in the Child Abuse Prevention and Treatment Act, as amended by the Keeping Children and Families Safe Act of 2003 (P.L. 108-36). Specifically, the NIS–4:

- provides current estimates of the incidence of child abuse and neglect in the United States;
- measures changes in these estimates from earlier studies; and
- examines the distribution of child maltreatment in relation to various demographic factors.

1.1 Background

The National Incidence Study (NIS) is a congressionally mandated, periodic effort of the United States Department of Health and Human Services (DHHS). The NIS–1 was mandated by Public Law (P.L.) 93–247 (1974) and collected data in 1979 and 1980. The NIS–2 was mandated under P.L. 98–457 (1984) and collected data in 1986. The NIS–3 was mandated under both the Child Abuse Prevention, Adoption, and Family Services Act of 1988 (P.L. 100–294) and the Child Abuse, Domestic Violence, Adoption and Family Services Act of 1992 (P.L. 102–295). It collected data in 1993. This report presents findings from the NIS–4, which was mandated by the Keeping Children and Families Safe Act of 2003 (P.L. 108-36). The NIS–4 gathered data in 2005 and 2006.

1.2 NIS Design Enhancements

Over the course of the three previous implementations, the NIS design benefited from a series of intensive planning and pretest efforts, ongoing scrutiny, and input from a number of expert forums. While adhering to the same basic framework and approach, the design evolved through a range of enhancements.

In responding to the original legislative mandate, the National Center on Child Abuse and Neglect (NCCAN) undertook a feasibility study, followed by two years of design and pretest. At the outset of the NIS-3, the Children's Bureau convened a Conference of Experts to consider outstanding questions concerning the NIS findings and suggest additions and design improvements (Rogers, Gray, & Aitken, 1992). The NIS-3 Advisory Board endorsed a number of the recommended additions, which NCCAN incorporated into the study design (Sedlak, 2001).

Following the NIS-3, DHHS undertook efforts to examine and critique the NIS methodology, identify strategies to enhance the accuracy and precision of the NIS estimates, and increase the interpretability of the findings. These efforts comprised multiple phases, each building on previous developments.

In February 1997, several months after the publication of the NIS-3 findings, the Children's Bureau convened the NIS-3 Symposium (Children's Bureau, 2000). In June 2000, DHHS convened a Focus Group of experts to identify issues the design of the next NIS should address. In October 2000, DHHS sponsored work to identify design options for the future NIS that would enhance the utility and interpretability of the findings, the adequacy of the definitions, the present-day relevance and feasibility of the methodology, and the coverage, reliability, and precision of the estimates (Sedlak, Bruce, & Hill, 2002).

In 2002, DHHS issued a contract to conduct the *NIS-4 Planning Project*. The initial phases of this planning work involved a series of 5 conference calls and an in-person meeting with a Technical Advisory Group (TAG) comprising up to 26 experts from the private sector or local government and up to 17 federal agency staff with substantive interest in the NIS. Following these calls, the TAG met in-person to deliberate, classify, and prioritize the enhancement options.

Incorporating the TAG input, DHHS directed that subsequent planning project activities conduct in-depth work on six proposed enhancements—two pertaining to the sample design, one examining and refining the NIS definitions, and three developing methodologies and materials for supplementary studies to help in understanding the main NIS findings:

- **Sample design enhancements.** Statisticians explored the properties of the NIS–3 sample and estimates and identified strategies for improving the efficiency of the sample and precision of estimates in the NIS–4.¹
- **Definitions review and refinement.** This effort began with comprehensive review of all states’ statutes on mandated reporting of child abuse and neglect and of maltreatment classifications in the recent research literature. It compared the maltreatment events and category distinctions in these classifications against those in the NIS definitions and recommended ways to differentiate and clarify the typology for the NIS–4. These modifications did not change NIS criteria for counting children as abused or neglected. Rather, they clarified the meaning of the NIS classification codes in order to improve their reliability and they identified the correspondence between NIS codes and the maltreatment situations listed in states’ reporting statutes (Sedlak, Mettenburg, Schultz, & Cook, 2003).
- **Supplementary studies.** The NIS–4 planning effort established methodologies for three studies to improve the interpretability and clarify the policy implications of the main NIS findings.
 - ♦ The *CPS Structure and Practices Mail Survey (SPM)* was modeled after the Local Agency Survey (LAS) in the National Study of Child Protective Service and Reform Efforts, which was conducted in 2002 with CPS agencies in 375 counties in the United States (U.S. Department of Health and Human Services, Administration for Children and Families/Children's Bureau and Office of the Assistant Secretary for Planning and Evaluation, 2003). CPS agencies that participate in the NIS complete this mail questionnaire about their structure, responsibilities, work arrangements, and specific practices. In relation to the main NIS–4

¹ Statisticians assessed the NIS design effect and the power needed to compare specific subgroups; they recommended strategies for reducing the design effect and improving the precision of estimates (Park, Winglee, Clark, Sedlak, Morganstein, & Rust, 2003). A separate effort examined the NIS PSU selection, explored the statistical efficiency of alternative size measures and stratification, and recommended modifications for PSU selection in the NIS–4 (Park, Winglee, Clark, & Sedlak, 2003).

findings, this information can reveal whether differences in local CPS agency structure and practice relate to local differences in CPS investigation coverage of maltreated children.

- ♦ The *CPS Screening Policies Study (SPS)* involves in-depth interviews with intake supervisors at all CPS agencies that participated in the NIS–3. This study examines their criteria for screening in reports of child abuse and neglect for CPS investigation. The goal, in relation to the main NIS findings, is to determine whether CPS screening criteria would have screened out the reports on the maltreated children who did not receive CPS investigation in the main NIS.
- ♦ The *Sentinel Definitions Survey (SDS)* is a questionnaire mailed to NIS–4 sentinels after the conclusion of the main study. The initial section asks about their training on mandated reporting, their agency’s policies on individual reporting, and their personal experiences in reporting to CPS. The remainder of the questionnaire presents vignettes that represent the NIS typology and asks whether respondents think the situation is maltreatment, whether they would report the case to CPS, and whether they would submit it to a national study on child abuse and neglect. The purpose is to identify barriers to CPS reporting; to understand which maltreatment categories are less likely to be reported to CPS or submitted to the study, and to provide a baseline of sentinels’ definitions of maltreatment at the time of the NIS–4.

1.3 Focus of this Report

This final report is a self-contained document, in that it is not necessary to refer to any other reports or materials to understand the design, methods, and findings of the main NIS–4. Interested readers can find details in three technical reports:

- The *Design and Methods Summary* (Appendix A) presents the study design and the special NIS–4 enhancements; gives details about the main study sample, recruitment, data collection, unduplication, evaluative coding, and weighting. It also summarizes the methodologies of three NIS–4 supplementary studies that helped in understanding important aspects of the main study findings, as subsequent chapters will explain.

- The NIS–4 *Data Collection Report* (Hartge, Basena, Cober et al., 2010) provides all the study data forms and describes the procedures used to collect both the CPS agency data and the sentinel data.
- The NIS–4 *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010) gives considerable detail about the data processing steps, including basic and evaluative coding; the data retrieval, scanning, and cleaning processes; the unduplication methods; the weighting and nonresponse adjustment approaches; the development of the annualization multipliers; and the derivation of national estimates and variances.

In addition, reports on the supplementary studies detail their methods and analyses and document their complete findings (Greene, McPherson, and Sedlak, 2010; McPherson and Sedlak, 2010; Mettenburg, Sedlak, Yuan *et al.*, 2010; Sedlak, McPherson, Shusterman, and Li, 2010).

The remainder of this report comprises eight chapters:

Chapter 2, “Methodology,” summarizes the design and methodology of the NIS–4. It provides an overview of the conceptual model that has guided the NIS approach since its inception and describes the NIS–4, including the NIS–4 sample design, data collection, and analysis activities.

Chapter 3, “Incidence of Child Abuse and Neglect,” provides the current national incidence of child abuse and neglect as defined by both the Harm Standard and the Endangerment Standard. It discusses statistically meaningful changes in the incidence rates since the NIS–2 and the NIS–3² and describes the distribution of children across different categories of maltreatment and across different levels of severity of harm from maltreatment.

Chapter 4, “Distribution of Abuse and Neglect by Child Characteristics,” examines the relationship between child characteristics and the incidence and severity of abuse and neglect. It discusses the NIS–4 findings on the incidence of maltreatment in

² The earlier reports on the NIS–2 and NIS–3 findings documented that substantial changes occurred since the NIS–1 (Sedlak, 1991; Sedlak & Broadhurst, 1996). In the interests of brevity, simplicity, and clarity, this NIS–4 report gives priority to the more recent changes in incidence.

relation to the child's sex, age, race, disability status, and school enrollment; examines whether differences among children in terms of these characteristics systematically relate to differences in incidence rates for different maltreatment categories or severities of outcome; and describes statistically significant changes since the NIS-3 in the distribution of child maltreatment by the child's sex, age, or race.

Chapter 5, "Distribution of Abuse and Neglect by Family Characteristics," examines the relationship between specific characteristics of the children's families and the incidence and severity of abuse and neglect. It presents the NIS-4 results concerning the incidence of different maltreatment categories and severities of outcome for children who come from families with different socioeconomic levels, family structures and living arrangements, numbers of dependent children, and whose counties of residence differ in degrees of urbanization. In addition, the report examines incidence differences related to parents' labor force participation and to whether a grandparent was a caregiver for the child. This chapter also describes statistically significant changes since the NIS-3 in the distribution of child maltreatment by family structure, family size, and county metropolitan status.

Chapter 6, "Perpetrator Characteristics," describes the children who experienced Harm Standard maltreatment according to their relationship with their perpetrator and how this differed depending on their maltreatment and its severity. The chapter also describes how the perpetrator's sex and age and the child's own race varied across categories and severities of maltreatment and by the perpetrator's relationship to the child. In addition, the chapter reports whether the perpetrator's alcohol use, drug use, or mental illness were considered to be factors in the maltreatment and how this varied by maltreatment category and the perpetrator's relationship to the child.

Chapter 7, "Recognizing Abused and Neglected Children," considers what community sources recognized maltreated children as abused or neglected and what changes have occurred in recognition at different agencies since the NIS-3. The chapter also considers what the results of the *Sentinel Definitions Survey (SDS)* imply about the extent to which the NIS "covers" the population of maltreated children in the different abuse and neglect categories.

Chapter 8, "Investigating Abused and Neglected Children," reports what percentages of maltreated children receive investigation by CPS agencies and compares

these with the percentages that received CPS investigation in the NIS–2 and the NIS–3. It also shows how CPS investigation rates vary by the category of maltreatment, the severity of harm, and by the source that recognized the child as maltreated. Additional analyses show that the rates of CPS investigation are not materially affected by extending the period of CPS data collection in the NIS. In the subsequent sections, the chapter considers what the findings from the three supplementary studies imply about the rates of CPS investigation observed in the main study.

Chapter 9, “Conclusions and Implications,” reviews some highlights of the NIS–4 findings and discusses their policy implications.

2. METHODOLOGY

Since its inception, the NIS has followed the same fundamental approach, applying a sentinel sample methodology to provide national estimates of child maltreatment and using standard definitions to ensure comparability of measurement across different data sources within a study as well as across the different NIS cycles. Successive NIS cycles have introduced various improvements, including larger and more efficient sample designs, refined definitional categories, and independent supplementary studies to help in understanding the findings from the main NIS.

This chapter summarizes the design and methodology of the fourth National Incidence Study of Child Abuse and Neglect (NIS–4). It reviews the conceptual model that has always guided the NIS design and describes the specifics of the approach in the present study. Appendix A, *Design and Methods Summary*, gives further details.

2.1 Study Design

The NIS–4 measures the total number of children who are abused or neglected in the United States and indicates the degree to which this number has changed since the earlier cycles collected similar data (the NIS–1 in 1979, the NIS–2 in 1986, and the NIS–3 in 1993). As summarized in the previous chapter, the specifics of the NIS–4 design are the product of an intensive, multi-year effort to identify, prioritize, and pilot-test a number of refinements and enhancements.

The NIS offers a unique perspective on the national scope of child abuse and neglect, in that it goes beyond the maltreated children who come to the attention of the child protective services (CPS) system. Annual national data on child abuse and neglect is available from the National Child Abuse and Neglect Data System (NCANDS), which gathers data on cases of child maltreatment that come to the attention of the child protective services (CPS) system. The NIS is an infrequent but critical study. It serves as the nation’s needs assessment on child abuse and neglect by measuring the scope of the problem beyond these official statistics. To do this, the NIS gathers and integrates data from multiple sources, using standardized definitions.

Rationale. Although CPS investigates a substantial number of the maltreated children in the nation, these children represent only the “tip of the iceberg.” The NIS assumes that not all maltreated children are reported or investigated by CPS. The conceptual model in Figure 2–1 guided the NIS methodology. Children investigated by CPS are in the first level of recognition, while other abused and neglected children are at levels below this. Each successive level is associated with decreasing degrees of official recognition or public awareness.

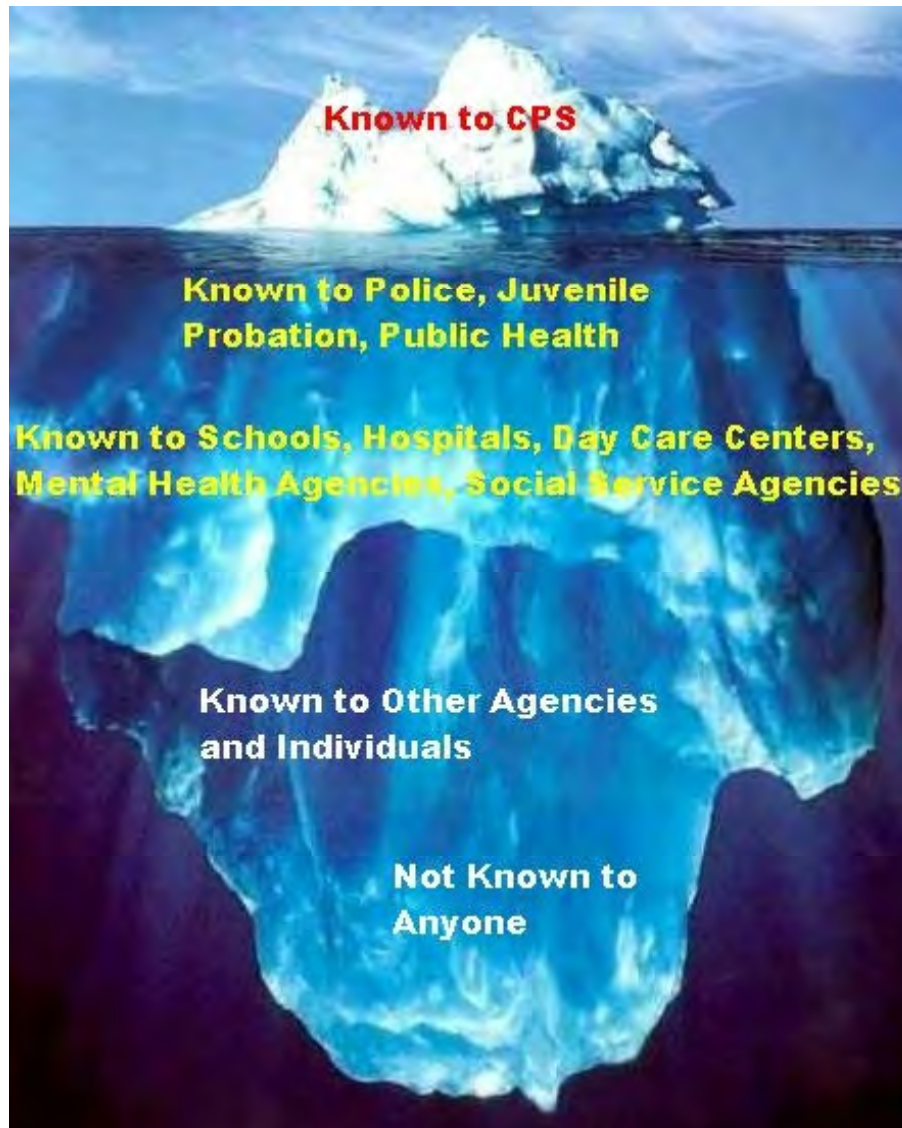


Figure 2–1. Levels of Recognition of Child Abuse and Neglect.

At the second level are those children that other “investigatory” agencies, such as law enforcement agencies, courts, or public health departments, recognized as

maltreated but who are not investigated by CPS. These agencies may have overlapping or even conflicting responsibilities concerning certain situations, such as felonious assault, homicide, delinquency, dependency, domestic violence, those formerly called “children in need of control,” or nutrition and hygiene problems. Children may remain at this second level because of questions of definition or disputes concerning the appropriate responsibilities of these different agencies in relation to CPS. Although children in this second level are in some sense “officially known,” the community does not necessarily regard them as abused or neglected in the same sense as children in the first level, and they do not necessarily receive assistance that specifically targets their abuse or neglect problems.

The third level includes abused and neglected children who are not investigated by CPS and who are not recognized as maltreated at any agency in the second level but who are known to professionals in other major community institutions, such as schools, hospitals, mental health agencies, day care centers, shelters, public housing agencies, and other social services agencies. Children may remain at this level because the professional who recognized their maltreatment did not report it for any number of reasons. One reason may be definitional ambiguities as to what types of cases they should report to CPS or to other investigatory agencies. Other reasons relate to the attitudes and assumptions of the professionals who are aware of these situations. For example, they may feel that they are in the best position to help, may not trust CPS to handle the problem appropriately, may fear the loss of trust from their client, or may have apprehensions about becoming involved in an official investigation. Children can also remain at this level (or other levels “below the waterline”) when the professional who recognized their maltreatment did report them, but CPS declined to accept their cases for investigation. As with nonreporting, there are multiple possible reasons for screen-outs. A child’s case may not meet the agency’s criteria for investigating (e.g., the maltreatment may not be in the CPS agency’s jurisdiction or sufficiently serious to warrant an investigation). Another possibility is that the professional did not provide sufficient information to CPS to enable an investigation or to meet the threshold for investigation.

At the fourth level, someone outside of the purview of the first three levels recognizes the abused and neglected children as maltreated, such as a neighbor, another member of the family, or one or both of the involved parties—the perpetrator and the child victim. However, no one at this level has disclosed the maltreatment to anyone in the first three levels. Here again, it is possible that individuals in this fourth level did

reveal the maltreatment to persons in the first, second, or third levels, but that the latter did not recognize the maltreatment as such. (This would include CPS screening out a child in the fourth level.)

In the fifth level are those children no one recognizes as maltreated. These are cases where the individuals involved do not themselves regard their behavior or experiences as child maltreatment and where their situations have not come to the attention of outside observers who would identify them as abuse and neglect.

The model conveys the inherent difficulty of efforts to measure the incidence of child maltreatment. Cases in the fifth level are by definition impossible to document (unless they can be brought into the fourth level). In principle, it should be possible to identify children in the fourth level through methods such as surveys of parents, children, and/or neighbors. Several such surveys have been conducted, but the stigmatizing nature of acknowledgments of abuse and neglect introduces serious (and unknown degrees of) underreporting bias into estimates of cases at this level. As a result, all NIS efforts have focused on assessing the incidence of cases identified only in the first, second, and third levels.

Main study design. The NIS uses a survey methodology that begins with a nationally representative sample of counties. In each county, the NIS collects data on all children investigated by child protective service (CPS) agencies during the study reference period as well as on maltreated children identified in a specific set of community agencies by “sentinels.” Sentinels are professionals who regularly come into contact with children and families and who have sufficient contact to recognize children who are maltreated and provide the information needed to determine whether their situations fit the study definitions of abuse or neglect. They watch for maltreated children during the study reference period.

Figure 2–2 depicts these NIS data sources, showing that both CPS and sentinels submit data to NIS. Sentinels report some children they recognize as maltreated to CPS and these children enter the NIS both through CPS data collection and directly from participating sentinels. Sentinels report other maltreated children only to NIS directly, which provides information about the numbers of children in the second and third levels of figure 2–1. Also, other sources report children to CPS who enter NIS only

through the CPS data. These are children who would otherwise remain in level 4, outside of NIS purview.

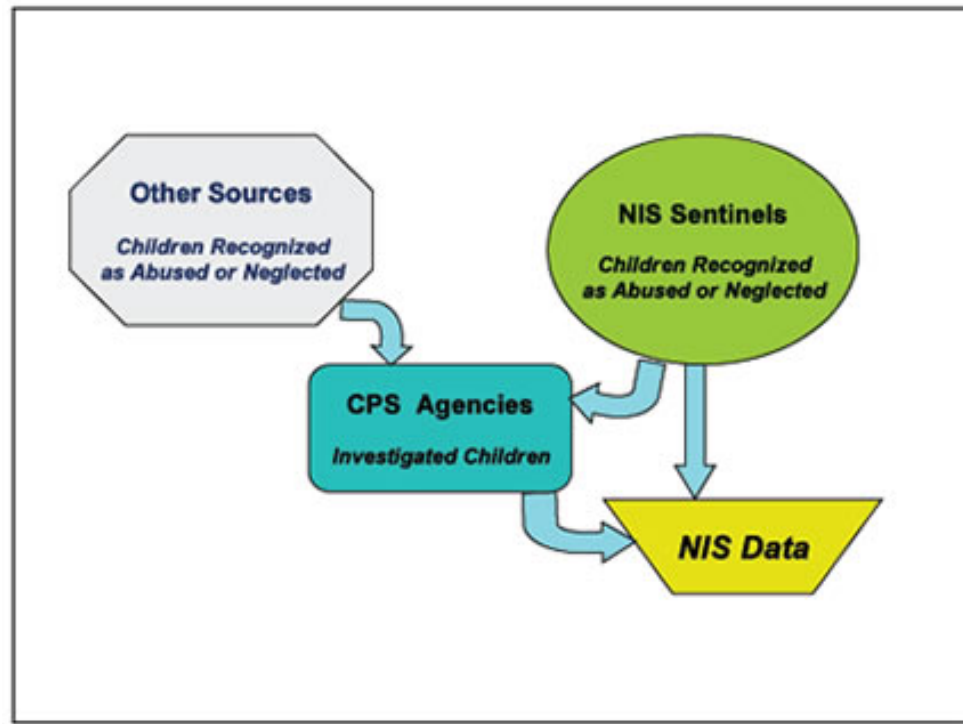


Figure 2–2. NIS Data Sources.

The NIS gathers retrospective data from CPS, about children who were subjects of investigation during the study reference period, whereas NIS gathers sentinel data prospectively, with sentinels remaining on the lookout and submitting data as they encounter children they suspect were maltreated during the reference period.

Figure 2–3 schematically diagrams the key components of the NIS methodology. The NIS unduplicates the data (so the study estimates represent each maltreated child only once), evaluates the case details against standardized definitions of abuse and neglect (so estimates are based only on “countable” children, whose maltreatment meets the study standards), and weights the records (so the sample data can provide national estimates of the numbers of maltreated children).

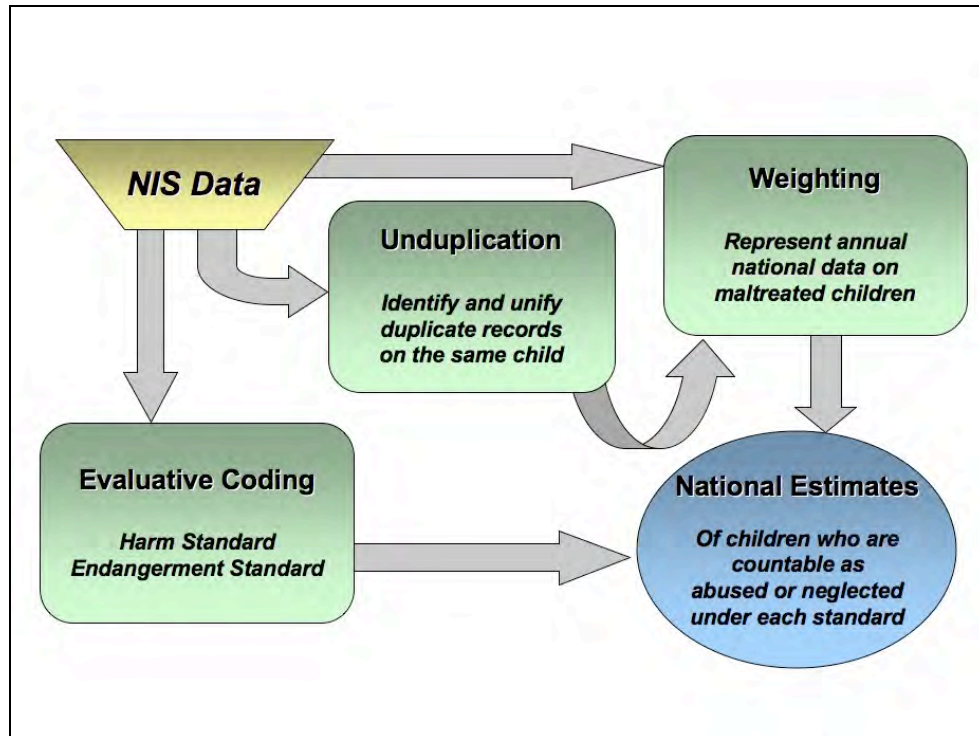


Figure 2–3. Schematic Summary of the NIS Methodology.

NIS–4 enhancements. The NIS–4 sample design improved on that used in the NIS–3 by tripling the number of counties (122 vs. 42) as well as increasing the number of sentinel agencies (nearly 1,100 vs. 800). The NIS–4 also expanded sentinel coverage through two new categories of sentinel agencies—public housing authorities and shelters for victims of domestic violence and for runaway or homeless youth. Statisticians conducted an extensive review of the NIS–3 data to identify the most efficient design for the NIS–4 county and sentinel agency samples. In evaluating the data, the NIS–4 evaluative coders applied a refined typology of abuse and neglect definitions, classifying situations into 60 separate forms of maltreatment. They also provided a more detailed coding of serious injury or harm that resulted from maltreatment. In computing annualization multipliers to transform the 3-months of data from the main NIS–4 into estimates of the numbers of children maltreated over a full year, the NIS–4 used data from the National Child Abuse and Neglect Data System (NCANDS). Finally, the NIS–4 team designed and implemented a number of new computer systems to document, manage, and provide ongoing quality checks during recruitment, data collection, evaluative coding, and unduplication. Appendix A includes a complete list of these system enhancements.

Supplementary studies. In addition to the main study, the NIS–4 project included three supplementary studies, designed to enhance the interpretability of the NIS findings. Two were surveys of CPS agencies—one on their overall structure and practices and the second on their screening standards for deciding whether to investigate a referral of suspected maltreatment. The third supplementary study was a survey of sentinels on their backgrounds and definitions of child abuse and neglect and concerning their standards for reporting suspected maltreatment to CPS or submitting data on maltreated children to the NIS. A fourth study is also planned, which will compare the NIS information on CPS cases with parallel data collected by the NCANDS to cross-validate these sources and identify any notable differences in the information they provide.

2.2 Samples and Recruitment

The NIS target population is the set of children under 18 years of age who are maltreated during the study period, including all who are investigated by child protective services (CPS) agencies and others who come to the attention of community professionals working in specific categories of agencies.

Samples. The NIS–4 first-stage sample comprised 122 counties. The method used to sample these counties ensured that they represented different regions of the country, degrees of urbanization, crime rates, percentage of households headed by single women, and CPS substantiation rates. The second stage of the sample consisted of agencies in the selected counties. Sampled agencies included all the 126 local CPS agencies that served the 122 NIS–4 counties, as well as 1,524 sentinel agencies in the counties. The sentinel agencies represented all county sheriff departments, county departments of juvenile probation, public health, and public housing, and samples of municipal police departments, hospitals, shelters, day care centers, schools, other social services and mental health agencies. The third stage of the sample entailed sampling investigated cases in CPS agencies to gather details about the children, families, and maltreatment and, in the sentinel agencies, selecting the staff to serve as sentinels and watch for children maltreated during the study period. The listing of CPS case investigations during the reference period totaled 140,206, and the NIS–4 sampled 11,930 for the detailed maltreatment data. The NIS–4 identified 22,117 eligible staff in participating sentinel agencies and sampled 11,321 to be recruited as sentinels.

CPS recruitment. In order to unduplicate data from sentinels against data on children in CPS investigations, the NIS design obtains a census of all children in CPS investigations in study counties during the reference period, using CPS Summary Data Forms for basic demographic information. Without this information, the NIS cannot use the data from sentinels in the county, and the entire county must be dropped from the study. All 126 CPS agencies provided Summary Data, so the NIS-4 obtained 100% participation in this component of the study. However, not all jurisdictions provided maltreatment data on the sampled cases. The NIS-4 obtained 10,667 completed Maltreatment Data Forms, or 89% of the cases sampled. As noted below, the completed CPS maltreatment data were weighted to correct for incomplete and absent forms.

Sentinel recruitment. The sentinel agency sample in the NIS-4 was twice as large as that in the NIS-3. Of the 1,524 sampled sentinel agencies that were eligible for the study,³ 1,094 participated, representing 72% of the eligible sample. Within these participating agencies, a total of 10,791 sentinels participated, representing 95% of the 11,321 sentinels sampled.

NIS-4 agency recruitment rates were lower than those attained in earlier NIS cycles.⁴ The lower rates were largely attributable to increased concerns with privacy and resulting changes in policies, procedures, and State and federal laws since the NIS-3. New laws, such as the Health Insurance Portability and Accountability Act (HIPAA), seriously limited access to data for any “voluntary” study.

Nevertheless, compared with earlier NIS cycles, the NIS-4 substantially increased sample sizes and broadened sentinel agency coverage. Relative to the NIS-3, the NIS-4 essentially tripled the number of participating counties (from 42 to 122), CPS agencies (from 42 to 126), and the number of CPS cases with completed maltreatment details (from 3,154 to 10,667). The NIS-4 also substantially increased the number of

³ The original sample included 1,679 agencies. Of these, 1,524 were in-scope (serving the sampled counties at the time of the NIS-4 data collection and with staff who regularly had contacts with children and families). Replacements for refusal agencies substituted for 221 of the original sample.

⁴ The NIS-3 achieved an 82% sentinel agency participation rate. The NIS-3 participation rate of sentinels within those agencies was the same as in the NIS-4—95%.

participating sentinel agencies (from 800 to 1,094) and nearly doubled the number of participating sentinels (from 5,612 to 10,791).

2.3 Data Collection

The NIS–4 used two reference periods, one of which conformed to that used in the NIS–2 and NIS–3: a 3-month period from the first week in September 2005 through the first week in December 2005 (for two-thirds of the counties). The second reference period occurred the following spring, from the first week in February 2006 through the first week in May 2006 (for the remaining one-third of counties).⁵ CPS agencies provided data on all cases they accepted for investigation that were reported during their assigned reference period, whereas sentinels described all maltreated children they encountered whose maltreatment occurred during their assigned reference period. As an enhancement to the NIS–4, CPS agencies also provided summary level data about cases they accepted during the month following their reference period. As discussed later (Chapter 8), this extra month of data helped clarify the situation of uninvestigated children in the NIS findings, identifying the effects of allowing more time for sentinels to report children to CPS.

The NIS–4 used three instruments: the CPS Summary data form, the CPS Maltreatment data form, and the Sentinel data form (available in both paper and web-based versions). CPS agencies used the CPS Maltreatment data form to provide details concerning the children and maltreatment events for a sample of cases reported to the agency during the study reference period that they accepted for investigation. The CPS Summary data form captured demographic information on all children in CPS investigated cases, for use in unduplication. Sentinels submitted a Sentinel data form on all children they suspected were maltreated during the reference period. The CPS Maltreatment and Sentinel data forms collected many of the same details, but differed in

⁵ The original plan called for the NIS–4 to use a single 3-month reference period (first week of September to first week of December). However, as noted above, recruitment took considerably longer than anticipated in a number of locales. In order to maximize participation rates, the NIS–4 used a delayed reference period for one-third of the sites, providing additional time to negotiate administrative clearances and obtain IRB and research committee approvals at the selected agencies.

format: the Sentinel data form described a single child, whereas the CPS data form described all children in the household, since CPS agencies typically organize records around household-level investigations rather than around individual children.

The NIS–4 received a total of 157,081 data forms, including 140,206 CPS Summary Data Forms for cases investigated during the reference period, 10,667 completed CPS Maltreatment Data Forms on the cases sampled for detailed information, and 6,208 completed Sentinel Data Forms.

2.4 Evaluative Coding

The NIS gathers data from diverse sources—cases investigated by CPS as well as children encountered by sentinels representing a broad spectrum of community professionals. Different CPS agencies use different standards when screening cases in for investigation and deciding their dispositions. Also, despite their brief training in the study’s definitions, sentinels have different perceptions about what constitutes child abuse and neglect. Consequently, the cases that NIS gathers reflect widely varying views as to whether a child should be considered maltreated and used to develop the study estimates (i.e., whether they are “countable” in the totals of maltreated children). A key achievement of the NIS has been operational definitions of child maltreatment that are both clear and objective in specifying the situations encompassed by the study. As shown in Figure 2–3, the data NIS gathers about maltreated children undergo evaluative coding, which assesses the children’s experiences for conformity to the study’s specific definitional standards, and only those children whose circumstances fit the standard definitions are considered “countable” and used as the basis for generating incidence estimates.

The NIS definitions maintain a child protective services (CPS) perspective, covering the types of maltreatment that come under the purview of CPS. In preparing for the NIS–4, the U.S. Department of Health and Human Services undertook a systematic

review of the NIS definitions.⁶ This led to refinements of the maltreatment typology, subdividing earlier forms of maltreatment that were too heterogeneous, clarifying the range of acts or omissions included in a given maltreatment form, and enhancing the coding guidelines to avoid confusion. Table 2–1 presents the resulting 60-form maltreatment typology that evaluative coders applied in the NIS–4.

Definitional standards. Evaluative coders judge the details of each case of suspected maltreatment against the required elements (countability criteria) defined in two definitional standards, the Harm Standard and the Endangerment Standard. The Harm Standard has been used since the NIS–1 and is the more stringent. For children to be countable under the Harm Standard, for the most part, they have to have experienced observable harm from their maltreatment. The Endangerment Standard has been in use since the NIS–2. It is more lenient, counting children in the study estimates if the source (CPS or sentinel) considered the perpetrator’s actions or omissions to have placed the child at serious risk of harm. The Endangerment Standard includes all Harm Standard countable children, but adds in other children as well.

The NIS definitional standards specify all the elements that must be met for the child to be countable. These include:

1. *Child’s Age:* The NIS includes children whose maltreatment occurs after their birth and before their 18th birthday.⁷
2. *Custody Status:* The NIS includes only abuse and neglect of children living in household settings (dependents of parent(s) or parent substitute(s) at the time of maltreatment).⁸

⁶ This review, undertaken during the *NIS–4 Planning Project*, explored whether, since the original formulation of NIS definitions, increasing variation in CPS practices reduced the relevance of the NIS definitions or categories, or emphasized new distinctions not captured in the NIS definitions. Reviewers examined the NIS classification system against current state definitions of child abuse and neglect (as codified in the state statutes that mandate reporting) and against the carefully elaborated definitions used in five recent studies of child abuse and neglect (Sedlak, Mettenburg, Schultz & Cook, 2003). They identified gaps in the NIS specifications, categorical refinements, and additional criteria or boundary conditions to clarify the situations NIS includes as abuse or neglect.

⁷ The NIS classifies acts or omissions that occur during pregnancy as not countable.

⁸ The NIS excludes institutional abuse and neglect.

3. *Purposive and Avoidable Acts/Omissions:* For maltreatment to count, it must be nonaccidental and avoidable.⁹
4. *Time of Maltreatment:* The maltreatment has to have occurred during the study reference period.¹⁰
5. *Severity of Harm:* For each form of maltreatment, the Harm Standard specifies a minimum level of harm that must be evident in order for the child to be countable.¹¹
6. *Person(s) Responsible for the Maltreatment:* For each form of maltreatment, both definitional standards specify whether the perpetrator must be an adult and how they must be related to the child (parent or other caregiver) in order for NIS to count the maltreatment.¹² Evaluative coders also assess the degree of evidence for holding the alleged perpetrator responsible for the maltreatment.

Maltreatment forms and categories. Based on the nature of the abusive acts or neglectful omissions, coders classify alleged maltreatment situations using the 60 forms and eight major categories listed in Table 2–1. The NIS definitions specify the maltreatment acts or omissions included in each form and clarify important boundary conditions.

Countability assessment. Coders reviewed all information submitted on CPS Maltreatment Data Forms and Sentinel Data Forms, assessing the maltreatment of

⁹ The NIS excludes problems or hazards that a parent or caregiver could not avoid, due to lack of financial means (where appropriate assistance was not available through public agencies), or the caregiver’s death, hospitalization, incarceration (where it was physically impossible to provide or arrange for adequate care).

¹⁰ Study data are annualized using multipliers that assume a specific time period. The restriction on the time of maltreatment ensures that the annualization multipliers apply to the correct basis. For CPS data, CPS has to receive the report during the study reference period and accept it for investigation; for sentinel agencies, the maltreatment itself has to occur during the study reference period.

¹¹ To count a child in the study estimates, the Harm Standard generally requires *moderate* harm from abuse but *serious* harm from neglect.

¹² For maltreatment to count under the Harm Standard, the perpetrator of abuse must be a parent, parent-substitute, or an adult caregiver; a neglect perpetrator must be a parent or parent-substitute. The Endangerment Standard relaxes these criteria in several respects. It includes situations where adult caregivers other than a parent or parent substitute permit sexual abuse and situations where nonparental minor caregivers perpetrate or permit sexual abuse. In addition, it includes other adult caregivers (besides parents and parent substitutes) as allowable perpetrators of two forms of neglect: inadequate supervision and other physical neglect (such as inadequate food, clothing, shelter, disregard of physical hazards, and other inattention to child’s physical safety and well-being).

Table 2–1. NIS–4 60-form Typology for Classifying Alleged Maltreatment

Sexual Abuse (10 codes) Intrusion sex without force Intrusion sex involving use of force Child’s prostitution or involvement in pornography with intrusion Molestation with genital contact Exposure/Voyeurism Providing sexually explicit materials Child’s involvement in pornography without intrusion Failure to supervise child’s voluntary sexual activity Attempted/threatened sexual abuse with physical contact Other/unknown sexual abuse	Physical Neglect (12 codes) Refusal to allow or provide needed care for diagnosed condition or impairment Unwarranted delay or failure to seek needed care Refusal of custody/abandonment Other refusal of custody Illegal transfers of custody Other or unspecified custody-related maltreatment -- unstable custody arrangements Inadequate supervision Inadequate nutrition Inadequate personal hygiene Inadequate clothing Inadequate shelter Other/unspecified disregard of child’s physical needs and physical safety
Physical Abuse (6 codes) Shake, throw, purposefully drop Hit with hand Hit with object Push, grab, drag, pull Punch, kick Other physical abuse	Educational Neglect (4 codes) Permitted chronic truancy Other truancy Failure to register or enroll Other refusal to allow or provide needed attention to diagnosed educational need
Emotional Abuse (8 codes) Close confinement: tying/binding Close confinement: other Verbal assaults and emotional abuse Threats of sexual abuse (without contact) Threats of other maltreatment Terrorizing the child Administering unprescribed substances Other/unknown abuse	Emotional Neglect (11 codes) Inadequate nurturance/affection Domestic violence Knowingly permitting drug/alcohol abuse Knowingly permitting other maladaptive behavior Refusal to allow or provide needed care for diagnosed emotional or behavioral impairment/problem Failure to seek needed care for emotional or behavioral impairment/problem Overprotectiveness Inadequate structure Inappropriately advanced expectations Exposure to maladaptive behaviors and environments Other inattention to development/emotional needs
Other Maltreatment (6 codes) Lack of preventive health care General neglect—other/unspecified neglect allegations Custody/child support problems Behavior control/family conflict issues Parent problem General maltreatment—unspecified/other (not coded above)	Not Countable by any NIS Standard (3 codes) Involuntary neglect Chemically dependent newborns Non-maltreatment cases

each child substantiated by CPS or thought to meet the study criteria on either type of data form and deciding their “countability” in relation to the study definitions. They assessed each alleged form of suspected or substantiated maltreatment as to its substance (who did what to whom, when, with what effect, and with what quality of evidence), rating the degree to which each required element met the countability criteria of the Harm Standard and of the Endangerment Standard. Overall assessments of the child’s countability under each definitional standard summarized the ratings across all alleged maltreatment forms.

In the NIS–4, a specialized Computer-Assisted Evaluative Decision System (CAEDS) assisted evaluative coders as they assessed cases. CAEDS offered a number of advantages over the paper-processing approach used in previous NIS cycles: it offered automated reminders of the definitions and implemented consistency checks as the coders keyed their decisions; it allowed simultaneous and efficient electronic access to data forms by primary evaluative coders and reliability coders (as well as the unduplication team); it served as the management system for supervisors to allocate coding assignments and monitor reliability of individual coders in an ongoing way; and it protected confidential data by maintaining the forms electronically on a secure password-protected network, eliminating the need to provide specialized physical security during their use and transfer.

The benefits of using CAEDS for ongoing monitoring of the consistency of codes and intercoder reliability measures are evident in the reliability of the NIS–4 evaluative coding decisions. Despite the complexity of the assessments, results were quite reliable, as gauged by two measurements. The first was the simple percentage rate of agreement between the initial evaluative coder and another, reliability coder who blind-coded a random 40% of the child records (i.e., 12,334 children). The inter-coder reliability agreement rate was 97% for both Harm Standard countability and Endangerment Standard countability. The second reliability measure was the Kappa coefficient, which takes into account the level of agreement expected by chance, based on the overall distribution of the codes for the item. The Kappa scores were .95 for agreement on Harm Standard countability and .91 for agreement on Endangerment Standard countability.

The NIS–4 *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010) gives details of the NIS–4 definitions and the evaluative coding process.

2.5 Unduplication

The NIS provides estimates of the number of children who are maltreated during the study year. However, the NIS can receive more than one data form concerning an individual child. Such duplicates occurred when more than one study source recognized the same maltreatment event and when a given child experienced more than one maltreatment event during the study reference period. In either case, it was necessary to identify and resolve all such duplicate child records to ensure that the estimates would reflect the child as a unit of measurement. Following the approach taken in the previous studies, only enough close-to-identifying information was obtained in the NIS-4 to allow fairly certain judgments as to whether or not two data forms described the same child. Decisions about duplicates relied on matches on the child's sex, first name, last initial, date of birth or age, race, city of residence, and number of other children in the household.

Having identified duplicates, the NIS retained only one record to represent the individual child in the analysis database. Selecting a single record to represent an unduplicated child followed similar decision rules to those used in previous NIS cycles, giving preference to records with countable maltreatment under the definitional standards, to those with more complete demographic information, to records from sources higher in the traditional NIS hierarchy of recognition sources (iceberg model in Figure 2-1),¹³ and to those describing more forms of maltreatment. Statisticians assigned the unified child record a weight that adjusted for the multiple probabilities of sampling the child from the sources represented in the duplicate grouping.

The NIS-4 unduplication team processed 30,543 child records. After identifying and unifying duplicate records, the final database contained 29,488 records on individual children.

The NIS-4 *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010) details the NIS-4 unduplication process.

¹³ Chapter 7 provides further details about this recognition source priority system.

2.6 Weighting and Estimation¹⁴

The national estimates derive from weighted totals of the sampled children, with each child's weight based on the probability of having selected the source that reported the child to the study. The final weights are complex because they:

- account for the differential selection probabilities for the sample units at each successive sampling stage;
- compensate for agency nonresponse, and for incomplete or partial participation by sentinels and CPS agencies;
- adjust for multiple probabilities of identifying the same maltreated child through multiple reports to CPS or through multiple sentinel sources; and
- include an annualization multiplier to allow the reference-period data to represent a full-year and to account for seasonality differences between the two study reference periods (fall 2005, spring 2006).

Base weights and base weight adjustments. For each sample unit in the study (county, agency, sentinel, and case), the base weight is the reciprocal of the probability of including the unit in the sample. The NIS–4 also applied special weighting adjustments, including adjustments to ensure that study estimates are accurate relative to the size and distribution of the child population at the time of the NIS–4 reference periods, taking into account that the U.S. child population was larger during the NIS–4 reference periods than it was at the time of the 2000 census (when sampling probabilities were set) and that the distribution had shifted somewhat as well (especially as a result of hurricanes Katrina and Rita).

Nonresponse adjustments. Adjusting base weights for nonresponse compensated for lost data. The NIS–4 had three types of nonresponse: nonparticipating sentinel agencies, refusals or incomplete participation by sentinels, and missing CPS

¹⁴ Appendix A summarizes the NIS–4 weighting and estimation procedures. The NIS–4 *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010) provides additional detail.

Maltreatment forms on sampled cases. These adjustments enlarged the weights for participating entities to make up for the loss of similar, nonparticipating entities.

Multiplicity adjustments. The unduplication process identified and removed multiple forms on the same child, as described above, ensuring that just a single record on the child entered the final analyses. The process of unifying a single record to represent the child included the calculation of a unified weight for the child as well. The unified weight summarized the probability of having sampled a duplicated child, correcting for the fact that the child entered the study through multiple sources.

Annualization adjustments. The NIS–4 gathered data for two 3-month study reference periods. Agencies participated in either the 3-month fall reference period or in the 3-month spring reference period. The annualization adjustments enabled the data from the two 3-month reference periods to provide estimates that reflect the numbers of children who experienced maltreatment over the course of 12-months during 2005–2006. The NIS–4 annualization adjustments used data from the National Child Abuse and Neglect Data System (NCANDS) on substantiated children in the NIS–4 counties. The NCANDS data provided four adjustment factors, two for children maltreated during each reference period (fall or spring), depending on the source that reported the child to CPS (school versus other sources).¹⁵

The *Design and Methods Summary* (Appendix A) provides additional information about the weighting process, with further details available in the *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010).

2.7 Data Analysis

The principal NIS–4 findings are estimates of totals and rates: the total number of maltreated children in the U.S. and the rate of maltreated children per 1,000 in

¹⁵ The NIS targets children maltreated or reported to CPS during the reference period in question. In contrast, NCANDS annual data files include cases based on the date that CPS assigned a disposition. Thus, in order to reflect all children reported to CPS during the 2005 calendar year, it was necessary to integrate data from two NCANDS fiscal year files: 2005 and 2006.

the population. The estimated totals are the weighted totals of the children's records in the final analysis file, subset to those children who experienced the maltreatment in question. Incidence rates are computed by dividing the estimated total number of children who experience the maltreatment in question by the number of children in the U.S. population¹⁶ and by 1,000. This provides the rate per 1,000 children in the general population. The ensuing chapters present estimates for the incidence maltreatment as defined by the Harm Standard and by the Endangerment Standard, giving the estimated numbers of children who experienced the different categories of maltreatment as well as the corresponding rates per 1,000 children in the population. Analyses also produced estimated totals and rates for subgroups of children, defined by various child and family characteristics. In each case, the denominator used to compute the rate reflected the number of children in the general population with the corresponding characteristic.¹⁷

The national estimates in this report derive from a sample of maltreated children. The final NIS-4 analysis file includes a sample of 12,408 children who experienced Endangerment Standard maltreatment, 5,226 of whom also experienced Harm Standard maltreatment. Any estimate based on a sample has some degree of associated uncertainty. Sample-based studies index the amount of uncertainty on estimates with the "standard error of estimate," or S.E. The square of the standard error is the variance. The standard error or variance indicates the precision of the estimate. It is critical in understanding how reliable an estimate is and in deciding whether an observed difference in estimated rates is "statistically significant," or whether it could simply be due to sampling error (due to chance fluctuations).¹⁸ Statisticians recommend

¹⁶ In order to accommodate any changes in the size of the overall child population in the U.S. between the NIS-4 reference periods (fall 2005 and spring 2006), NIS-4 incidence rates used the average of the July 2005 and July 2006 U.S. Census Bureau annual estimates as the population denominator (U.S. Census Bureau, 2008a).

¹⁷ To provide estimates for the broad range of characteristics of interest, the NIS-4 used population statistics from various sources; subsequent chapters provide those details. In all cases, those sources provided the information about the distribution of the characteristics in the child population. To establish the specific denominators for computing rates, that distribution was applied to the NIS-4 overall child population denominator (based on the average of July 2005 and July 2006 child population estimates, as described in an earlier footnote). This ensured that the subgroup denominators summed to the NIS-4 child population denominator.

¹⁸ Statistically significant differences have a very low probability of emerging by chance (probability of 5% or less, or $p \leq .05$). Subsequent chapters also report "statistically marginal" differences, which have a chance probability of more than 5% but less than 10% (i.e., $.10 > p > .05$).

special methods to compute standard errors or variances when data are from multi-stage sample designs, which are common in most national surveys.¹⁹ As noted above, the NIS design included multiple stages (i.e., counties, then agencies within those counties, then sentinels and cases within the agencies). The NIS–4 followed the approach of earlier NIS cycles and used a replication approach to compute standard errors for all estimates.²⁰

Appendixes B and C list all the Harm Standard and Endangerment Standard estimates, respectively, together with their standard errors. All within-study comparisons used these standard errors to compute the significance of differences between the estimated incidence rates for the subgroups under study.²¹ Appendix D reports the results of all within-study statistical tests.

Appendix E gives the results of analyses that compared the NIS–4 estimates to previous NIS results. Cross-study comparisons always used the incidence rate measures, since that adjusted for any changes in the overall size of the child population between NIS cycles. Besides assessing changes in the overall incidence of different maltreatment categories, these analyses also examined the distribution of maltreatment across specific subgroups, defined on the basis of characteristics of the child and family and identified patterns of differences across subgroups within the NIS–4. Such comparisons identified statistically meaningful changes in the distribution of maltreatment since the NIS–3.²²

¹⁹ Traditional statistical software packages assume that the data derive from a simple random sample, which is not true in multi-stage designs; therefore, they do not compute correct standard errors (Brogan, 1998; Kish, 1992; Korn & Graubard, 1995, 1999; Landis, Lepkowski, Iklund, & Stehouwer, 1982; Lee, Forthofer, Lorimore, 1989; Skinner, 1989; Wolter, 1985).

²⁰ Although replication is not the only approach that can compute correct variances from complex samples, it can handle situations that other methods cannot address easily and has several advantages even when other methods can readily apply (Brick & Morganstein, 1996, 1997; Rust & Rao, 1996; Shao, 1996; Wolter, 1985).

²¹ All within-study analyses computed t-tests comparing every pair of subgroups under study. As subsequent chapters indicate, these comparisons based conclusions about significance on the Bonferroni critical values of t (Sankoh, Huque & Dubey, 1997), which corrected for the fact that conducting multiple comparisons increases the possibility of finding a difference that meets the standard for statistical significance but is instead due to chance.

²² These analyses computed the Chi square statistics on the rates in a two-way table, where the rows reflected the study (NIS–4 versus NIS–3) and the columns corresponded to the levels of the characteristic of interest (e.g., age groups, socioeconomic status levels, etc.). This determined whether any changes in rates since the NIS–3 occurred differentially for subgroups with specific characteristics.

2.8 Supplementary Studies

The NIS provides estimates of the percentage of maltreated children whose maltreatment is investigated by CPS. Throughout the previous NIS cycles, however, children who were not investigated represented an enigma because it was not possible to say whether they were not reported to CPS or whether they were reported to CPS but not investigated because they did not fit the agency's screening criteria. The policy implications of these alternative situations are quite different. The supplementary studies obtained additional information from participating CPS agencies and sentinels to illuminate these findings. Appendix A, the *Design and Methods Summary*, provides further information about the methodologies used. In addition, separate reports, cited below, detail the instruments, procedures, and analyses and present complete results for each study.

CPS Structure and Practices Mail Survey (SPM). The SPM (Sedlak, McPherson, Shusterman, and Li, 2010) employed a questionnaire that was modeled after the Local Agency Survey (LAS) in the National Study of Child Protective Services Systems and Reform Efforts, which was conducted in 2002 (U.S. Department of Health and Human Services, Administration for Children and Families/Children's Bureau and Office of the Assistant Secretary for Planning and Evaluation, 2003).

The principal purpose of the SPM was to provide enhanced information about the CPS agency context that could shed light on the NIS–4 main study findings on rates of CPS investigation. The SPM questionnaire included 4 modules, each focused on a specific CPS function: Administration, Screening/Intake, Investigation, and Alternative CPS Response. Analyses identified several CPS agency characteristics that were associated with a maltreated child's chances of receiving attention in a CPS investigation.

CPS Screening Policies Study (SPS). The SPS (Greene, McPherson, and Sedlak, 2010) identified the criteria CPS agencies used in deciding whether to investigate a referral about alleged maltreatment and then applied these criteria to the main study data on maltreated children who were not investigated. Phase I involved telephone interviews with intake/screening supervisors (or their delegates) in participating NIS–4 CPS agencies, asking how their agency would respond to a series of vignettes that reflected the full range of maltreatment situations in the NIS–4 typology. The SPS report uses these data to provide national estimates of CPS agencies' screening policies at the

time of the NIS–4. In Phase II, coders applied the SPS screening criteria to the uninvestigated children in the NIS–4 main study and decided whether, according to the screening criteria the local CPS agency used at the time of the study, CPS would have screened them in for investigation.

Sentinel Definitions Survey (SDS). The NIS goes beyond maltreated children who come to the attention of CPS agencies by relying on community professionals (sentinels) who encounter child maltreatment in the course of their work in various agency sectors, including health, law enforcement, schools, social services and mental health, public housing, day care centers, and shelters. In most states, professionals in these sectors are mandated reporters, required by law to report any suspected child maltreatment to CPS. However, except for a supplementary survey of school sentinels in the NIS–3 (Sedlak & Schultz, 1997), previous NIS cycles have not directly asked sentinels about their training on mandated reporting or the standards they apply in deciding whether to report suspected maltreatment to CPS. Also, although NIS has always trained the sentinels to be on the lookout for the full scope of maltreatment situations that are, or could be, countable under the study definitions, NIS has never examined sentinels’ own definitions of maltreatment, or asked about their standards for submitting children to the study. This has hampered interpreting changes in the size of the maltreated child population from one NIS cycle to the next, since the study has had no means of determining whether or to what extent the changes reflected true changes in the occurrence of child maltreatment as opposed to shifts in sentinels’ definitions or in their standards for submitting data to the study.

The *Sentinel Definitions Survey (SDS)* filled these important gaps (McPherson and Sedlak, 2010). Professionals who participated in the main NIS–4 as sentinels responded to a follow-up questionnaire about their background, experiences reporting to CPS, and reporting procedures in their agency. Using vignettes that described forms of maltreatment in the NIS–4 typology, the questionnaire also asked about the conditions that they identified as maltreatment and their standards for reporting a situation to CPS or submitting it to a national study, such as the NIS.

3. INCIDENCE OF CHILD ABUSE AND NEGLECT

This chapter provides Harm Standard and Endangerment Standard estimates of child abuse and neglect, addressing the following questions:

- What is the current national incidence of child abuse and neglect as defined by the Harm Standard or the Endangerment Standard?
- Have there been any statistically significant changes since the NIS–2 or since the NIS–3 in the annual incidence of children who experience abuse or neglect fitting the standard?²³
- Among the children who experienced abuse or neglect according to the standard, what was their most serious injury or harm from that maltreatment?
- How does this distribution of children across levels of severity of injury/harm compare with the severity distributions found in the NIS–2 and the NIS–3?

In addition, the discussion compares the Endangerment Standard estimates for different maltreatment types and outcomes with the Harm Standard estimates, indicating the additional children included as abused or neglected under the more lenient Endangerment Standard guidelines. The final section summarizes the main findings and discusses their implications.

Throughout this and the subsequent chapters, it is important to bear in mind that the NIS definitions, under whatever standard, require all maltreatment to have been perpetrated by a parent or caretaker (i.e., to reflect circumstances that are within the jurisdiction of child protective services agencies). That is, the NIS estimates systematically exclude maltreatment by non-caretaker family members (e.g., siblings who were not in a caretaking role), by non-caretaker neighbors or acquaintances, and by strangers. Thus, the incidence totals and rates in this report do *not* reflect the children

²³ Reports on the findings from these previous studies were Sedlak (1991) and Sedlak and Broadhurst (1996).

physically assaulted or sexually abused by persons in any of these latter categories. They also exclude children who are not living in households.

It is also important to note that the estimates in this report reflect the unduplicated numbers of children in the U.S. who experienced the maltreatment in question. That is, the unit of measurement is the child, and each estimate counts a child only once. The report provides both the estimated totals and the estimated rates per 1,000 children. Estimated totals are annual estimates, reflecting the number of children nationwide who were maltreated in the course of the study year. The incidence rates indicate the numbers of children maltreated during the study year per 1,000 children in the U.S. population. This report also follows the usage of the Congressional mandate in referring to the estimates as "incidence estimates." In the epidemiological literature, however, they would be more appropriately termed "annual prevalence estimates." Technically, they are period prevalence estimates, where the focal period is a year.²⁴

3.1 National Incidence of Harm Standard Maltreatment

This section presents the national estimates of the incidence of children who experienced Harm Standard maltreatment during the NIS-4 2005–2006 study year. The Harm Standard is relatively stringent in that, in general, it classifies a child as "countable" (i.e., counts the child in the study estimates) only if he or she has already experienced demonstrable harm as a result of maltreatment.

²⁴ In epidemiologic usage, "incidence" refers to the number of new cases that occur in the population during a given period of time (Ahlbom & Norell, 1984). "Prevalence" can mean a number of different things, depending on whether it is used with or without a modifying adjective. When used without a qualifier, it is most often interpreted to mean "point prevalence," which is the total number of cases that exist in the population at a given point in time. Prevalence can also be defined as "lifetime prevalence," which refers to the total number of persons known to have been cases at some time in their lives, or "period prevalence," which denotes the total number of persons known to have been cases at any time during a specified period.

3.1.1 Overall Incidence of Harm Standard Maltreatment

Table 3–1 presents the estimates for Harm Standard maltreatment since the NIS–2. The shaded section gives the NIS–4 estimates. These represent annual estimates for 2005–2006, the period in which the NIS–4 data were collected. The right-hand side of the table compares the NIS–4 findings with the estimates for the corresponding categories from the earlier studies, the NIS–3 and the NIS–2. The NIS–3 estimates reflect the incidence of maltreatment during 1993, and the NIS–2 estimates index the incidence of maltreatment in 1986. The statistical significance of the comparison in question is indicated by an asterisk or letter(s), as the table footnotes explain.

Table 3–1 shows that an estimated 1,256,600 children experienced Harm Standard maltreatment during the NIS–4 2005–2006 study year. This total reflects an incidence rate of 17.1 children per 1,000 children in the general population nationwide, which is equivalent to 1.71 children per 100, or to one child in every 58 in the United States.^{25,26} The comparisons in the right-hand sections of the table indicate that the 2005–2006 annual incidence of all Harm Standard maltreatment is lower than the corresponding estimate for 1993, a statistically marginal difference.²⁷ Specifically, there was a 19% decrease in the total number of maltreated children since 1993. This decrease corresponds to a 26% decline in the rate of overall Harm Standard maltreatment since the NIS–3. The rate measure conveys a child’s risk of experiencing the maltreatment, so one can say that a child’s risk of suffering Harm Standard maltreatment was 26% lower in 2005–2006 than it was in 1993. This decrease in incidence rate is statistically marginal, meaning that the estimated change closely approaches statistical significance but does not meet the traditional statistical standard for concluding that the difference is not due to chance factors.

²⁵ The incidence rates in this chapter used the average of the July 2005 and July 2006 annual estimates as the population denominator (U.S. Census Bureau, 2008a). This computation yielded the estimate that a total of 73,635,000 children ages 0 through 17 were living in the United States during the NIS–4 2005–2006 study year.

²⁶ In this and subsequent chapters, all estimates concerning total numbers of children are rounded to the nearest hundred in order to avoid conveying a false sense of precision. All the estimates have associated standard errors which represent their degree of precision, given in Appendices B and C.

²⁷ Comparisons across studies use the rate measures (i.e., comparing the number of children maltreated per 1,000) in order to take account of any changes in the size of the U.S. child population across the time intervals. Appendix E gives the details of the between-study significance tests and their specific results.

The NIS–3 found a significant increase in Harm Standard maltreatment since the NIS–2. The NIS–4 findings indicate that the decrease in the overall incidence of Harm Standard maltreatment has returned to a level that does not differ from the NIS–2 estimate for 1986.

Table 3–1. National Incidence of Harm Standard Maltreatment in the NIS–4 (2005–2006), and Comparison with the NIS–3 (1993) and the NIS–2 (1986) Harm Standard Estimates

Harm Standard Maltreatment Category	NIS–4 Estimates 2005–2006		Comparisons With Earlier Studies					
			NIS–3 Estimates 1993			NIS–2 Estimates 1986		
	Total No. of Children	Rate per 1,000 Children	Total No. of Children	Rate per 1,000 Children		Total No. of Children	Rate per 1,000 Children	
ALL MALTREATMENT	1,256,600	17.1	1,553,800	23.1	<i>m</i>	931,000	14.8	<i>ns</i>
<i>ABUSE:</i>								
ALL ABUSE	553,300	7.5	743,200	11.1	*	507,700	8.1	<i>ns</i>
Physical Abuse	323,000	4.4	381,700	5.7	<i>m</i>	269,700	4.3	<i>ns</i>
Sexual Abuse	135,300	1.8	217,700	3.2	*	119,200	1.9	<i>ns</i>
Emotional Abuse	148,500	2.0	204,500	3.0	<i>m</i>	155,200	2.5	<i>ns</i>
<i>NEGLECT:</i>								
ALL NEGLECT	771,700	10.5	879,000	13.1	<i>ns</i>	474,800	7.5	<i>m</i>
Physical Neglect	295,300	4.0	338,900	5.0	<i>ns</i>	167,800	2.7	<i>m</i>
Emotional Neglect	193,400	2.6	212,800	3.2	<i>ns</i>	49,200	0.8	*
Educational Neglect [†]	360,500	4.9	397,300	5.9	<i>ns</i>	284,800	4.5	<i>ns</i>

* The difference between this and the NIS–4 incidence rate is significant at $p \leq .05$.

m The difference between this and the NIS–4 incidence rate is statistically marginal (i.e., $.10 > p > .05$).

ns The difference between this and the NIS–4 incidence rate is neither significant nor marginal ($p > .10$).

[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment

Note: Estimated totals are rounded to the nearest 100.

3.1.2 Incidence of Harm Standard Abuse and Neglect

In addition to the overall estimates of incidence and rates, Table 3–1 provides estimates for the two main categories of maltreatment: abuse and neglect. Each of these is, in turn, divided into more specific categories.

The NIS only counts abused children under the Harm Standard if they experienced the abuse at the hands of their parent (birth or adoptive), parent-substitute (e.g., foster parent, step-parent), or an adult caretaker; the NIS counts neglected children only when they experienced the neglect at the hands of their parent or parent-substitute. Also, as detailed further below, the Harm Standard generally includes children in the abuse total if they were *moderately* harmed by abuse, whereas it generally includes only children who were *seriously* harmed in the neglect estimates.

As Table 3–1 shows, an estimated 553,300 children experienced Harm Standard abuse during the 2005–2006 study year, while an estimated 771,700 children suffered Harm Standard neglect during the same period. These totals represent incidence rates of 7.5 abused children per 1,000 and of 10.5 neglected children per 1,000 in the United States population. Thus, the majority of Harm Standard children (61%) were neglected, and slightly less than one-half (44%) were abused. Note that the estimated numbers of children in the “all abuse” and “all neglect” rows sum to more than the total number of maltreated children in the first row. This is because children who were both abused and neglected (an estimated 68,400 children, or 0.9 per 1,000) are included in both estimates.

Changes since the NIS–3 in the incidence of Harm Standard abuse and neglect. In comparison to the NIS–3 estimates, the NIS–4 decrease in Harm Standard abuse is statistically significant. There was a 26% decrease in the total number of abused children since the NIS–3. Alternatively, considering the changes in incidence rates in order to take into account the increase in child population size since that earlier study, there was a 32% decrease in the abuse rate since the NIS–3, indicating that children had a nearly one-third lower risk of being abused under the Harm Standard in the 2005–2006 study year compared to their risk in 1993.

The NIS–4 decrease in the rate of Harm Standard neglect since the NIS–3, although it may appear substantial, was not statistically significant.

Changes since the NIS–2 in the incidence of Harm Standard abuse and neglect. The NIS–4 rate of Harm Standard abuse does not statistically differ from the NIS–2 rate for this maltreatment category. Thus, the NIS–4 decrease eradicated the increase seen in the NIS–3. The incidence of Harm Standard abuse has returned to a level that is indistinguishable from what it was in 1986.

In the NIS–3, the incidence of Harm Standard neglect was significantly higher than it was at the time of the NIS–2. Table 3–1 indicates that the NIS–4 estimate of Harm Standard neglect was still higher than the 1986 NIS–2 estimate, a statistically marginal difference. The total number of neglected children was 63% higher in 2005–2006 than in 1986 and the neglect rate per 1,000 children was 40% higher in 2005–2006 compared to 1986. This increase in the incidence rate means that a child’s risk of Harm Standard neglect in 2005–2006 was 1.4 times higher than his or her risk of suffering the same maltreatment in 1986.

3.1.3 Specific Categories of Harm Standard Abuse

Within Harm Standard abuse, Table 3–1 provides incidence statistics for three specific categories: physical, sexual, and emotional abuse. Children who experienced more than one category of abuse are reflected in the estimates for each applicable type, so the estimates for these specific abuse categories sum to more than the total number of abused children.

Physical abuse. Physical abuse includes shaking, throwing, purposefully dropping a child; hitting; pushing, grabbing, dragging or pulling; punching or kicking; and other physical abuse. The NIS classifies children as physically abused under the Harm Standard if they suffered at least a moderate injury from physical abuse. Moderate injuries are defined as physical, mental, or emotional injuries or conditions (or behavior problems) resulting from physical abuse which are serious enough to persist in observable form for at least 48 hours. Examples include bruises, nightmares, depression, and fearfulness.

Table 3–1 indicates that 4.4 children per 1,000 (or an estimated 323,000 children) experienced Harm Standard physical abuse during the NIS–4 study year. These

children represent 58% of all children who met the Harm Standard criteria for any type of abuse.

Sexual abuse. Sexual abuse subsumes a range of behaviors, including intrusion, child's prostitution or involvement in pornography, genital molestation, exposure or voyeurism, providing sexually explicit materials, failure to supervise the child's voluntary sexual activities, attempted or threatened sexual abuse with physical contact, and unspecified sexual abuse. For intrusion and genital molestation, the Harm Standard guidelines permit assuming that serious emotional harm occurred even if explicit symptoms are not yet observable. (Ensuing sections refer to this maltreatment outcome as "inferred harm.") However, for the remaining abusive actions, the NIS definitions count children as sexually abused under the Harm Standard only if they experienced moderate injury or harm (physical, emotional, or behavioral) from that maltreatment.

An estimated 1.8 children per 1,000 (or a total of 135,300) experienced Harm Standard sexual abuse in the NIS-4 study year. Sexually abused children constitute 24% of the total who suffered Harm Standard abuse.

Emotional abuse. In the NIS definitions, this category includes close confinement, verbal or emotional assaults, threats of sexual abuse (without contact) and threats of other maltreatment, terrorizing, administering unprescribed substances, and other or nonspecific abuse. Close confinement refers to tying, binding, and other inappropriate confinement or physical restriction. Verbal or emotional assault involves systematic patterns of belittling, denigrating, scapegoating, or other nonphysical forms of overtly rejecting treatment. Emotional abuse also includes all varieties of abusive, exploitative, or overtly punitive behaviors where actual physical contact did not occur (such as intentional withholding of food, shelter, sleep, or other necessities, or excessive responsibilities or excessive demands for income-producing work by a child). For the more extreme forms of tying and binding, Harm Standard guidelines permit "inferred harm." That is, they permit assuming that serious emotional injury occurred in the absence of explicit symptoms, which allows the child to qualify as emotionally abused under the Harm Standard. However, for all other forms of emotional maltreatment, the Harm Standard requires direct or circumstantial evidence of moderate injury or impairment.

Table 3–1 indicates that an estimated 2.0 per 1,000 (148,500 children) suffered Harm Standard emotional abuse in 2005–2006. Emotionally abused children represented 27% of all children counted as abused under the Harm Standard.

Changes since the NIS–3 and NIS–2 in the incidence of Harm Standard abuse. Across the Harm Standard abuse categories, the only statistically significant change since the NIS–3 was in the incidence of sexual abuse, which declined by 38% in total numbers. This corresponds to a 44% decrease in the rate of sexual abuse, from 3.2 children per 1,000 in 1993 to 1.8 children per 1,000 in 2005–2006. The incidence of Harm Standard physical abuse and emotional abuse also decreased since the NIS–3, but as Table 3–1 indicates, those decreases did not match the sexual abuse decrease, either in size or in statistical strength. The number of children who experienced physical abuse decreased by 15%, whereas the number who suffered emotional abuse decreased by 27%. The decreases in incidence rates were 23% for physical abuse (from 5.7 to 4.4 per 1,000 children) and 33% for emotional abuse (from 3.0 to 2.0 per 1,000 children). These decreases are statistically marginal, approaching but not reaching the level traditionally required for statistical significance.

The NIS–4 Harm Standard estimates for physical, sexual and emotional abuse do not differ statistically from the NIS–2 Harm Standard estimates for the component categories of abuse. Thus, the decreases since 1993 in the categories of Harm Standard abuse have returned their incidence rates to levels that are statistically equivalent to what they were at the time of the NIS–2 in 1986.

3.1.4 Specific Categories of Harm Standard Neglect

Harm Standard neglect includes three specific categories: physical, emotional, and educational neglect. Again, the estimates in Table 3–1 include children in each category that applied to them, so the sum of these neglect categories is greater than the total of all neglected children.

Physical neglect. This type of neglect includes abandonment; refusal of custody; illegal transfer of custody; unstable custody arrangements; medical neglect; inadequate supervision; inadequate attention to needs for food, clothing, shelter, or personal hygiene; and other disregard for the child’s physical needs or physical safety.

From inadequate supervision to the end of this list, the NIS includes the child in the Harm Standard estimates only if the maltreatment results in demonstrable injury or impairment that is serious or fatal. Serious harm is defined as life-threatening or requiring professional treatment in order to prevent significant long-term impairment. The Harm Standard criteria for the other categories of physical neglect are somewhat less demanding. For abandonment, refusal of custody, and illegal transfer of custody, the guidelines permit the inference that harm occurred. For unstable custody arrangements and medical neglect, the guidelines allow moderately harmed children to count in the Harm Standard estimates under certain conditions.²⁸

As shown in Table 3–1, physically neglected children make up the second-largest group of children under Harm Standard neglect in the NIS–4. An estimated 295,300 children experienced Harm Standard physical neglect in 2005–2006, reflecting an incidence rate of 4.0 children per 1,000 in the general population.

Emotional neglect. Maltreatment of this type includes inadequate nurturance or affection, chronic or extreme domestic violence in the child’s presence, knowingly permitting drug or alcohol abuse or other maladaptive behavior, failure or refusal to seek needed treatment for an emotional or behavioral problem, overprotective treatment, inadequate structure, inappropriately advanced expectations, exposure to maladaptive behaviors and environments, and other inattention to the child’s developmental or emotional needs. In all cases, it is necessary for the maltreatment to cause serious harm in order for the child to be countable as emotionally neglected under the Harm Standard.

Although emotionally neglected children constitute the smallest of the neglect subgroups listed in Table 3–1, their numbers are still substantial, an estimated

²⁸ For acts of blatant abandonment, illegal transfers of custody, and refusal of custody, the Harm Standard guidelines permit assuming that serious emotional injury occurred (that is, explicit symptoms are not required); while for unstable custody arrangements, moderate harm has to be demonstrated or the circumstances must strongly support the inference that moderate harm has probably occurred. To be countable as physically neglected under the Harm Standard, medical neglect has to result in moderate harm (if it entails an outright refusal to follow professional recommendations regarding needed medical care) or serious harm (if it reflects a simple failure to obtain needed treatment).

total of 193,400 children (equivalent to 2.6 children per 1,000 in the general 2005–2006 child population).

Educational neglect. Children are included in this category when their parent (or parent-substitute) knowingly permits their chronic truancy an average of at least 5 days per month; exhibits a pattern of keeping the child home without legitimate reason; fails to register or enroll a school-age child in school in violation of state law; or refuses to allow or provide needed attention for a diagnosed educational problem, learning disorder, or other special education need. In all such cases, if the evidence supports the conclusion that the acts or omissions in question occurred, then the child is countable as educationally neglected and the NIS guidelines permit assuming that the child experienced moderate educational harm.

As Table 3–1 shows, educational neglect was the most prevalent category of neglect, affecting an estimated 360,500 children, or 4.9 children per 1,000 in 2005–2006, which represents 47% of all children who experienced Harm Standard neglect.

Changes since the NIS–3 and NIS–2 in the incidence of Harm Standard neglect. Despite the apparent differences in estimated totals and incidence rates, no statistically reliable changes since the NIS–3 occurred in any Harm Standard neglect category.

The NIS–3 found significant increases from the NIS–2 in the incidence of both Harm Standard physical neglect and Harm Standard emotional neglect. The NIS–4 indicates that the 2005–2006 rates of these maltreatment categories were still elevated relative to their 1986 levels, but only emotional neglect was still significantly higher than its NIS–2 level. The estimated number of children who suffered Harm Standard emotional neglect in 2005–2006 is nearly four times as large as the 1986 estimate. There was a 293% increase in the total number of emotionally neglected children from the time of the NIS–2, and a 225% increase in the incidence rate. Harm Standard physical neglect was still higher than its 1986 level, by 76% in the number of children affected and by 48% in the incidence rate per 1,000 children (2.7 versus 4.0 per 1,000 children). This difference is statistically marginal.

Educational neglect is the only Harm Standard maltreatment category that did not demonstrate any significant or statistically marginal changes since the NIS–2.

3.1.5 Severity of Outcomes from Harm Standard Maltreatment

The NIS classifies children on the basis of the most severe injury or harm they suffered from maltreatment. Table 3–2 presents the distribution of the children who experienced Harm Standard maltreatment across the levels of outcomes resulting from their maltreatment. Each maltreated child appears in only one row of this table, so the row entries sum to the total number of children who were countable under the Harm Standard.²⁹

Fatal injury. An estimated 2,400 children died in 2005–2006 as a result of Harm Standard abuse or neglect. This reflects an annual incidence rate of maltreatment-related fatalities of 0.03 per 1,000 children in the U.S., which is equivalent to 3 children per every 100,000, or one in every 33,300, in the U.S. child population.

Table 3–2. Severity of Outcomes from Harm Standard Maltreatment in the NIS–4 (2005–2006), and Comparison with the NIS–3 (1993) and the NIS–2 (1986) Harm Standard Findings								
Severity of Injury or Harm	NIS–4 Estimates 2005–2006		Comparisons With Earlier Studies					
			NIS–3 Estimates 1993			NIS–2 Estimates 1986		
	Estimated Total	Rate per 1,000 Children	Estimated Total	Rate per 1,000 Children		Estimated Total	Rate per 1,000 Children	
Fatal	2,400	0.03	1,500	0.02	<i>ns</i>	1,100	0.02	<i>m</i>
Serious	487,900	6.6	565,000	8.4	<i>ns</i>	141,700	2.3	*
Moderate	694,700	9.4	822,000	12.2	<i>ns</i>	682,700	10.8	<i>ns</i>
Inferred	71,500	1.0	165,300	2.5	*	105,500	1.7	*
TOTAL	1,256,600	17.1	1,553,800	23.1	<i>m</i>	931,000	14.8	<i>ns</i>
<p>* The difference between this and the NIS–4 incidence rate is significant at $p \leq .05$.</p> <p>m The difference between this and the NIS–4 incidence rate is statistically marginal (i.e., $.10 > p > .05$).</p> <p>ns The difference between this and the NIS–4 incidence rate is neither significant nor marginal ($p > .10$).</p> <p>Note: Estimated totals are rounded to the nearest 100.</p>								

²⁹ Compare the Table 3–2 “Total” with “All Maltreatment” in Table 3–1.

Serious harm. As noted above, NIS defines an injury or impairment as serious when it involves a life-threatening condition, represents a long-term impairment of physical, mental, or emotional capacities, or requires professional treatment aimed at preventing such long-term impairment. Examples of serious injuries/impairments include: loss of consciousness, stopping breathing, broken bones, schooling loss that required special education services, chronic and debilitating drug/alcohol abuse, diagnosed cases of failure to thrive, third-degree burns or extensive second-degree burns, and so forth.³⁰ Serious harm from Harm Standard maltreatment occurred to 6.6 children per 1,000 in 2005–2006, representing 487,900 children, or over one-third (39%) of all children who were countable under the Harm Standard.

Moderate harm. Moderate injuries or impairments are those that persisted in observable form (including pain or impairment) for at least 48 hours (e.g., bruises, depression or emotional distress not serious enough to require professional treatment). Moderate harm occurred to 9.4 children per 1,000 (or 694,700 children) in 2005–2006, and these accounted for over one-half (55%) of all children countable under the Harm Standard.

Inferred harm. Under the NIS definitions, the nature of the maltreatment itself gave reasonable cause to assume that injury or impairment probably occurred for 1 child per 1,000 in the United States in 2005–2006, or 71,500 children countable under the Harm Standard.³¹ Following the hierarchy conveyed by the ordering in Table 3–2, the NIS uses the “inferred harm” category only for qualifying children who did not also sustain fatal, serious, or moderate harm. However, inferred harm should not be

³⁰ Details are in the “Evaluative Coding Manual” in the NIS–4 *Analysis Report* (Sedlak, Mettenburg, Winglee *et al.*, 2010).

³¹ As described in the preceding sections, there are instances where the Harm Standard guidelines permit inferring that a child was harmed, even though observable symptoms were not yet evident. These conditions include the more serious forms of sexual abuse, blatant abandonment, blatant refusal of custody, illegal transfers of custody, and extremely close confinement (tying or binding). In addition, the Harm Standard guidelines permit circumstantial evidence of harm to support a child’s countability in connection with “other” sexual abuse (i.e., beyond intrusion and genital molestation), “other” close confinement, verbal or emotional assault and threats, terrorizing, administering unprescribed drugs, “other” abuse or exploitation (i.e., beyond the forms readily classifiable as sexual, physical, or verbal), unstable custody arrangements, and “other” custody-related neglect.

interpreted as less serious than moderate injury, because the types of maltreatment that generally warrant inferred harm (e.g., incest, abandonment) could actually have a devastating impact on a child.

Changes since the NIS-3 and NIS-2 in the severity of outcomes from Harm Standard maltreatment. Tests of differences between the NIS-4 estimates for 2005–2006 and the corresponding NIS-3 findings for 1993 reveal a significant decline only in the incidence of children with inferred harm from their maltreatment. The number of children for whom injury could be inferred declined by 57% from 165,300 to 71,500 while the rate of children with inferred harm declined by 60% from 2.5 to 1.0 child per 1,000. Differences between the NIS-4 and the NIS-3 in the incidence of fatal, serious, and moderate injuries are not statistically significant.

The NIS-3 identified a significant increase since 1986 in the incidence of children with serious maltreatment injuries and a statistically marginal increase in the incidence of children for whom injury could be inferred. The NIS-4 results show that the incidence of children with serious harm remains significantly higher than the 1986 levels, but that the decrease since 1993 in the incidence of children with inferred harm actually brought that rate significantly below its 1986 level as well. Specifically, the estimated number of seriously injured children increased by 244% between the NIS-2 and the NIS-4, from 141,700 to 487,900. In terms of incidence rates, this increase means that the risk of a child being seriously harmed by Harm Standard abuse or neglect was 187% higher in 2005–2006 than in 1986. At the same time, there was a substantial and significant *decrease* in the number of children for whom injury could be inferred. This total declined by 32% between the NIS-2 and the NIS-4, from 105,500 to 71,500. The incidence rate declined by 42%, meaning that the risk of a child qualifying for inferred harm from Harm Standard maltreatment was 42% lower in 2005–2006 than in 1986.

The NIS-4 also revealed a statistically marginal increase in the rate of fatal injury compared to the NIS-2 rate. The estimated number of children who were fatally injured under the Harm Standard increased by 118% since 1986, reflecting a rise of 50% in the incidence rate per 1,000 children in the United States.

The incidence of children with moderate harm as a result of Harm Standard maltreatment has not measurably changed since the NIS-2.

3.2 National Incidence of Endangerment Standard Maltreatment

The Endangerment Standard estimates include all the Harm Standard children, but add others as well, by relaxing the definitional requirements in several respects. The central feature of the Endangerment Standard is that it includes children who were not yet harmed by maltreatment, but who experienced abuse or neglect that placed them in danger of being harmed, according to the views of community professionals or child protective service agencies.³² In addition, the Endangerment Standard slightly enlarges the set of allowable perpetrators in several categories and incorporates additional maltreatment classifications, as explained below.

The following sections each begin with the NIS–4 Endangerment Standard estimates. Following that, the discussion compares these Endangerment Standard estimates to the NIS–4 Harm Standard estimates given above, clarifying the distribution of the additional children that the Endangerment Standard includes. Each section then compares the NIS–4 Endangerment Standard estimates to the NIS–3 and NIS–2 Endangerment Standard findings.

3.2.1 Overall Incidence of Endangerment Standard Maltreatment

Table 3–3 presents the Endangerment Standard incidence estimates. The shaded section reports the NIS–4 estimates for the 2005–2006 study year. The right-hand sections give the NIS–3 and NIS–2 estimates for comparison.

The estimate of all maltreated children using the Endangerment Standard includes the children who were abused or neglected in any of the categories listed. In addition, the Endangerment Standard measure of “All Maltreatment” subsumes a few additional forms of maltreatment allowable in this standard, including children

³² Specifically, in order to qualify as “endangered,” the child’s maltreatment has to be substantiated or indicated by a child protective services (CPS) agency or the sentinel who submits the child to the study has to explicitly rate the child as having been endangered by the abuse or neglect described.

considered to be endangered by their parents' problems (such as alcoholism, drug abuse, prostitution).³³

Table 3–3. National Incidence of Endangerment Standard Maltreatment in the NIS–4 (2005–2006), and Comparison with the NIS–3 (1993) and the NIS–2 (1986) Endangerment Standard Estimates.								
Endangerment Standard Maltreatment Category	NIS–4 Estimates 2005–2006		Comparisons With Earlier Studies					
			NIS–3 Estimates 1993			NIS–2 Estimates 1986		
	Total No. of Children	Rate per 1,000 Children	Total No. of Children	Rate per 1,000 Children		Total No. of Children	Rate per 1,000 Children	
ALL MALTREATMENT	2,905,800	39.5	2,815,600	41.9	<i>ns</i>	1,424,400	22.6	*
ABUSE:								
ALL ABUSE	835,000	11.3	1,221,800	18.2	*	590,800	9.4	<i>m</i>
Physical Abuse	476,600	6.5	614,100	9.1	*	311,500	4.9	*
Sexual Abuse	180,500	2.4	300,200	4.5	*	133,600	2.1	<i>ns</i>
Emotional Abuse	302,600	4.1	532,200	7.9	*	188,100	3.0	<i>m</i>
NEGLECT:								
ALL NEGLECT	2,251,600	30.6	1,961,300	29.2	<i>ns</i>	917,200	14.6	*
Physical Neglect	1,192,200	16.2	1,335,100	19.9	<i>ns</i>	507,700	8.1	*
Emotional Neglect	1,173,800	15.9	584,100	8.7	*	203,000	3.2	*
Educational Neglect [†]	360,500	4.9	397,300	5.9	<i>ns</i>	284,800	4.5	<i>ns</i>
<p>* The difference between this and the NIS–4 incidence rate is significant at $p \leq .05$.</p> <p><i>m</i> The difference between this and the NIS–4 incidence rate is statistically marginal (i.e., $.10 > p > .05$).</p> <p><i>ns</i> The difference between this and the NIS–4 incidence rate is neither significant nor marginal ($p > .10$).</p> <p>Note: Estimated totals are rounded to the nearest 100.</p> <p>[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment.</p>								

³³ Thus, the "All Maltreatment" category includes all children in the "All Abuse" total, all children in the "All Neglect" total, and also other children who were endangered by their parents' problems.

An estimated 2,905,800 children experienced some form of Endangerment Standard maltreatment during the 2005–2006 study year. This corresponds to an incidence rate of 39.5 children per 1,000, which is equivalent to about 4 children per 100, or one child in 25 in the general U.S. child population.

Comparison with the Harm Standard estimate of all maltreated children. The Endangerment Standard included an additional 1,649,200 maltreated children, beyond those who were countable under the Harm Standard. The Endangerment Standard estimate of the maltreated population of 2,905,800 (or 39.5 per 1,000) is 131% higher than the Harm Standard estimate of 1,256,600 (or 17.1 per 1,000). An alternative way of viewing this is to note that Harm Standard children represent 43% of the Endangerment Standard estimate of all maltreated children.

Changes since 1986 in the incidence of Endangerment Standard maltreatment. The right-hand section in Table 3–3 reveals that the NIS–4 estimate of Endangerment Standard maltreatment is not significantly different from the NIS–3 level, but is significantly higher than the NIS–2 level. In fact, the total number of children who experienced Endangerment Standard abuse or neglect more than doubled since the NIS–2 (from 1,424,400 in 1986 to 2,905,800 in 2005–2006), while the incidence rate increased by 75% (from 22.6 to 39.5 children per 1,000). This rise in the incidence means that a child had one and three-quarters times greater risk of experiencing Endangerment Standard abuse or neglect in 2005–2006 than in 1986.

3.2.2 Incidence of Endangerment Standard Abuse and Neglect

Table 3–3 also gives estimates for children who were abused or neglected. As with the Harm Standard, the Endangerment Standard abuse estimate includes physical, sexual, and emotional abuse and the Endangerment Standard neglect estimate includes physical, emotional, and educational neglect. However, the Endangerment Standard neglect estimate also includes forms of neglect that are not countable under the Harm Standard, such as lack of preventive health care, unspecified neglect allegations, and child support problems.

An estimated 835,000 children experienced Endangerment Standard abuse and an estimated 2,251,600 children suffered Endangerment Standard neglect. These

totals represent national incidence rates of 11.3 abused children per 1,000 and 30.6 neglected children per 1,000. The majority of children maltreated under the Endangerment Standard (77%) were neglected, whereas less than one-third (29%) were abused. Again, children who were both abused and neglected are included in both categories, so these estimates sum to more than the total number of maltreated children.

Comparison with the Harm Standard abuse and neglect estimates. The Endangerment Standard abuse estimate is 51% higher than the Harm Standard abuse estimate, while the Endangerment Standard neglect estimate is 192% higher than the Harm Standard neglect estimate. The less stringent Endangerment Standard requirements brought substantially more children into the neglect estimates (an additional 1,479,900 children) than into the abuse estimates (where the more lenient standard added 281,700 children). This pattern was also true in the NIS-2 and the NIS-3. In the NIS-3, Harm Standard children accounted for 61% of the Endangerment Standard abuse total, and 45% of the Endangerment Standard neglect total. In the NIS-2, Harm Standard children represented 86% of the Endangerment Standard abuse total, and 52% of the Endangerment Standard neglect total.

Changes since 1986 in the incidence of Endangerment Standard abuse and neglect. Endangerment Standard abuse decreased significantly since 1993. The total number of children who experienced Endangerment Standard abuse decreased by 32% and the rate per 1,000 children in the population decreased by 38%. Although the NIS-4 estimate of the incidence of Endangerment Standard neglect appears slightly higher than the NIS-3 estimate for 1993, the rates do not differ statistically.

The incidence of both Endangerment Standard abuse and neglect increased between the NIS-2 and the NIS-3. Despite the recent decrease between the NIS-3 and the NIS-4 in the incidence of Endangerment Standard abuse, the NIS-4 rate for this category is still 20% higher than it was in 1986 at the time of the NIS-2. This is a statistically marginal difference. Also, because the rate of Endangerment Standard neglect has shown no discernable change since 1993, it remains significantly higher than it was in 1986. Specifically, children's risk of Endangerment Standard neglect in 2005-2006 is more than double its 1986 level (i.e., it is 110% higher than the earlier rate).

3.2.3 Specific Categories of Endangerment Standard Abuse

Table 3–3 provides the incidence statistics for the specific categories of Endangerment Standard abuse: physical, sexual, and emotional. The estimates for the different abuse categories sum to more than the total number of abused children because each estimate includes all children who experienced that type of abuse and some children experienced more than one type of abuse.

Physical abuse. Table 3–3 shows that 6.5 children per 1,000 (or an estimated 476,600 children) experienced Endangerment Standard physical abuse in 2005–2006.

Sexual abuse. The Endangerment Standard enlarges the set of allowable perpetrators of sexual abuse by permitting children to count in the sexual abuse estimates if they are abused by teenage (i.e., non-adult) caretakers. An estimated 2.4 children per 1,000 (or a total of 180,500) were sexually abused in 2005–2006 under the Endangerment Standard guidelines.

Emotional abuse. Table 3–3 indicates that an estimated 4.1 per 1,000 (302,600 children) suffered emotional abuse that fit the Endangerment Standard definitions in the 2005–2006 study year.

Comparison with Harm Standard abuse estimates. The estimates for the different types of Endangerment Standard abuse are all notably higher than the corresponding estimates using the Harm Standard, but the largest difference is in the category of emotional abuse. Specifically, the number of children who experienced Endangerment Standard physical abuse is 48% higher than the number who count as physically abused under the Harm Standard; the number of sexually abused children is 33% higher under the Endangerment Standard than under the Harm Standard; and the number of emotionally abused children is 104% higher using the more lenient Endangerment Standard compared to the stringent Harm Standard criteria. Children who also qualified under the Harm Standard were 68% of the total who suffered Endangerment Standard physical abuse; 75% of those who suffered Endangerment Standard sexual abuse; and 49% of those who experienced Endangerment Standard emotional abuse.

Changes since 1986 in the incidence of Endangerment Standard abuse.

The incidence of all categories of Endangerment Standard abuse decreased significantly since the NIS-3. The total number of physically abused children decreased by 22%, sexually abused children decreased by 40%, and emotionally abused children decreased by 43%. In terms of incidence rates, children in the 2005–2006 study year had a 29% lower risk of being physically abused, a 47% lower risk of being sexually abused, and a 48% lower risk of being emotionally abused under the Endangerment Standard than their counterparts had in 1993.

The NIS-3 found significant increases in all categories of Endangerment Standard abuse between 1986 and 1993. The NIS-4 estimates indicate that rates of Endangerment Standard physical and emotional abuse are still elevated relative to their 1986 levels. Specifically, the total number of physically abused children is still 53% higher in 2005–2006 than in 1986. Taking changes in the size of the child population into account, a child in 2005–2006 had a 33% higher risk of experiencing Endangerment Standard physical abuse than his or her counterpart in 1986—a risk difference that is statistically significant. In 2005–2006, the incidence of Endangerment Standard emotional abuse remained higher than its 1986 level, affecting 61% more children in total number and reflecting a 37% higher risk in terms of its rate per 1,000 in the general child population. This difference is statistically marginal. As noted above, the NIS-4 found a significant decrease in Endangerment Standard sexual abuse compared to the NIS-3 estimate for 1993. This recent decrease was large enough to return the rate for this category to close to its 1986 level. The slight difference in rates of Endangerment Standard sexual abuse between the NIS-2 and the NIS-4 is not statistically significant.

3.2.4 Specific Categories of Endangerment Standard Neglect

Table 3–3 presents the incidence estimates for the specific categories of Endangerment Standard neglect: physical, emotional, and educational. Again, these categories are not mutually exclusive; they include all children who experienced the neglect in question and some children experienced more than one category of neglect.

Physical neglect. The Endangerment Standard enlarges the set of allowable perpetrators of this type of neglect by including children whose adult caretaker (i.e., not necessarily a parent or parent-substitute) inadequately supervised them; failed to meet

their needs for food, clothing, or personal hygiene; or demonstrated disregard for their safety. Physically neglected children represent the largest group under Endangerment Standard neglect, with an estimated 1,192,200 children physically neglected in the 2005–2006 study year. This reflects an incidence rate of 16.2 children per 1,000 in the general population, or 1.6 children per 100, which is equivalent to one in every 62 children in the United States.

Emotional neglect. Emotionally neglected children represent the second-largest sector of neglected children under the Endangerment Standard. This category included an estimated total of 1,173,800 children, which is equivalent to 15.9 children per 1,000 in the general child population during the 2005–2006 study year.

Educational neglect. The NIS definitions of educational neglect are identical under the Harm and Endangerment standards, so the estimates are the same in Tables 3-1 and 3-3. Educational neglect is the least prevalent of the three specific Endangerment Standard neglect categories, affecting an estimated 360,500 children, or 4.9 children per 1,000 in the 2005–2006 study year.

Comparison with Harm Standard neglect estimates. Estimates for both physical neglect and emotional neglect are higher with the more lenient Endangerment Standard criteria than with the more restrictive Harm Standard requirements. Compared to the corresponding Harm Standard estimates, the estimated incidence of physical neglect using the Endangerment Standard is more than four times greater (305% higher), while the estimated incidence of emotional neglect using the Endangerment Standard is more than six times greater (507% higher). Harm Standard children represent 25% of those countable under Endangerment Standard physical neglect, and 16% of those who experienced Endangerment Standard emotional neglect.

Changes since 1986 in the incidence of Endangerment Standard neglect. The incidence of emotional neglect evidenced a substantial and significant increase since the NIS–3. The estimated number of children who suffered Endangerment Standard emotional neglect increased 101%, corresponding to an 83% rise in the incidence rate per 1,000 children. This means that a child had more than one and four-fifths times higher risk of this maltreatment in 2005–2006 than his or her counterpart had in 1993. The changes between the NIS–3 and the NIS–4 in physical neglect and educational neglect are not statistically significant.

The NIS–3 found significant increases in both physical and emotional neglect under the Endangerment Standard. The differences in Table 3–3 between the NIS–2 and NIS–4 incidence rates reflect these earlier increases as well as the additional increase in Endangerment Standard emotional neglect that occurred since the NIS–3, as noted above. Thus, Endangerment Standard physical neglect and emotional neglect were both significantly higher in the NIS–4 2005–2005 study year than they were in 1986 at the time of the NIS–2. Specifically, the total number of children who suffered emotional neglect was 478% higher, while the number of children who suffered physical neglect was 135% higher. In terms of incidence rates, there was a 397% increase in the rate of emotional neglect and a 100% increase in the rate of physical neglect under the Endangerment Standard since 1986. As mentioned earlier, statistical tests show that the rate of educational neglect has not changed since the NIS–2.

3.2.5 Severity of Outcomes from Endangerment Standard Maltreatment

Children are classified on the basis of the most severe injury or harm they suffered from Endangerment Standard maltreatment. Table 3–4 presents their distribution across different degrees of injury/impairment. Because each maltreated child appears in only one row of this table, the row entries sum to the total number of children who were countable under the Endangerment Standard.³⁴ This section follows the logical sequence used in preceding sections. The discussion first describes estimates themselves. Next, the presentation examines the Endangerment Standard estimates in relation to the Harm Standard estimates, identifying the percentage of the Endangerment Standard estimate that reflects children who were countable under both standards. The final paragraphs compare the NIS–4 Endangerment Standard estimates with those from the NIS–2 and NIS–3, describing notable changes in incidence across the three studies.

³⁴ Compare Table 3–4 “Total” with “All Maltreatment” in Table 3–3.

Table 3–4. Severity of Outcomes from Endangerment Standard Maltreatment in the NIS–4 (2005–2006), and Comparison with the NIS–3 (1993) and the NIS–2 (1986) Estimates								
Severity of Injury or Harm	NIS–4 Estimates 2005–2006		Comparisons With Earlier Studies					
			NIS–3 Estimates 1993			NIS–2 Estimates 1986		
	Total No. of Children	Rate per 1,000 Children	Total No. of Children	Rate per 1,000 Children		Total No. of Children	Rate per 1,000 Children	
Fatal	2,400	0.03	1,600	0.02	<i>ns</i>	1,100	0.02	<i>m</i>
Serious	509,300	6.9	569,900	8.5	<i>ns</i>	143,300	2.3	*
Moderate	1,021,300	13.9	986,100	14.7	<i>ns</i>	873,100	13.9	<i>ns</i>
Inferred	227,300	3.1	226,000	3.4	<i>ns</i>	152,800	2.4	<i>ns</i>
Endangered	1,145,500	15.6	1,032,000	15.4	<i>ns</i>	254,000	4.0	*
TOTAL	2,905,800	39.5	2,815,600	41.9	<i>ns</i>	1,424,400	22.6	*
<p>* The difference between this and the NIS–4 incidence rate is significant at $p \leq .05$.</p> <p>m The difference between this and the NIS–4 incidence rate is statistically marginal (i.e., $.10 > p > .05$).</p> <p>ns The difference between this and the NIS–4 incidence rate is neither significant nor marginal ($p > .10$).</p> <p>Note: Estimated totals are rounded to the nearest 100.</p>								

Fatal Injury. Endangerment Standard estimates for this outcome level are the same as the Harm Standard estimates.³⁵ That is, an estimated 2,400 children died in 2005–2006 as a result of Endangerment Standard abuse or neglect. This reflects an annual incidence rate of maltreatment-related fatalities of 0.03 per 1,000 children in the United States, which is equivalent to 3 children per 100,000 in the United States child population.

Serious harm. An estimated 509,300 children were seriously harmed in 2005–2006 due to Endangerment Standard maltreatment. This corresponds to an incidence rate of 6.9 per 1,000 children in the population.

³⁵ This has not always been true. The tables show that the NIS–3 the estimates for fatally injured children were slightly different in the two standards. In the NIS–4 data, the sample includes a few more fatally injured children under the Endangerment Standard, but they do not affect the rounded estimates.

Moderate harm. Moderate harm due to Endangerment Standard maltreatment occurred to an estimated 1,021,300 children in 2005–2006. This is equivalent to 13.9 children per 1,000 in the general child population.

Inferred harm. An estimated 227,300 children experienced forms Endangerment Standard maltreatment that supported the inference that they were harmed as a result. An estimated 3.1 per 1,000 children qualified for inferred harm in the 2005–2006 study year.

Endangered. Over one million children (an estimated 1,145,500) were endangered, but not yet harmed, by Endangerment Standard abuse or neglect in the 2005–2006 study year, which corresponds to 15.6 children per 1,000 in the United States.

Comparison with the Harm Standard outcome estimates. As emphasized above, the key feature of the Endangerment Standard is that it includes both children who are counted under the Harm Standard and children who were endangered, but not yet harmed by abuse or neglect. Thus, the “endangered” row of Table 3–4 represents children who did not count in any Harm Standard estimates. However, the Endangerment Standard also permits a somewhat broader set of perpetrators and maltreating actions, as discussed above, so it includes additional children who did experience injury or harm (fatal, serious, moderate, or inferred). The Harm Standard estimates excluded those children because their circumstances did not meet Harm Standard requirements concerning the identity of their perpetrators, the form of their maltreatment, or the threshold for harm from the specific form of maltreatment they experienced.

The more lenient Endangerment Standard guidelines resulted in estimates that are 4% greater for children seriously harmed by maltreatment; 47% higher for children who experienced moderate harm; and 218% higher for children whose maltreatment was severe enough to permit harm to be inferred. (As noted above, the estimates for child fatalities are the same.) Among children with Endangerment Standard maltreatment, children countable under the Harm Standard reflect 100% of those fatally injured; 96% of children seriously harmed; 68% of those moderately harmed; and 31% of the children with inferred harm.

Changes since 1986 in outcomes from Endangerment Standard maltreatment. The NIS-4 found no significant change since the NIS-3 in the incidence of any outcome from Endangerment Standard maltreatment.

Previously, the NIS-3 revealed significant increases in the rates of children seriously harmed or endangered by Endangerment Standard maltreatment. Since no measurable changes in the incidence of these categories occurred since the NIS-3, the two statistically significant differences between the NIS-2 and the NIS-4 reflect those earlier changes. Specifically, the total number of children who were seriously harmed by Endangerment Standard maltreatment was still 255% higher in the 2005–2006 study year than it was in 1986. Even considering the larger child population at the time of the NIS-4, the incidence rate for this category was still 200% higher than in 1986. The total number of children who were endangered by Endangerment Standard maltreatment was 351% higher at the time of the NIS-4 compared to the 1986 total, which corresponds to a 290% higher incidence rate for this level of harm. The discussion above concerning the Harm Standard estimates described the increased incidence of children fatally injured by maltreatment. The Endangerment Standard estimates for this category are identical, so this discussion will not reiterate those percentage differences.

4. DISTRIBUTION OF ABUSE AND NEGLECT BY CHILD CHARACTERISTICS

This chapter examines the relationship between child characteristics and the incidence and severity of abuse and neglect. It is divided into five sections that discuss the NIS–4 findings on the relationship between maltreatment and child’s sex, age, race, disability status, and school enrollment. Each section addresses the following questions:

- Do differences among children in terms of the characteristic systematically relate to differences in incidence rates of different types of maltreatment or of different severities of outcomes due to maltreatment?
- Have there been any statistically significant changes since the NIS–3 in the distribution of child maltreatment by the characteristic in question?

Each section considers these questions from the standpoint of both the Harm and the Endangerment Standards.

As in the previous chapter, the tables here reflect unduplicated estimates: that is, each estimate counts a child only once. Also, because the incidence rates adjust for differences across the categories in the numbers of children with the characteristic of interest in the general population,³⁶ the tables and graphs in this chapter provide only the rate measures. For the same reason, all statistical comparisons use the rate measures.³⁷

³⁶ For instance, the incidence rate of Harm Standard maltreatment for males indicates the number of males who experience Harm Standard abuse or neglect among every 1,000 males in the general child population. Analogously, the incidence rate for females is couched in terms of the number of maltreated females among every 1,000 females in the child population. Comparisons of the incidence rates for males and females thus take account of the fact that there are different numbers of males and females in the general population of children and provide a more valid comparison of their risks of experiencing the maltreatment in question.

³⁷ Appendices B and C provide the NIS–4 estimates, including the estimated rates, estimated totals, and standard errors of estimate. Appendices D and E report the detailed results of statistical comparisons.

4.1 Sex Differences in the Incidence of Maltreatment

This section reports the NIS–4 findings concerning sex differences in the incidence of maltreatment. It presents the relatively stringent Harm Standard estimates first, followed by the sex distribution of abuse and neglect under the more lenient Endangerment Standard.³⁸

4.1.1 Sex Differences in Harm Standard Maltreatment

Table 4–1 gives the significant sex differences in the incidence of Harm Standard abuse and neglect. The incidence rates for boys and girls are significantly different in two maltreatment categories, all abuse and sexual abuse, and in one level of outcome severity, inferred harm.

Table 4–1. Sex Differences in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006)*		
Harm Standard Maltreatment Category	Boys	Girls
ABUSE:		
All Abuse	6.5	8.5
Sexual Abuse	0.6	3.0
SEVERITY OF HARM:		
Inferred	0.6	1.4
* All differences are significant at $p \leq .05$.		

Abuse. Girls had a significantly higher rate of Harm Standard abuse than boys. An estimated 8.5 per 1,000 girls experienced Harm Standard abuse compared to 6.5 per 1,000 boys. Thus, girls’ risk of abuse was 1.3 times that of boys. Girls’ higher risk of Harm Standard abuse is due primarily to their significantly higher risk of sexual abuse.

³⁸ As in Chapter 3, the incidence rates in this chapter used the average of the July 2005 and July 2006 U.S. Census Bureau annual estimates for each group as the population denominators. Thus, computation of incidence rates for girls and boys used the following population denominators, reflecting the number in each group (in thousands) in the population: 37,685 boys and 35,950 girls (U.S. Census Bureau, 2008a).

Sexual Abuse. Girls experienced Harm Standard sexual abuse at a rate more than 5 times the rate for boys; 3.0 per 1,000 girls were countable in this maltreatment category compared to 0.6 per 1,000 boys.

Inferred Harm. Girls were significantly more likely than boys to experience Harm Standard maltreatment that justified the inference they had been harmed. The estimated incidence rate of Harm Standard inferred injuries was 1.4 per 1,000 girls, whereas boys' rate was 0.6 per 1,000. Girls' risk of inferred harm was 2.3 times that of boys. This pattern is probably a result of the fact that girls are more often sexually abused and that the Harm Standard guidelines permit inferring harm for the more severe forms of sexual abuse, such as intrusion or genital molestation. (See Chapter 3.)

Changes since the NIS–3 in the Distribution of Harm Standard Maltreatment Related to Child's Sex

Comparisons with the NIS–3 revealed two areas where there were significant shifts in sex differences in Harm Standard maltreatment from that earlier study—physical neglect and serious harm. Interestingly, both were areas where neither study uncovered significant sex differences overall.

Physical neglect. The incidence of Harm Standard physical neglect did not change since the NIS–3 (cf. §3.1.4). However, as shown in Figure 4–1, the sexes evidenced different changes in rates of this maltreatment.³⁹ The boys' rate declined by 32% since the NIS–3, whereas the girls' rate of Harm Standard physical neglect declined by only 10%.

³⁹ In this and other sections that report changes since the NIS–3 for different subgroups, the figures present only those maltreatment categories where the change in rates is different for the subgroups in question, as indexed by a chi square test on the incidence rates in the 2-way table of study (NIS–3 vs. NIS–4) by subgroup (here, girls vs. boys). Significant chi square values indicate that groups differ in the degree of change in their incidence rate. Appendix E gives these 2-way tables and their chi square test results.

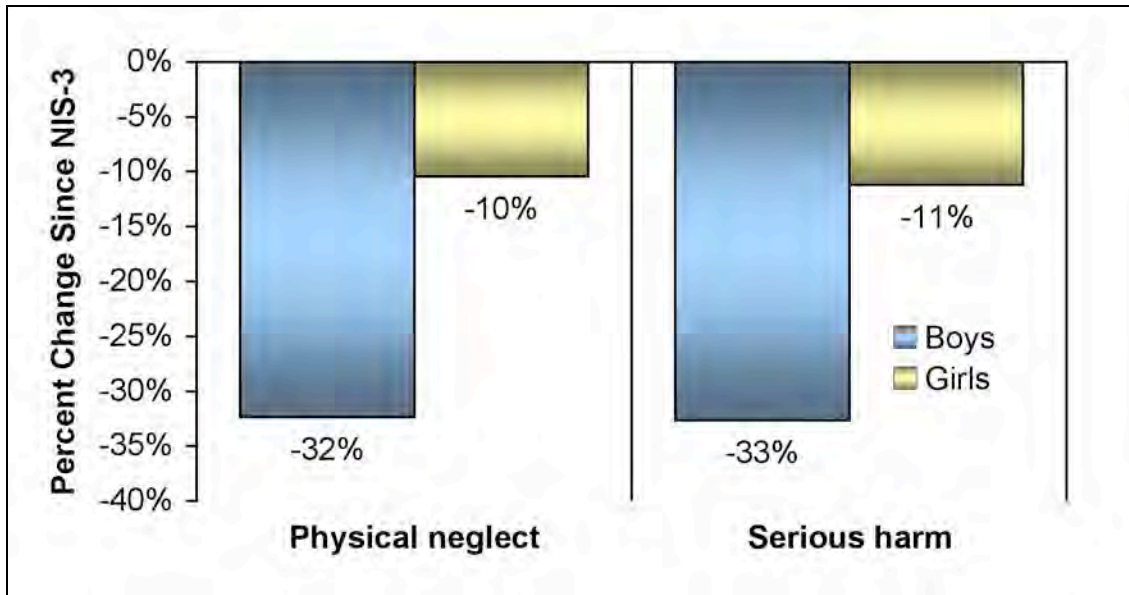


Figure 4–1. Percent Changes since the NIS–3 in Rates of Harm Standard Maltreatment by Child’s Sex.

Serious harm. A similar pattern is evident in the changes since the NIS–3 in the incidence of serious harm from Harm Standard maltreatment. In the NIS–3, boys were more likely than girls to suffer serious harm from Harm Standard maltreatment, but the NIS–4 found no significant difference between boys’ and girls’ rates of experiencing serious harm under the Harm Standard. The incidence rates for both sexes declined, but boys’ rate declined more than that of girls; boys’ rate declined by 33%, whereas girls’ rate declined by just 11%.

4.1.2 Sex Differences in Endangerment Standard Maltreatment

The sexes differ on the Endangerment Standard rates given in Table 4–2. Boys and girls incidence rates differ significantly in one maltreatment category, sexual abuse, and in one level of outcome severity, inferred harm. The difference is statistically marginal for overall abuse.

Table 4–2. Sex Differences in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006)			
Endangerment Standard Maltreatment Category	Boys	Girls	Significance of Difference
ABUSE:			
All Abuse	10.0	12.0	m
Sexual Abuse	1.0	3.8	*
SEVERITY OF HARM:			
Inferred	2.5	3.4	*
* The difference is significant at $p \leq .05$.			
m The difference is statistically marginal (i.e., $.10 \geq p > .05$).			

Abuse. Girls’ rate of Endangerment Standard abuse is 1.2 times that of boys. This difference is statistically marginal ($p \leq .10$).

Sexual abuse. Again, girls’ greater risk of Endangerment Standard abuse essentially reflects their greater risk of sexual abuse, which is 3.8 times that of boys.

Inferred Harm. Girls were significantly more likely to have inferred harm due to Endangerment Standard maltreatment. As shown in Table 4–2, girls’ incidence rate for Endangerment Standard inferred injury is 1.4 times the boys’ rate. This pattern, which is also discussed in the Harm Standard finding in this category, is most likely related to girls’ greater risk of sexual abuse. Sexual abuse and inferred injuries are linked in that the definitions under both standards permit harm to be inferred when the evidence cited indicates that a serious form of sexual abuse occurred.

Changes since the NIS–3 in the Distribution of Endangerment Standard Maltreatment Related to Child’s Sex

Comparisons between the NIS–3 and NIS–4 revealed that changes in the incidence of one category of Endangerment Standard maltreatment and two levels of outcome severity were statistically related to child’s sex: emotional neglect, serious harm, and inferred harm.

Emotional neglect. As reported earlier (§3.1.4), the incidence rate of emotional neglect increased significantly since the NIS–3. Further analyses reveal a statistically marginal relationship to child’s sex, with differential increases for boys and girls. As shown in Figure 4–2, the incidence rate of emotional neglect increased more for girls (88%) than for boys (64%).

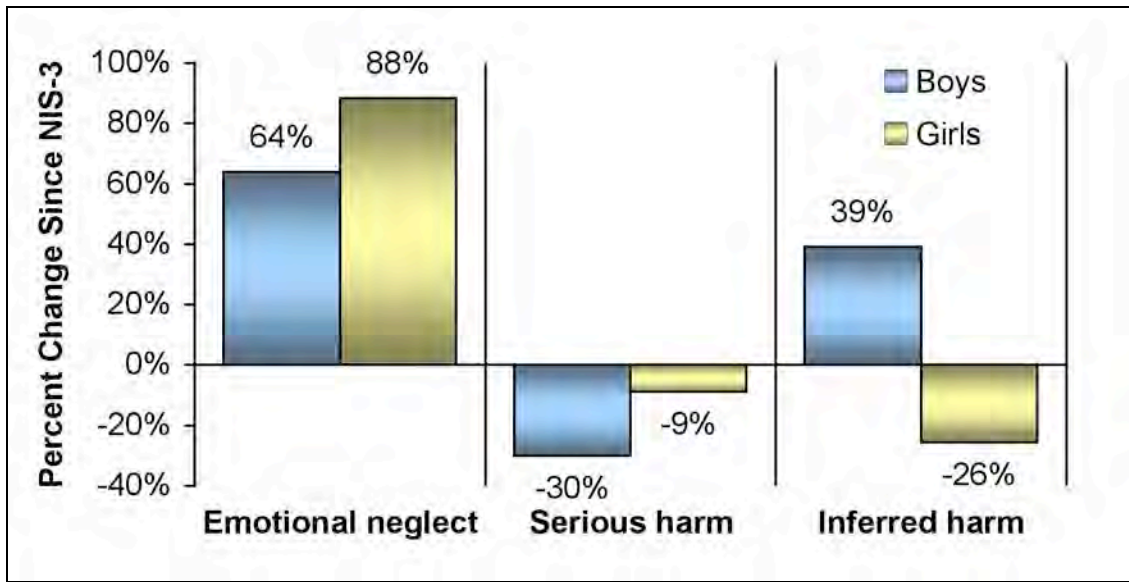


Figure 4–2. Percent Changes since the NIS–3 in Rates of Endangerment Standard Maltreatment by Child’s Sex.

Serious harm. As described in Chapter 3 (§3.2.5), nearly all the children who were seriously harmed by Endangerment Standard maltreatment were also countable under the Harm Standard. For this reason, the findings regarding serious harm from Endangerment Standard maltreatment are very similar to the Harm Standard findings, with changes since the NIS–3 significantly related to child’s sex. Boys’ risk of serious harm from Endangerment Standard maltreatment declined by 30% since the NIS–3, whereas girls’ risk declined by just 9%.

Inferred harm. Changes in incidence rates of inferred harm under the Endangerment Standard were also significantly related to child’s sex. Boys’ incidence rate increased by 39% since the NIS–3, but the rate for girls declined by 26%.

4.2 Age Differences in the Incidence of Maltreatment

To examine differences in the incidence of maltreatment related to age, analyses classified children into six groups based on their age at the time of their countable maltreatment: 0 to 2 years, 3 to 5 years, 6 to 8 years, 9 to 11 years, 12 to 14 years, and 15 to 17 years.⁴⁰

4.2.1 Age Differences in Harm Standard Maltreatment

Significant age differences emerged in the incidence of overall Harm Standard maltreatment, and in several categories of Harm Standard abuse and neglect.⁴¹

Overall Harm Standard Maltreatment, Abuse, and Neglect

Figure 4–3 shows that the youngest children (ages 0 to 2 years) experienced Harm Standard maltreatment at a significantly lower rate than children ages 6 or older (8.5 per 1,000 vs. 17.6 per 1,000 or higher). Only the 9- to 11-year-old children do not differ from the youngest group, primarily because their estimated rate is less precise than the rates for other older children.⁴² No other age differences in the graph of overall Harm Standard maltreatment are statistically significant.

⁴⁰ Computation of incidence rates used the following population denominators, reflecting the number (in thousands) of children in the general population: 12,292 children 0 to 2 years old, 12,069 children 3 to 5 years old, 11,682 children 6 to 8 years old, 12,067 children 9 to 11 years old, 12,643 children 12 to 14 years old, and 12,772 children 15 to 17 years old (U.S. Census Bureau, 2008f).

⁴¹ In each category of maltreatment or injury, decisions about the significance of differences relied on the Bonferroni critical values for *t*. This adjusted for the multiplicity of the comparisons involved. Appendix D gives details concerning the statistical tests for the significance of age group differences.

⁴² That is, the sampling error associated with their rate is much larger, which may be a random result of the way they came into the NIS–4 sample; their rate varies across the different components of the NIS–4 sample more than the rates of the other older groups.

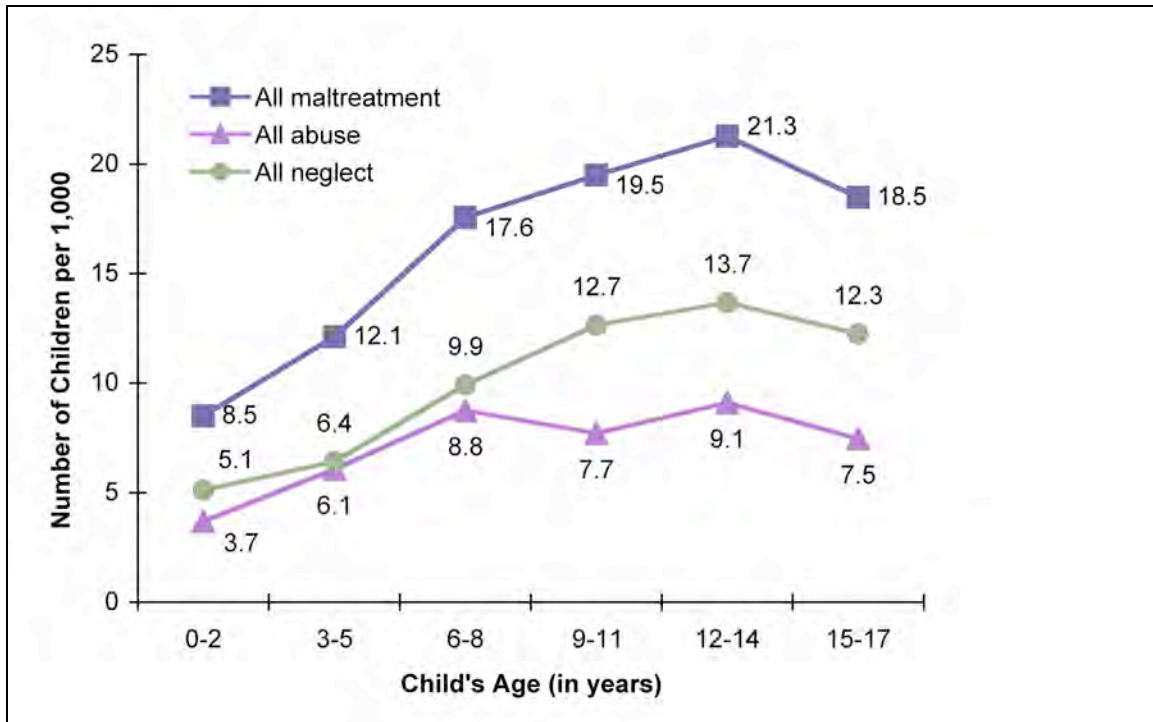


Figure 4–3. Age Differences in Incidence Rates for All Harm Standard Maltreatment, Abuse, and Neglect.

Similarly, the rate of Harm Standard abuse is significantly lower for the youngest children (0 to 2 years) than for children ages 6 and older (3.7 vs. 7.7 per 1,000, respectively). The 3- to 5-year-old children do not differ from any other age group, nor do the older age groups differ from one another.

Categories of Harm Standard Abuse

The NIS–4 found significant age differences in Harm Standard physical abuse and emotional abuse. Figure 4–4 shows the incidence rates for these two categories of abuse.

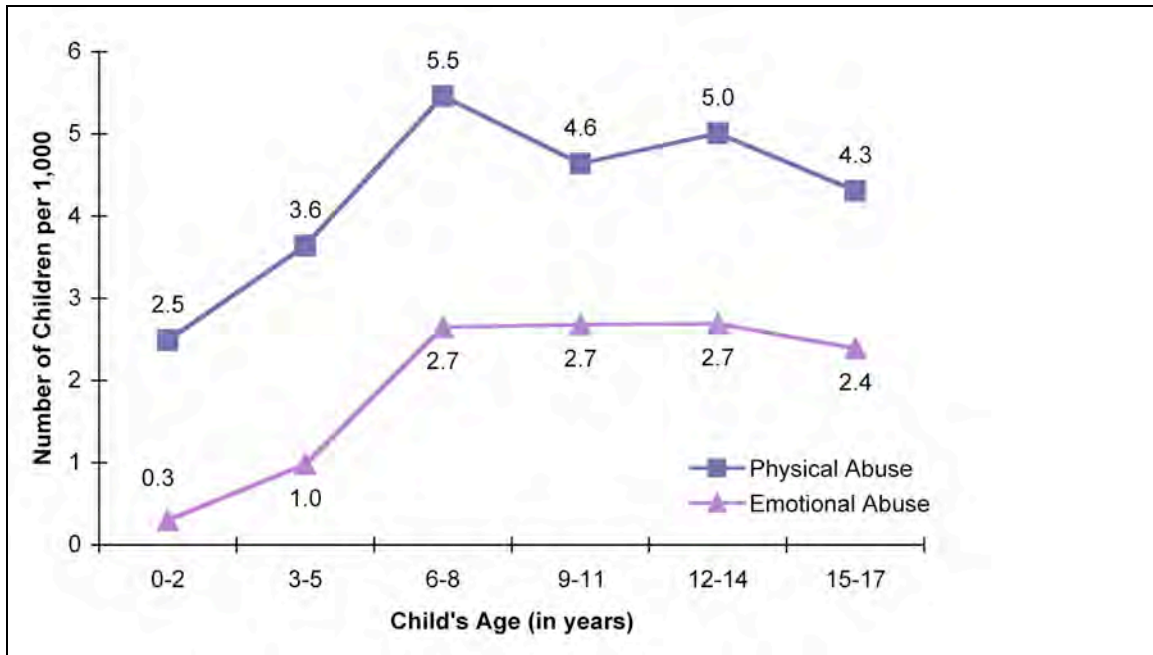


Figure 4-4. Age Differences in Incidence Rates for Harm Standard Physical and Emotional Abuse.

Physical abuse. The incidence of Harm Standard physical abuse is significantly lower for the youngest children (2.5 per 1,000 children ages 0 to 2 years) compared to children ages 6 to 14 (whose rates were 4.6 per 1,000 or higher).

Emotional abuse. The youngest children (ages 0 to 2) were at significantly lower risk of Harm Standard emotional abuse compared to children ages 6 or older. The incidence rate for children ages 2 years or younger was 0.3 per 1,000 children, whereas for children ages 6 or older the rate was at least 2.4 children per 1,000. Also, children ages 3 to 5 years experienced a significantly lower risk of emotional abuse (at a rate of 1.0 child per 1,000) compared with children ages 12 to 14 years (where 2.7 children per 1,000 were victims).⁴³

⁴³ The estimates for children younger than 9 are less reliable because fewer than 100 sample children are in each of those age categories.

Categories of Harm Standard Neglect

Figure 4–5 depicts the significant age differences in NIS–4 incidence rates for Harm Standard emotional and educational neglect.

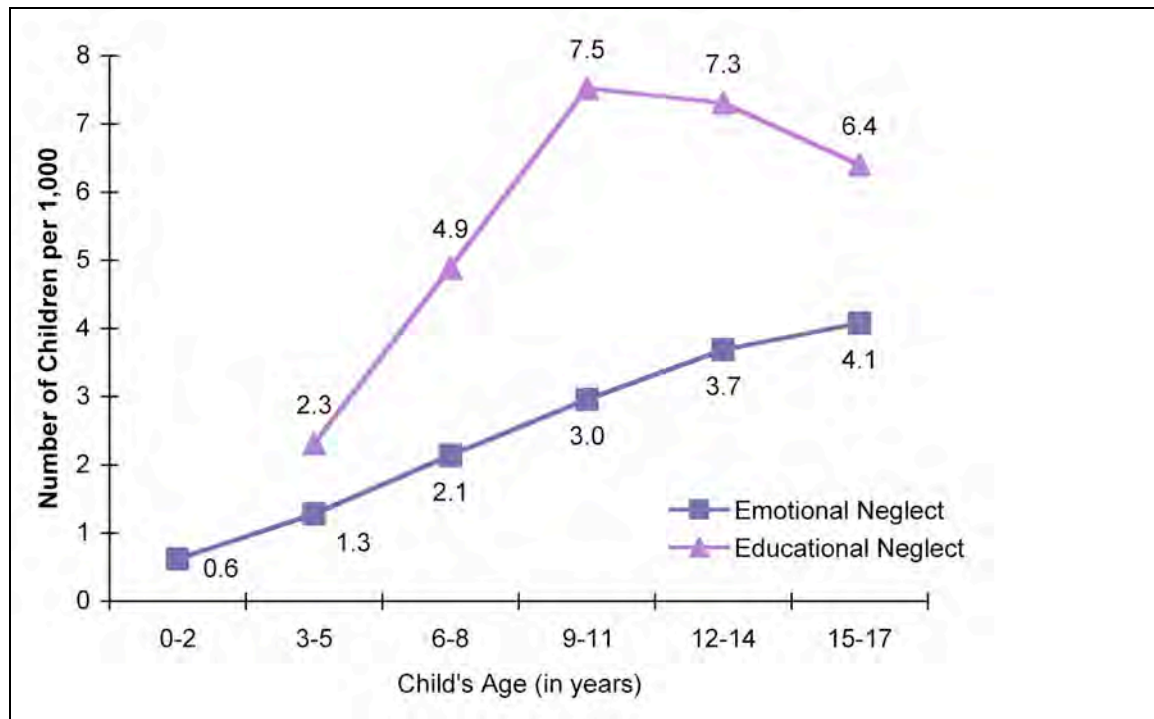


Figure 4–5. Age Differences in Incidence Rates for Harm Standard Emotional and Educational Neglect.

Emotional neglect. As Figure 4–5 shows, the incidence rate of emotional neglect gradually increases with age. The incidence rate for children 0 to 2 years (0.6 per 1,000) differs significantly from those for children 6 years and older (2.1 or more children per 1,000). In addition, the incidence rate for children ages 3 to 5 (1.3 per 1,000) differs significantly from rates for children ages 12 and older (3.7 or more children per 1,000).⁴⁴

Educational neglect. Educational neglect is not defined for children age 0 to 2, so statistical comparisons omit this age group. The incidence rate for children age 3 to 5 differs significantly from the rate for those age 12 to 14 (2.3 vs. 7.3 per 1,000). As the

⁴⁴ The estimates for children younger than 12 years old are less reliable because fewer than 100 sample children are in each of those age categories.

graph shows, the incidence rate for children age 9 to 11 is highest, at 7.5 per 1,000. However, this rate does not differ significantly from the other rates because, again, the estimate for this age group is less precise compared to the others.⁴⁵

Severity of Outcomes from Harm Standard Maltreatment⁴⁶

Moderate harm. Figure 4–6 shows the pattern for the single outcome from Harm Standard maltreatment where age differences emerged: moderate injury or harm. The youngest children (ages 0 to 2) had significantly lower risk of experiencing moderate harm as a result of Harm Standard maltreatment compared to all other children. The incidence of children moderately harmed by Harm Standard maltreatment was 1.8 per 1,000 in the 0- to 2-year-old group, in contrast to 7.0 per 1,000 children 3 to 5 years old and 9.8 or more per 1,000 children ages 6 and older.

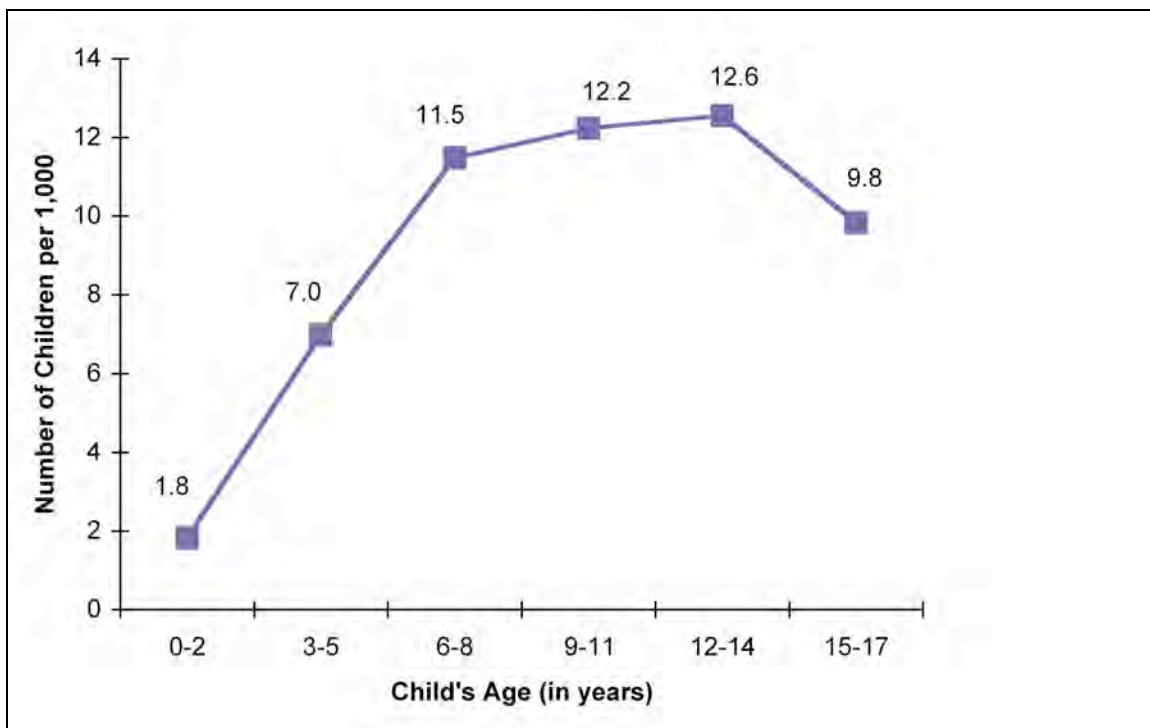


Figure 4–6. Age Differences in Incidence of Children Moderately Harmed by Harm Standard Maltreatment.

⁴⁵ The estimates for children younger than 6 years old are less reliable because they derive from fewer than 100 children in each age category.

⁴⁶ Estimates of risk of fatal injury for separate subgroups are very unreliable, since they are based on considerably fewer than 100 children in the sample. Thus, this report provides no numeric estimates regarding subgroup differences in risk of fatal injury.

Changes since the NIS-3 in the Distribution of Harm Standard Maltreatment Related to Child's Age

Changes since the NIS-3 in the age distributions of Harm standard sexual abuse were statistically significant.⁴⁷

Sexual abuse. Chapter 3 reported a statistically significant decline since the NIS-3 in the incidence of Harm Standard sexual abuse. Figure 4-7 shows that this decline was not uniform across age groups. It is most evident among children ages 3 to 11 years and 15 to 17 years (where rates decreased by 42% to 68%). Children in puberty (12 to 14 years old) experienced only a small decline in their risk of Harm Standard sexual abuse (9%). As the graph shows, among children ages 0 to 2, the incidence of Harm Standard sexual abuse increased by 33%. However, this last result is less reliable, since fewer than 100 sample children support the component estimated rates.

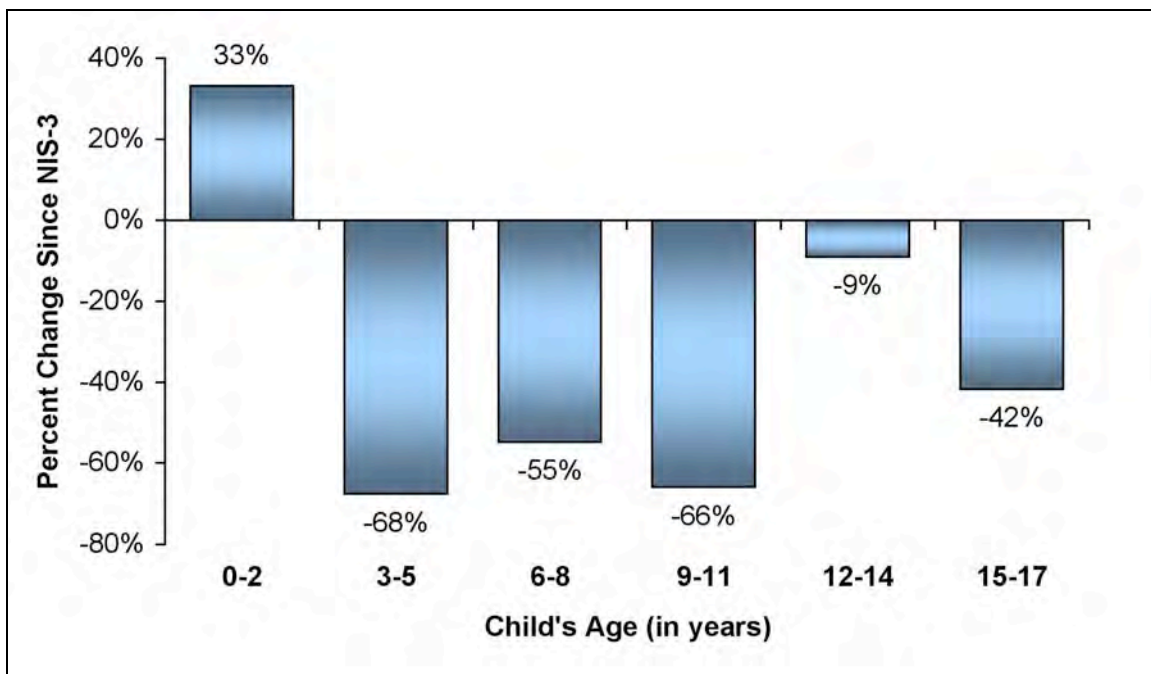


Figure 4-7. Percent Changes in Incidence Rates of Harm Standard Sexual Abuse Related to Age.

⁴⁷ Statistically marginal age differences in changes occurred in rates of Harm Standard emotional neglect and inferred harm from Harm Standard maltreatment. This report does not present those results because the separate age estimates for those categories are unreliable, based on small samples (fewer than 100 children).

4.2.2 Age Differences in Endangerment Standard Maltreatment

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

As Figure 4–8 illustrates, significant age differences emerged in the incidence of overall Endangerment Standard maltreatment, abuse, and neglect.

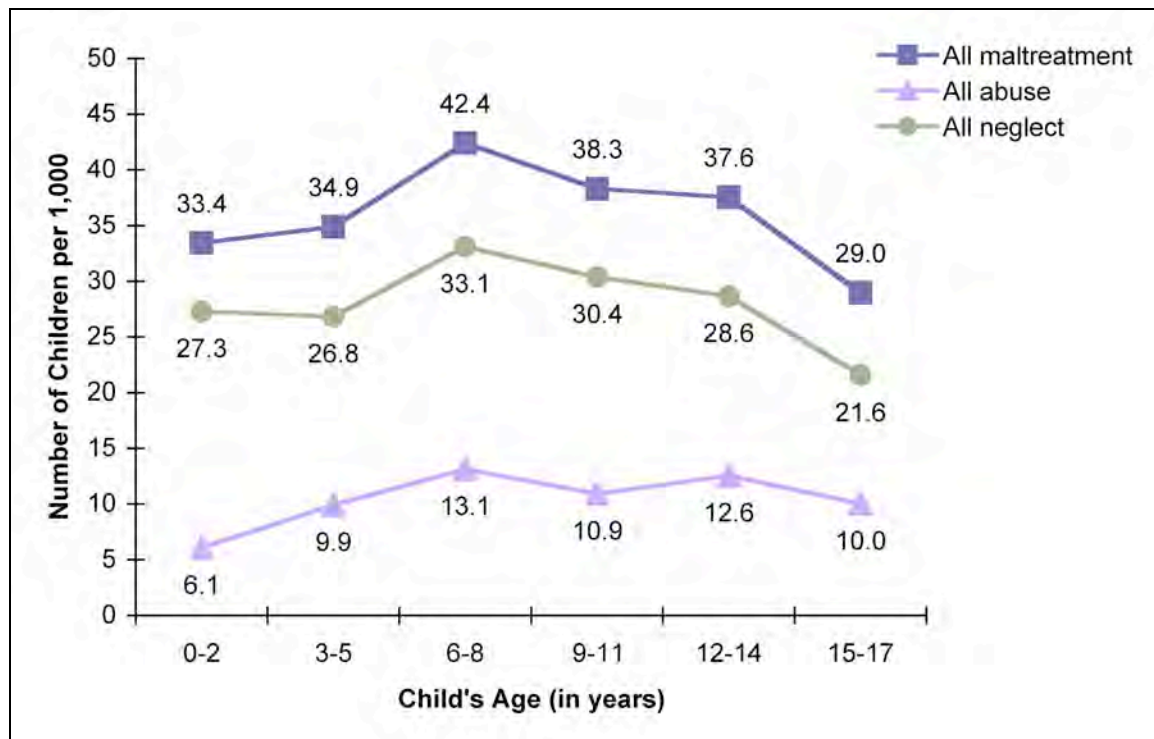


Figure 4–8. Age Differences in Incidence Rates for All Endangerment Standard Maltreatment, Abuse, and Neglect.

The NIS–4 found only one significant age difference in overall Endangerment Standard maltreatment. The rate for children 15 to 17 years old (29.0 per 1,000) is significantly lower than the rate for the 6 to 8 year olds (42.4 per 1,000).

The rate of Endangerment Standard abuse was significantly lower for the youngest children (ages 0 to 2) compared to children ages 6 and older. Harm Standard abuse revealed a similar pattern (cf. §4.2.1). Children ages 2 or younger experienced Endangerment Standard abuse at a rate of 6.1 per 1,000 children compared to 10.0 or more per 1,000 children ages 6 or older. The rate for the 3 to 5 year olds does not differ

significantly from the rates for other age groups and the rates of the older groups do not differ from one another.

The estimated rates of Endangerment Standard neglect are less precise than the estimated abuse rates. Only one statistically marginal age difference emerged for neglect. As Figure 4–8 shows, the lowest rate of Endangerment Standard neglect, 21.6 per 1,000 children ages 15 to 17, is lower than the rate of 33.1 per 1,000 children ages 6 to 8.

Categories of Endangerment Standard Abuse

The NIS–4 identified significant age differences in Endangerment Standard physical abuse and emotional abuse. Figure 4–9 presents the incidence rates for these two abuse categories.

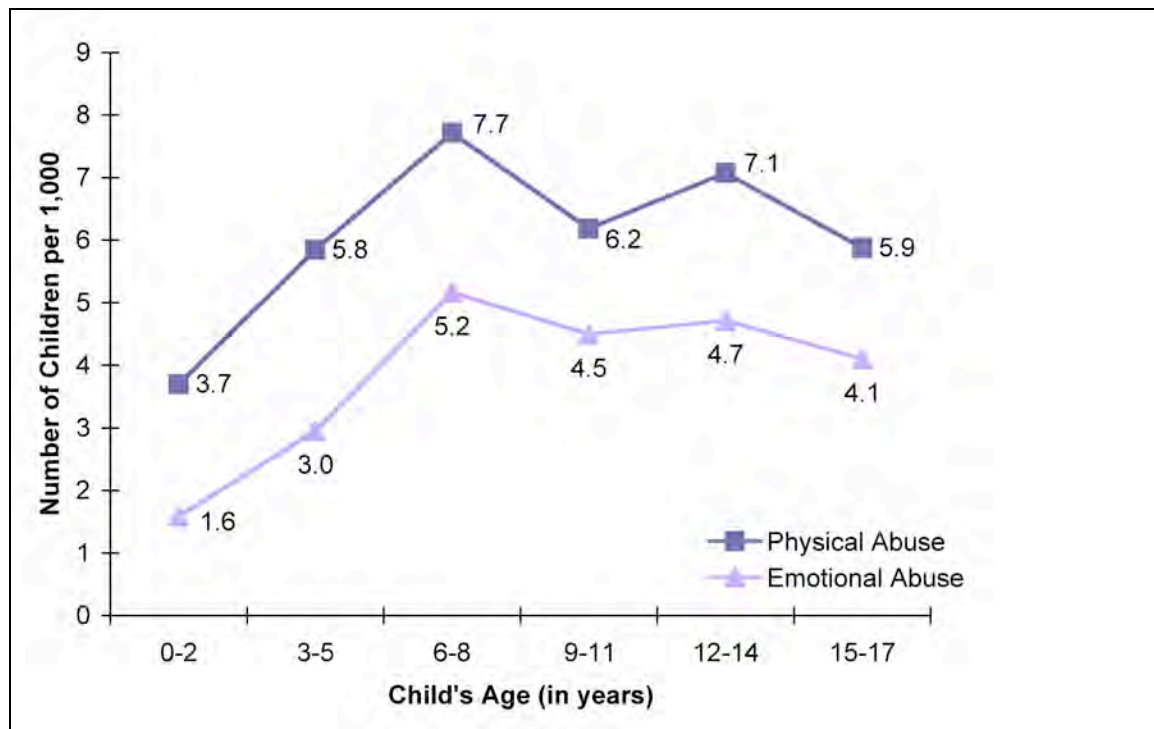


Figure 4–9. Age Differences in Incidence Rates for Endangerment Standard Physical and Emotional Abuse.

Physical abuse. The incidence of Endangerment Standard physical abuse was significantly lower for the youngest children, at 3.7 per 1,000 children ages 0 to 2 years, compared to its levels among children ages 6 to 14, who were physically abused at rates of 6.2 or more per 1,000.

Emotional abuse. The youngest children (ages 0 to 2) had a significantly lower risk of Endangerment Standard emotional abuse (1.6 children per 1,000) compared to the rates for children ages 6 years or older (4.1 or more children per 1,000).

Categories of Endangerment Standard Neglect

The NIS-4 found significant age differences in the incidence of all categories of Endangerment Standard neglect: physical, emotional, and educational neglect. Figure 4-10 displays these findings.

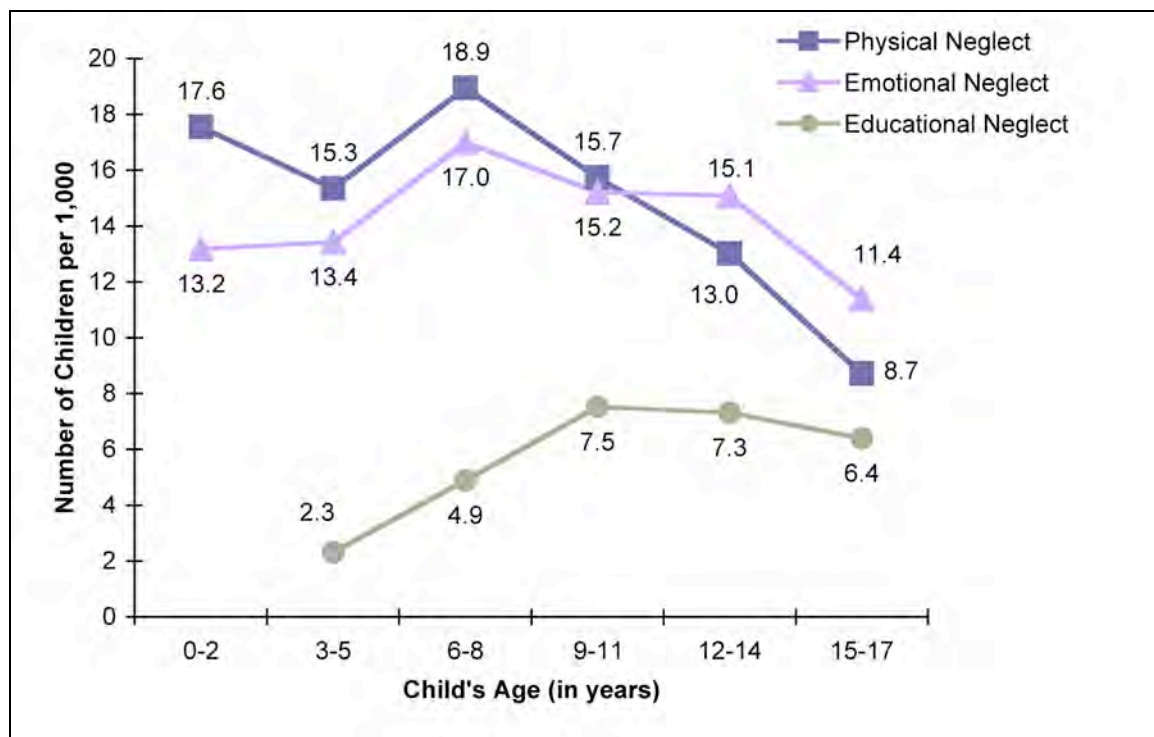


Figure 4-10. Age Differences in Incidence Rates for Endangerment Standard Physical, Emotional, and Educational Neglect.

Physical neglect. Children ages 15 to 17 experienced a significantly lower rate of Endangerment Standard physical neglect compared to 3- to 8-year-old children. As the graph shows, the incidence rate for the 15- to 17-year-old children is the lowest, at 8.7 per 1,000 children, whereas the rates were 15.3 or more per 1,000 for children ages of 3 to 8. The rate of physical neglect for 15- to 17-year-old children is also lower than the rate for those ages 9 to 11 (15.7 per 1,000), a statistically marginal difference.

Emotional neglect. As Figure 4–10 shows, age differences in the incidence rates for Endangerment Standard emotional neglect are less pronounced (the curve is flatter) compared to age differences in the other categories of neglect. The oldest children, ages 15 to 17, experienced a lower rate of emotional abuse (11.4 per 1,000 children) compared to children ages 6 to 8, who were emotionally neglected at a rate of 17.0 children per 1,000. This difference is statistically marginal.

Educational neglect. The NIS definitions of educational neglect are identical for the Harm and Endangerment Standards. The age differences are identical to those in Figure 4–5, so the discussion here does not reiterate them.

Severity of Outcomes from Endangerment Standard Maltreatment

Figure 4–11 shows the NIS–4 significant age differences in three levels of outcomes from Endangerment Standard maltreatment: serious harm, moderate harm, and endangered.

Serious harm. Children ages 3 to 5 years were at lower risk of experiencing serious harm or injury from Endangerment Standard maltreatment (4.3 children per 1,000) compared to children ages 12 to 14 (7.4 children per 1,000), a statistically marginal difference.

Moderate harm. The youngest children, ages 0 to 2, had a significantly lower risk of moderate injury or harm from Endangerment Standard maltreatment (4.5 per 1,000 children) compared to children ages 3 or older (11.2 or more children per 1,000).

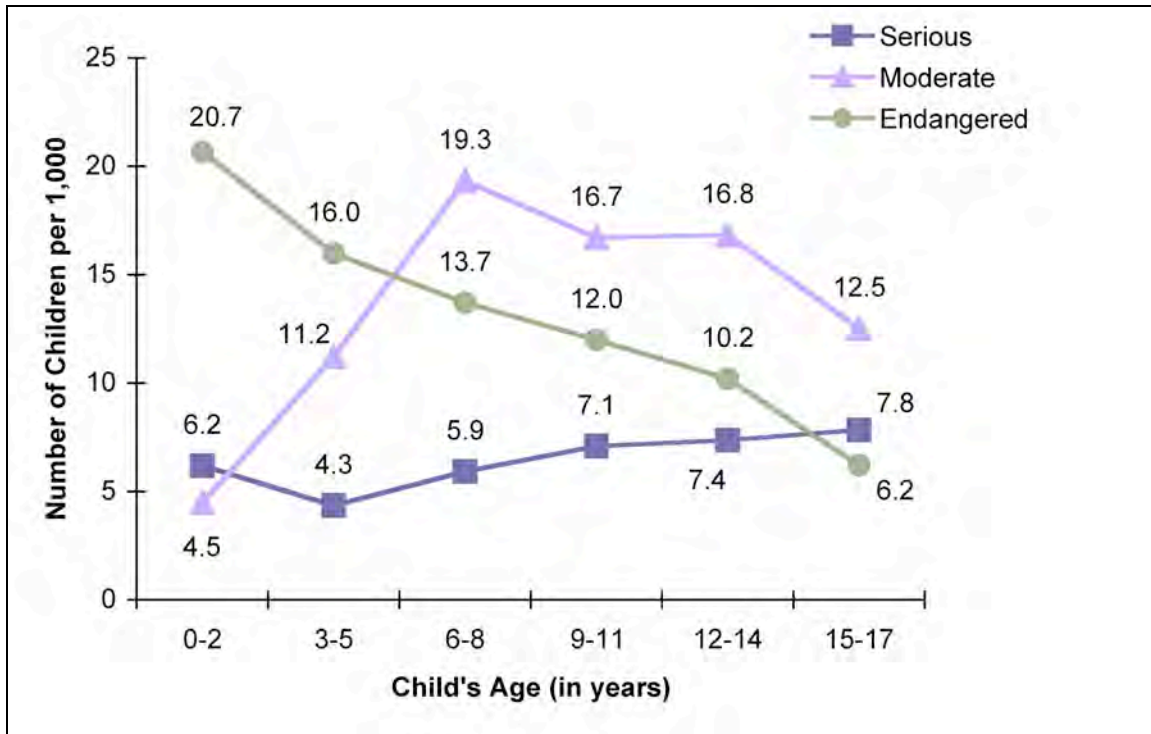


Figure 4–11. Age Differences in the Incidence of Children Seriously Harmed, Moderately Harmed, and Endangered by Endangerment Standard Maltreatment.

Endangered. As Figure 4–11 shows, the incidence of older children who were endangered, but not yet harmed, by Endangerment Standard maltreatment (6.2 per 1,000 children ages 15 to 17) is significantly lower than the incidence of this outcome among younger children (12.0 or more children per 1,000 ages 11 or younger). Also, children 9 through 14 differ from other age groups: Children ages 12 to 14 experienced a higher rate of endangerment (10.2 per 1,000 children) than the oldest children, ages 15 to 17 years. That difference is statistically marginal. However, their rate was significantly lower than rates for children 5 years old or younger (where 16.0 or more children per 1,000 were endangered, but not yet harmed). Children ages 9 to 11 years had a lower rate of endangerment (12.0 per 1,000 children) than the youngest children (20.7 per 1,000 children ages 0 to 2), a statistically marginal difference.

Changes since the NIS–3 in the Distribution of Endangerment Standard Maltreatment Related to Child’s Age

Child’s age was related to changes since the NIS–3 in the incidence of overall Endangerment Standard maltreatment, neglect, emotional neglect, and in the incidence of children who were endangered by Endangerment Standard maltreatment.

Overall Endangerment Standard maltreatment. As Chapter 3 reported, the overall incidence of Endangerment Standard maltreatment decreased significantly since the NIS–3. Child’s age is significantly related to the change since the NIS–3, meaning that the decrease was not uniform across ages. Figure 4–12 displays the percent changes in incidence rates for the different age groups.

Incidence rates decreased for all but the 0 to 2 age group, where the incidence of Endangerment Standard maltreatment increased by 28% between the studies. The other age groups all exhibited overall declines in risk of Endangerment Standard maltreatment, but children ages 6 to 8 showed the largest decrease (by 30%). Children ages 9 to 11 and those ages 12 to 14 experienced moderate declines in risk, 17% and 15%, respectively. Children ages 3 to 5 years showed a more modest decrease in risk of 9%, whereas the incidence rate for children ages 15 to 17 years revealed only a negligible change since the previous NIS.

Neglect. The relation between child’s age and the between-study changes in rates of Endangerment Standard neglect was statistically marginal. Four age groups showed increases in risk of neglect, whereas two age groups evidenced declines, as displayed in Figure 4–13.

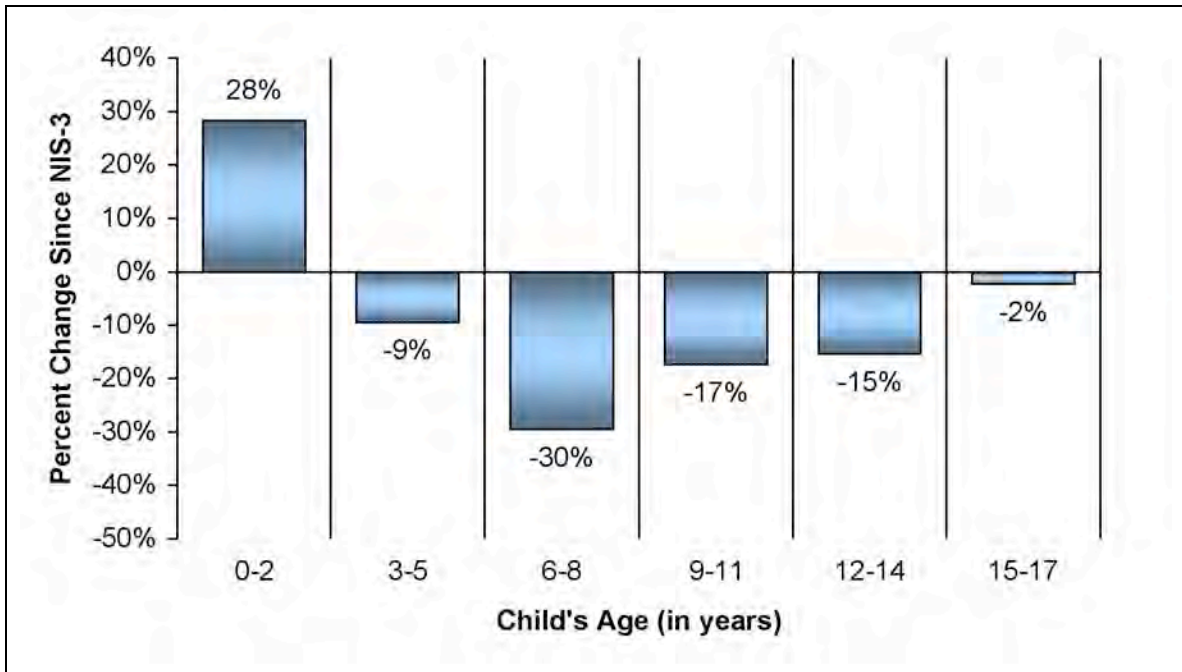


Figure 4-12. Percent Changes since the NIS-3 in Rates of Endangerment Standard Maltreatment by Child's Age.

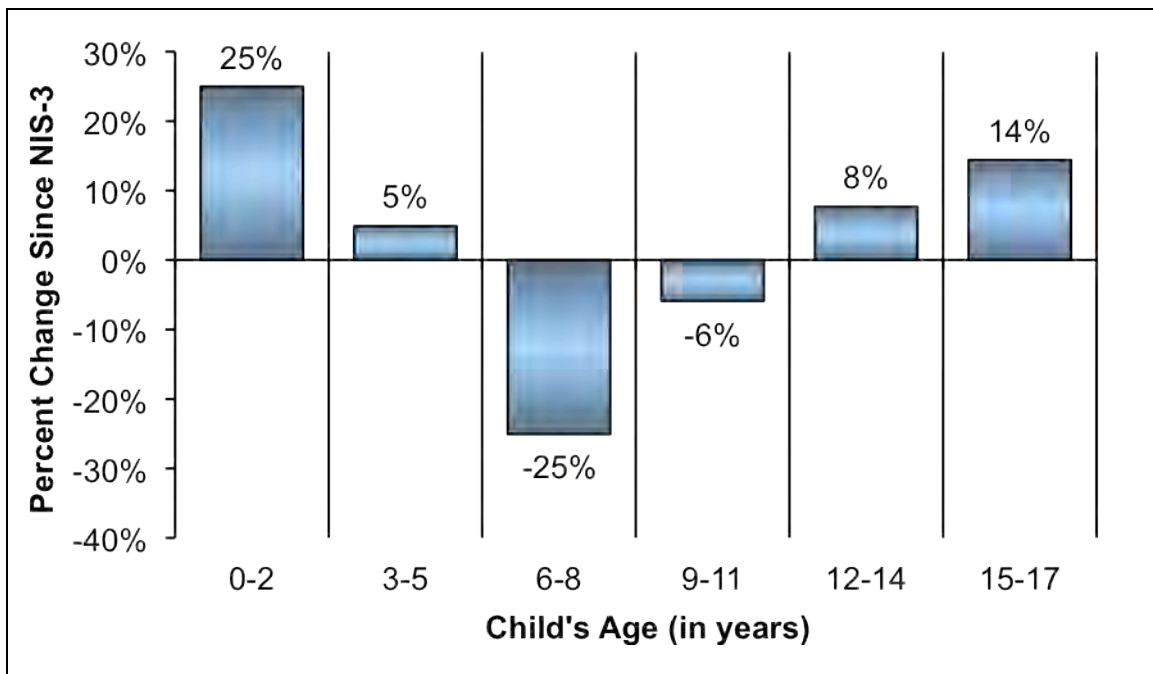


Figure 4-13. Percent Changes since the NIS-3 in Rates of Endangerment Standard Neglect by Child's Age.

Children ages 0 to 2 experienced the largest increase (25%), with 15- to 17-year-old children showing the second-largest increase (14%). There were also slight increases in neglect risk for children ages 3 to 5 (5%) and ages 12 to 14 (8%). In contrast, risk decreased for children ages 6 to 11, with those ages 6 to 8 showing the larger decline in risk (25%).

Emotional neglect. Chapter 3 reported a 101% increase in the incidence rate of emotional neglect since the NIS–3. The statistically significant age-related differences in changes in rates of this maltreatment category (Figure 4–14) qualify this finding.

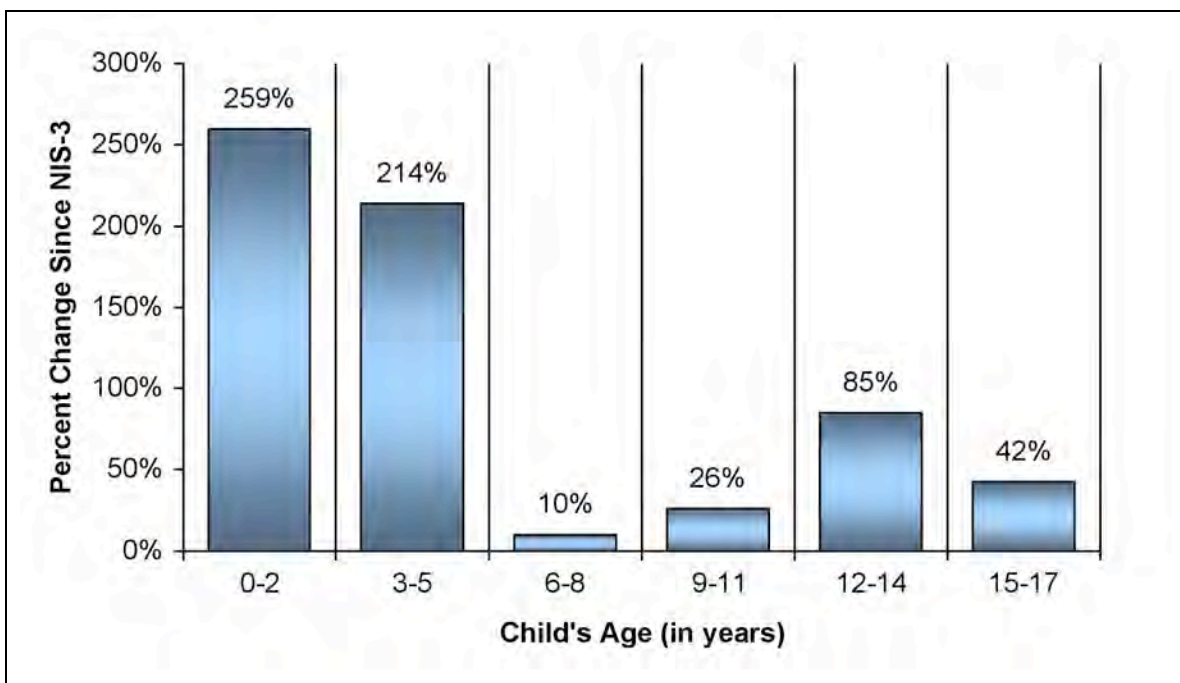


Figure 4–14. Percent Changes since the NIS–3 in Rates of Endangerment Standard Emotional Neglect by Child’s Age.

The increase in incidence of Endangerment Standard emotional neglect was particularly severe among the younger children. The risk for children ages 0 to 2 was 259% higher at the time of the NIS–4 compared to its level at the time of the NIS–3. The increase in incidence rate was nearly as great for children ages 3 to 5 (214%). The between-study increase was also large for the 12 to 14 age group, who experienced an 85% increase in the incidence of Endangerment Standard emotional neglect. The remaining age groups display smaller but notable between-study increases in risk of maltreatment in this category.

Endangered. Chapter 3 reported that 15.6 children per 1,000 were endangered, but not yet harmed by abuse or neglect, during the NIS–4 study year. Although this rate did not differ from the NIS–3 rate of 15.4 children per 1,000, this was because changes in the incidence of endangered children across the different age groups counterbalanced each other, as Figure 4–15 illustrates.

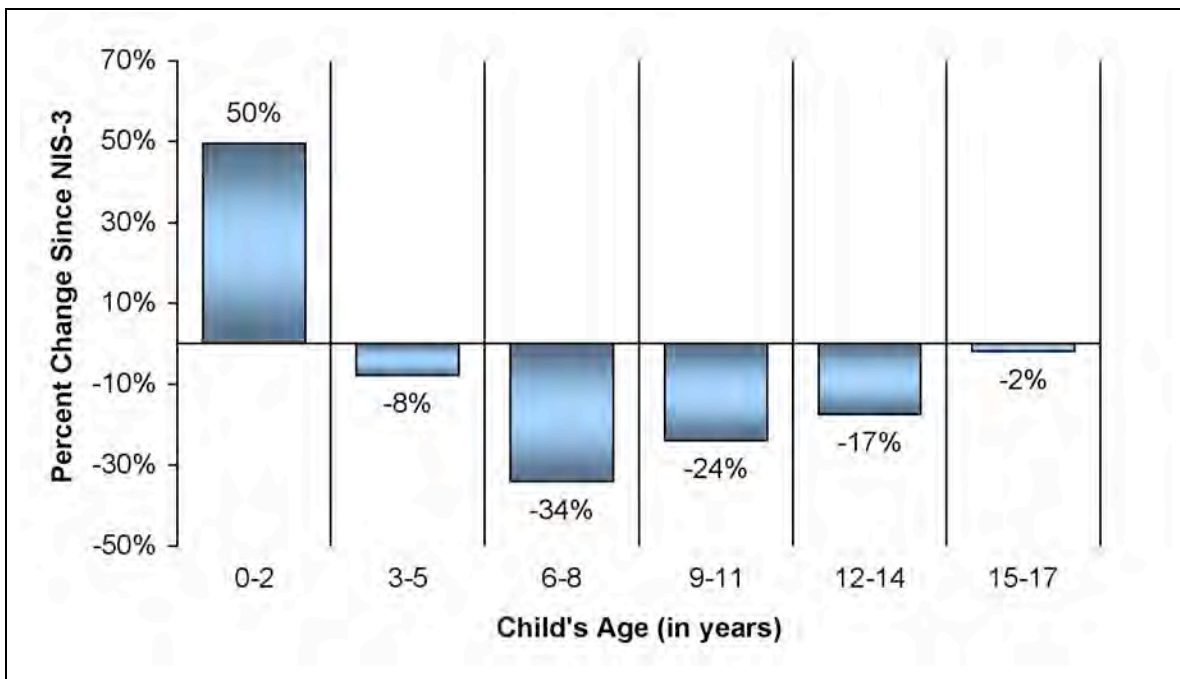


Figure 4–15. Percent Changes since the NIS–3 in the Incidence of Children Endangered but Not Harmed by Endangerment Standard Maltreatment by Child’s Age.

Children ages 0 to 2 had a 50% increase in the incidence of endangerment between the NIS–3 and the NIS–4. In contrast, the incidence of children who were endangered but not yet harmed declined for all other age groups. The largest decline was among children ages 6 to 8 (34%). Children ages 9 to 14 also showed notable declines in the incidence of this outcome from Endangerment Standard maltreatment. However, the decline was much smaller for 3 to 5 year olds (8%) and negligible for 15- to 17-year-old children (2%).

4.3 Racial and Ethnic Differences in the Incidence of Maltreatment

This section reports differences in the incidence of maltreatment related to three major racial and ethnic groups: White (non-Hispanic), Black (non-Hispanic), and Hispanic.⁴⁸

4.3.1 Racial and Ethnic Differences in Harm Standard Maltreatment

The NIS–4 revealed several significant and statistically marginal differences across the racial/ethnic groups in the incidence of Harm Standard maltreatment. Table 4–3 provides the incidence rates for those categories of Harm Standard maltreatment where these racial/ethnic differences emerged.^{49,50}

Overall Harm Standard Maltreatment, Abuse, and Neglect

White and Black children differed significantly in their rates of experiencing overall Harm Standard maltreatment during the 2005–2006 NIS–4 study year. An estimated 12.6 per 1,000 White children experienced Harm Standard maltreatment compared to 24.0 per 1,000 Black children. Thus, the incidence rate for Black children was nearly 2 times the rate for White children. The rate for Black children was also

⁴⁸ Each of the other race categories had too few sample children to support independent estimates for those groups (i.e., American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, and mixed race), so analyses excluded those. Children in these groups represent a total of 11% of those countable under the Harm Standard and 9% of the children countable under the Endangerment Standard. The findings also exclude children with missing race/ethnicity information (9% of children countable under the Harm Standard and for 15% of those countable under the Endangerment Standard).

⁴⁹ In each category of maltreatment or injury, decisions about the significance of differences relied on the Bonferroni critical values for *t*. This adjusted for the multiplicity of the comparisons involved. Appendix D gives details concerning the statistical tests for the significance of racial/ethnic group differences.

⁵⁰ The incidence rate calculations used the following denominators, reflecting the average number (in thousands) of children in the general population in these groups during 2005 and 2006: 42,623 White children, 10,797 Black children, and 14,752 Hispanic children (U.S. Census Bureau, 2008e).

significantly higher than that for Hispanic children (14.2 per 1,000), with Black children 1.7 times more likely to experience Harm Standard maltreatment than Hispanic children.

The rate of Harm Standard abuse was also significantly higher for Black children than for children in the other two racial/ethnic groups. An estimated 10.4 per 1,000 Black children suffered Harm Standard abuse during the NIS–4 study year compared to 6.0 per 1,000 White children and 6.7 per 1,000 Hispanic children. The abuse rate of Black children is 1.7 times that of White children and 1.6 times that of Hispanic children.

Table 4–3. Race/ethnicity Differences in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006).				
Harm Standard Maltreatment Category	White	Black	Hispanic	Significance of Differences
ALL MALTREATMENT ABUSE:	12.6	24.0	14.2	A, C
All Abuse	6.0	10.4	6.7	A, C
Physical Abuse	3.2	6.6	4.4	A, C
Sexual Abuse	1.4	2.6	1.8	a
NEGLECT:				
All Neglect	7.5	14.7	8.3	a
SEVERITY OF HARM:				
Serious	4.6	8.8	5.2	A, C
Moderate	7.2	13.7	8.1	A
Inferred	0.7	1.5	0.8	a
A Difference between "White" and "Black" is significant at $p \leq .05$. a Difference between "White" and "Black" is statistically marginal (i.e., $.10 \geq p > .05$). C Difference between "Black" and "Hispanic" is significant at $p \leq .05$.				

An estimated 14.7 per 1,000 Black children experienced Harm Standard neglect during the NIS–4 study year compared to 7.5 per 1,000 White children, a statistically marginal difference. Thus, Black children had nearly 2 times the risk of Harm Standard neglect compared to White children.

Specific Categories of Harm Standard Abuse

Black children had a significantly higher rate of physical abuse than children in the other groups. An estimated 6.6 per 1,000 Black children experienced Harm Standard physical abuse, which is more than 2 times the rate for White children (3.2 per 1,000). The rate of physical abuse for Black children is also 1.5 times that of the Hispanic children (4.4 per 1,000).

The difference between Black and White children in their rates of sexual abuse is statistically marginal. An estimated 2.6 per 1,000 Black children were sexually abused according to the Harm Standard, which is nearly 2 times the rate of 1.4 per 1,000 White children.

Severity of Outcomes from Harm Standard Maltreatment

White and Black children differed significantly in their risk of suffering serious harm from Harm Standard maltreatment. The incidence of children seriously harmed by Harm Standard maltreatment was 8.8 per 1,000 Black children compared to 4.6 per 1,000 White children. Black children also had a significantly higher rate of experiencing serious harm than Hispanic children, whose rate was 5.2 per 1,000.

The rates of moderate harm differed significantly for White and Black children, with 13.7 per 1,000 Black children versus 7.2 per 1,000 White children suffering this level of outcome from Harm Standard maltreatment.

Inferred harm occurred at different rates for White and Black children; this difference is statistically marginal. The incidence rate of inferred harm was 1.5 per 1,000 Black children compared to 0.7 per 1,000 White children.

Changes since the NIS-3 in Rates of Harm Standard Maltreatment Related to Child's Race and Ethnicity

Figure 4-16 shows significant changes since the NIS-3 related to the child's race and ethnicity. These occurred in three categories of Harm Standard maltreatment and one outcome level: all abuse, physical abuse, emotional neglect, and serious harm.

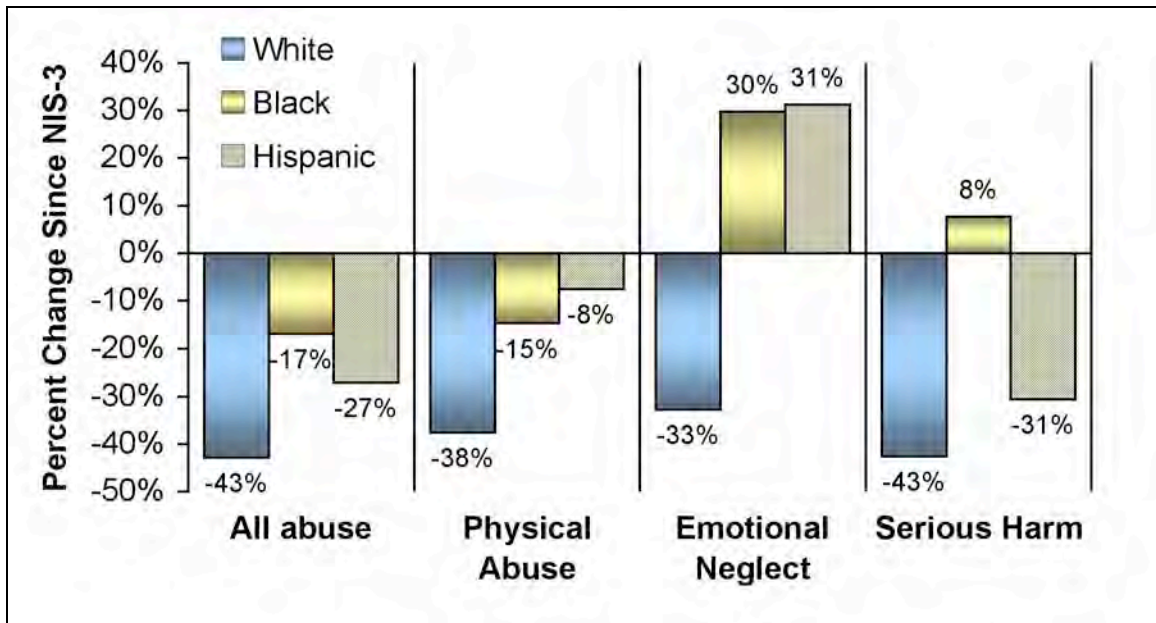


Figure 4-16. Percent Changes in Incidence Rates for Harm Standard Maltreatment Related to Child's Race/ethnicity.

Abuse. Changes in the incidence rate of Harm Standard abuse were significantly related to race/ethnicity. The differential decreases were 43% for White children, 27% for Hispanic children, and 17% for Black children.

Physical abuse. The incidence of physical abuse also decreased by different degrees for the three racial/ethnic groups, a significant relationship. Again, the largest decrease occurred for White children (38%), with smaller decreases for Black children (15%) and Hispanic children (8%).

Emotional neglect. Rates of emotional neglect changed in opposite directions for White children and for children in the other racial/ethnic groups, a pattern that is statistically significant. Whereas the incidence rate decreased by 33% for White children, it increased by 30% and 31% for Black and Hispanic children, respectively.

Serious harm. The relationship between child's race/ethnicity and changes in the incidence of serious harm from Harm Standard maltreatment is also significant. The rate of serious harm decreased substantially for White children (by 43%) and Hispanic children (by 31%), but increased for Black children (by 8%).

4.3.2 Racial and Ethnic Differences in Endangerment Standard Maltreatment

The incidence of nearly all categories of Endangerment Standard maltreatment differed significantly by the child's race/ethnicity. Table 4-4 provides the differing incidence rates for the racial/ethnic subgroups.

Table 4-4. Race/ethnicity Differences in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS-4 (2005-2006).				
Endangerment Standard Maltreatment Category	White	Black	Hispanic	Significance of Differences
ALL MALTREATMENT	28.6	49.6	30.2	A, C
ABUSE:				
All Abuse	8.7	14.9	9.4	A, C
Physical Abuse	4.6	9.7	5.9	A, C
Emotional Abuse	3.5	4.5	2.4	B, C
NEGLECT:				
All Neglect	22.4	36.8	23.0	A, C
Physical Neglect	12.2	17.9	9.9	a, C
Emotional Neglect	12.1	18.2	13.2	A
SEVERITY OF HARM:				
Serious	4.8	9.1	5.7	A, C
Moderate	11.0	18.6	11.2	a
Inferred	2.6	3.7	2.1	C
Endangered	10.2	18.1	11.2	A, C
A Difference between "White" and "Black" is significant at $p \leq .05$. a Difference between "White" and "Black" is statistically marginal (i.e., $.10 \geq p > .05$). B Difference between "White" and "Hispanic" is significant at $p \leq .05$. C Difference between "Black" and "Hispanic" is significant at $p \leq .05$.				

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

Black children differed significantly from children in the other racial/ethnic groups in their overall risk of Endangerment Standard maltreatment. Endangerment Standard maltreatment affected 49.6 per 1,000 Black children, versus 28.6 per 1,000 White children and 30.2 per 1,000 Hispanic children. The rate of Endangerment Standard maltreatment for Black children is 1.7 times the rate for White children and 1.6 times the rate for Hispanic children.

The same pattern applies to Endangerment Standard abuse and neglect. In both categories, the incidence rate for Black children is significantly higher than the rates for White and Hispanic children. Black children experienced Endangerment Standard abuse at a rate 1.7 times the rate for White children (14.9 versus 8.7 per 1,000) and 1.6 times the rate for Hispanic children (9.4 per 1,000).

Endangerment Standard neglect affected Black children at a rate 1.6 times the rates for White and Hispanic children (36.8 versus 22.4 and 23.0 per 1,000, respectively).

Specific Categories of Endangerment Standard Abuse

Black children had a significantly higher rate of Endangerment Standard physical abuse. Their rate is 2.1 times the rate for White children (9.7 versus 4.6 per 1,000) and 1.6 times the rate for Hispanic children (5.9 per 1,000).

Both White and Black children had significantly higher incidence rates of emotional abuse than Hispanic children. The rate of Endangerment Standard emotional abuse for White children was 1.5 times the rate for Hispanic children (3.5 versus 2.4 per 1,000). Black children were emotionally abused at a rate of 4.5 per 1,000, which is almost 2 times the rate for Hispanic children.

Specific Categories of Endangerment Standard Neglect

An estimated 17.9 per 1,000 Black children were victims of physical neglect, which is 1.8 times the rate of 9.9 per 1,000 for Hispanic children, a significant difference.

The rate for Black children is also 1.5 times the rate of 12.2 per 1,000 White children, a difference that is statistically marginal.

One significant difference emerged in the incidence of emotional neglect: Black children had a 1.5 times higher risk of experiencing this maltreatment (18.2 per 1,000) compared to White children (12.1 per 1,000).

Severity of Outcomes from Endangerment Standard Maltreatment

Statistically meaningful race/ethnicity differences occurred in four levels of harm attributable to Endangerment Standard maltreatment.

Serious harm. The incidence of Black children seriously harmed (9.1 per 1,000) is nearly 2 times the incidence of White children with this outcome (4.8 per 1,000), and it is 1.6 times the incidence rate for Hispanic children (5.7 per 1,000); both differences are statistically significant.

Moderate harm. The rate of Black children who suffered moderate harm was 1.7 times the rate of White children (18.6 per 1,000 Black children versus 11.0 per 1,000 White children), a statistically marginal difference.

Inferred harm. Black children were significantly more likely than Hispanic children to experience maltreatment where harm could be inferred. The incidence rate of inferred harm for Black children was 3.7 per 1,000, which is 1.8 times the rate of 2.1 per 1,000 for Hispanic children.

Endangered. Black children were considered to be endangered by maltreatment at a significantly higher rate than either White children or Hispanic children. An estimated 18.1 per 1,000 Black children were endangered by maltreatment during the NIS–4 study year, which is 1.8 times the rate of 10.2 per 1,000 White children and 1.6 times the rate of 11.2 per 1,000 Hispanic children.

Changes since the NIS-3 in Rates of Endangerment Standard Maltreatment Related to Child's Race and Ethnicity

Figure 4-17 shows the categories of Endangerment Standard maltreatment where changes since the NIS-3 are significantly related to child's race and ethnicity: all abuse, physical abuse, sexual abuse, emotional neglect, and serious harm.

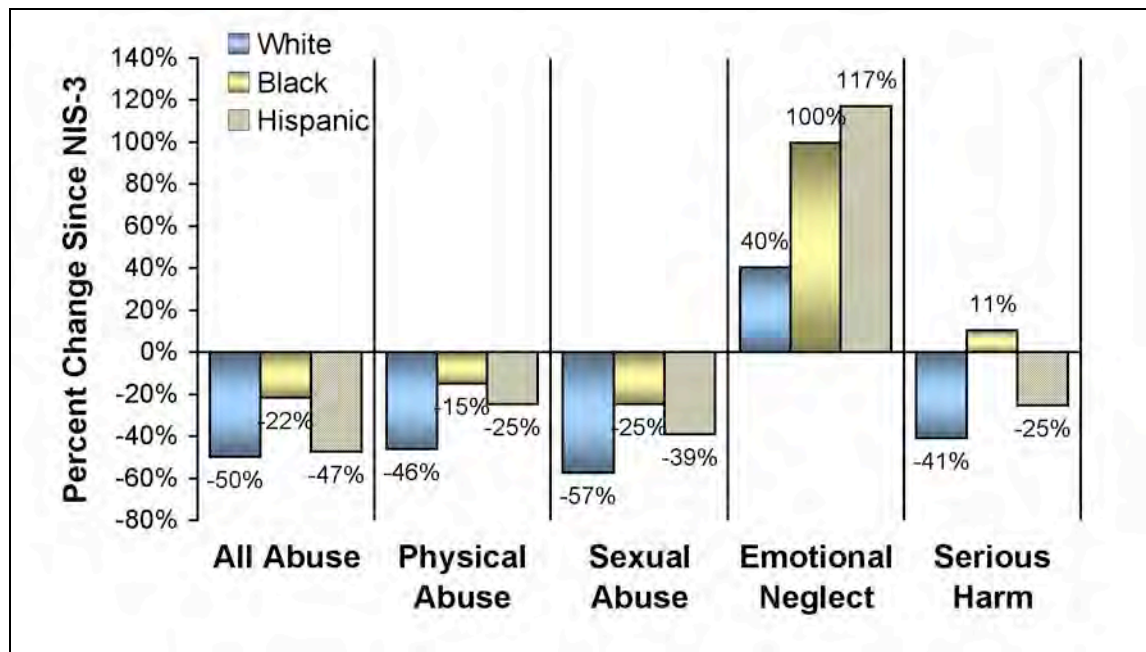


Figure 4-17. Percent Changes in Incidence Rates for Endangerment Standard Maltreatment Related to Child's Race/ethnicity.

Abuse. Decreases in the incidence rate of Endangerment Standard abuse differed across the racial and ethnic groups. The largest decreases occurred for White children (50%) and Hispanic children (47%), with the decrease in the rate for Black children less than half the level for White and Hispanic children (22%).

Physical abuse. The incidence rate of Endangerment Standard physical abuse also decreased differentially across the racial/ethnic groups. The incidence rate for White children decreased by 46%, the Hispanic rate decreased by 25%, and Black children again had the smallest rate decrease (15%).

Sexual abuse. The pattern of decreases observed in the incidence rates of physical abuse also applies to sexual abuse. The incidence of sexual abuse of White

children decreased the most (57%), followed by the decrease in the sexual abuse rate for Hispanic children (39%), while the smallest decrease in the sexual abuse rate occurred for Black children (25%).

Emotional neglect. Chapter 3 reported that, whereas abuse rates decreased since the NIS–3, the rate of emotional neglect increased. Figure 4–17 shows that the increase was not equivalent across the different race/ethnicity groups. Rather, changes in the rate of Endangerment Standard emotional neglect since the NIS–3 are significantly related to the child’s race/ethnicity. Rates of this maltreatment category increased substantially for both Hispanic and Black children (117% and 100%, respectively), but the increase was much less for White children (40%).

Serious harm. The incidence of serious harm from Endangerment Standard maltreatment decreased 41% for White children and 25% for Hispanic children. In contrast, the incidence rate increased 11% for Black children.

4.4 Differences in the Incidence of Maltreatment Related to Child’s Disability Status

The NIS–4 CPS Maltreatment and Sentinel data forms asked about the disability status of maltreated children. The findings here refer to children with one or more confirmed disabilities; they do not include children with only suspected disabilities.⁵¹

⁵¹ Incidence rate calculations used the following population denominators in thousands: 6,689 children with any confirmed disability and 66,946 children without a confirmed disability (Office of Special Education and Rehabilitative Service, 2006, 2008). The Office of Special Education and Rehabilitative Service is the only known source of information concerning the numbers of children with disabilities in the general population. These population statistics include children living both in and outside of household settings. In contrast, the NIS–4 data pertain only to children who live in household settings. For this reason, the NIS–4 incidence rates for children with disabilities should be treated as minimum estimates.

4.4.1 Differences in Harm Standard Maltreatment Related to Child's Disability Status

Categories of Harm Standard Maltreatment

Table 4–5 shows the categories of Harm Standard maltreatment with significant differences in incidence related to child's disability status.

Table 4–5. Differences Related to Child's Disability Status in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006)*		
Harm Standard Maltreatment Category	Without Disability	With Confirmed Disability
ABUSE:		
Physical Abuse	4.2	3.1
NEGLECT:		
Emotional Neglect	2.3	4.7
SEVERITY OF HARM:		
Serious	5.8	8.8
Moderate	9.0	6.2
* All differences are significant at $p \leq .05$.		

Physical abuse. Children with a confirmed disability experienced Harm Standard abuse at a significantly lower rate (3.1 children per 1,000) than children with no confirmed disability (4.2 children per 1,000). Thus, children without a confirmed disability were 1.4 times more likely than those with a disability to experience Harm Standard physical abuse.

Emotional neglect. Children with a confirmed disability were at significantly higher risk of Harm Standard emotional neglect. An estimated 4.7 per 1,000 children with confirmed disabilities experienced emotional neglect, which is more than 2 times the rate of 2.3 per 1,000 children without disabilities.

Severity of Outcomes from Harm Standard Maltreatment

Significant disability differences emerged in two levels of outcomes attributable to Harm Standard maltreatment: serious harm and moderate harm.

Serious harm. An estimated 8.8 per 1,000 children with a confirmed disability were seriously harmed by Harm Standard maltreatment, which is more than 1.5 times the rate of 5.8 per 1,000 children without a disability.

Moderate harm. The opposite pattern emerged in this level of harm, with children without a disability having a significantly greater risk of suffering moderate harm due to Harm Standard maltreatment. An estimated 9.0 per 1,000 children without a disability experienced moderate harm compared to 6.2 per 1,000 children with a confirmed disability. The incidence rate for children without disabilities is almost 1.5 times the rate for children with a disability.

4.4.2 Differences in Endangerment Standard Maltreatment Related to Child's Disability Status

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

In contrast to the Harm Standard findings, significant differences related to child's disability status emerged in rates of overall Endangerment Standard maltreatment, abuse, and neglect. In all three categories, children with no disability had significantly higher maltreatment rates compared to children with a confirmed disability, as Table 4–6 shows. The estimated incidence rate for any category of Endangerment Standard maltreatment was 38.2 per 1,000 children with no disability, whereas the rate was 22.4 per 1,000 children with a confirmed disability. The risk of Endangerment Standard maltreatment for children with no disability is 1.7 times the risk of children with a confirmed disability.

An estimated 10.9 per 1,000 children with no disability experienced Endangerment Standard abuse compared to 7.8 per 1,000 children with a confirmed disability. The risk of abuse for children with no disability is 1.4 times that of children with a confirmed disability.

Table 4–6. Differences Related to Child’s Disability Status in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006) *		
Endangerment Standard Maltreatment Category	Without Disability	With Confirmed Disability
ALL MALTREATMENT	38.2	22.4
ABUSE:		
All Abuse	10.9	7.8
Physical Abuse	6.2	4.3
Sexual Abuse	2.4	1.4†
NEGLECT:		
All Neglect	29.5	17.4
Physical Neglect	15.5	9.6
Emotional Neglect	15.6	9.1
SEVERITY OF HARM:		
Serious	6.0	9.1
Moderate	13.3	8.5
Endangered	15.9	3.3
* All differences are significant at $p \leq .05$. † This estimate is less reliable because it derives from fewer than 100 sample children.		

The estimated incidence rate for Endangerment Standard neglect was 29.5 per 1,000 children with no disability, in comparison to the rate of 17.4 per 1,000 children with a confirmed disability. Children without a disability had almost 1.7 times the risk of Endangerment Standard neglect than children with a confirmed disability.

Categories of Endangerment Standard Abuse

Significant differences related to the child’s disability status emerged for Endangerment Standard physical abuse and sexual abuse.

Physical abuse. Children with no disability experienced Endangerment Standard physical abuse at a rate more than 1.4 times the rate of children with a

confirmed disability. The incidence rate was estimated at 6.2 per 1,000 children with no disability compared to 4.3 per 1,000 children with a confirmed disability.

Sexual abuse. Children with no disability had 1.7 times the risk of being sexually abused than those with a disability (2.4 versus 1.4 children per 1,000).

Categories of Endangerment Standard Neglect

Significant differences related to child's disability status occurred in rates of two categories of the Endangerment Standard neglect, physical neglect and emotional neglect.

Physical neglect. An estimated 15.5 per 1,000 children with no disability experienced Endangerment Standard physical neglect, whereas the rate was 9.6 per 1,000 children with a confirmed disability. Children with no disability were more than 1.6 times more likely to be physically neglected than children with a confirmed disability.

Emotional neglect. Children with no disability were at significantly greater risk of Endangerment Standard emotional neglect; they were 1.7 times more likely to be emotionally neglected than children with a confirmed disability. An estimated 15.6 per 1,000 children with no disability experienced emotional neglect compared to 9.1 per 1,000 children with a confirmed disability.

Severity of Outcomes from Endangerment Standard Maltreatment

Significant differences related to the child's disability status occurred in three levels of outcomes from Endangerment Standard maltreatment: serious harm, moderate harm, and endangerment.

Serious harm. In contrast to their lower risk of experiencing different categories of Endangerment Standard maltreatment, children with a confirmed disability were at greater risk of suffering serious harm from Endangerment Standard maltreatment than children with no disability. An estimated 9.1 per 1,000 children with a confirmed disability were seriously harmed compared to 6.0 per 1,000 children with no disability.

Thus, the incidence rate for children with a confirmed disability is more than 1.5 times higher than the rate for children with no disability.

Moderate harm. Children without a disability were at significantly greater risk of suffering moderate harm from Endangerment Standard maltreatment than children with a confirmed disability. An estimated 13.3 per 1,000 children with no disability experienced moderate harm compared to 8.5 per 1,000 children with a confirmed disability. Thus, children with no disability had more than 1.5 times the risk of suffering moderate harm compared to children with a confirmed disability.

Endangered. The estimated incidence of children who were endangered, but not yet harmed, as a result of maltreatment was 15.9 per 1,000 children with no disability compared to 3.3 per 1,000 children with a confirmed disability. The risk of endangerment as an outcome of maltreatment for children with no disability is 4.8 times that of children with a confirmed disability.

4.5 Differences in the Incidence of Maltreatment Related to Child's Enrollment in School

This section presents the NIS–4 results concerning differences in the incidence of maltreatment related to the child's enrollment status, focusing on school-age children. In accordance with Census data on enrollment status in the general child population, these analyses define school-age children as those ages 3 to 17 years.^{52,53} General population information on enrollment status relies on interview responses to the Current Population Survey, while Child Protective Services caseworkers and NIS sentinels provide information on the enrollment status of the maltreated children.⁵⁴

⁵² Incidence rate calculations used the following population denominators, in thousands: 5,119 school-age children not enrolled in school and 56,225 school-age children enrolled in school (U.S. Census Bureau, 2005).

⁵³ This report does not present enrollment differences for the more delimited age range of 5- to 15-year-olds (i.e., ages that are mandated to attend school) because there were too few (<100) maltreated children in this narrower age range who were not enrolled in school in most maltreatment categories.

⁵⁴ Neither source necessarily classifies home-schooled children as not enrolled. Census interviewers count children as enrolled if they are enrolled at any time during the current term or school year in any type of public, parochial, or other private school in the regular school system. If a child's courses are counted for credit at a regular school then Census considers them to be enrolled even if they are not physically present (Footnote continues on next page.)

4.5.1 Differences in Harm Standard Maltreatment Related to Child's Enrollment in School

Table 4–7 displays the Harm Standard incidence rates that differed by child's enrollment status.

Table 4–7. Differences Related to Child's School Enrollment in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006)			
Harm Standard Maltreatment Category	School-Aged Children Not Enrolled in School	School-Aged Children Enrolled in School	Significance of Difference
ALL MALTREATMENT	13.0	16.6	m
ABUSE:			
Physical Abuse	2.5	4.3	*
Sexual Abuse	2.3	1.4	*
NEGLECT:			
Educational Neglect [†]	3.1	5.7	m
SEVERITY OF HARM:			
Moderate	4.9	10.4	*
Inferred	1.4	0.6	*
<p>* The difference is significant at $p \leq .05$.</p> <p>m The difference is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: Neglect and All Maltreatment.</p>			

(Continued from previous page.)

in a regular school (U.S. Census Bureau, 2004). Similarly, NIS respondents (caseworkers and sentinels) may consider a home-schooled child to be enrolled if their school district certified their home-schooling program.

Overall Harm Standard Maltreatment

School-aged children enrolled in school were more likely to experience some type of Harm Standard maltreatment, a statistically marginal difference. An estimated 16.6 per 1,000 school-aged children enrolled in school experienced Harm Standard maltreatment compared with 13.0 per 1,000 children not enrolled. The risk of Harm Standard maltreatment for enrolled children is 1.3 times that of children not enrolled.

Categories of Harm Standard Abuse

Significant differences related to child's enrollment status emerged in the incidence of two Harm Standard abuse categories, physical abuse and sexual abuse.

Physical abuse. Enrolled children were significantly more likely to experience Harm Standard physical abuse compared to children not enrolled (4.3 versus 2.5 per 1,000, respectively). Children enrolled in school were 1.7 times more likely to be physically abused than school-aged children not enrolled in school.

Sexual abuse. In contrast, children not enrolled were at greater risk of Harm Standard sexual abuse. The non-enrolled children experienced this category of maltreatment at more than 1.6 times the rate of the enrolled children (2.3 versus 1.4 per 1,000 children, respectively).

Categories of Harm Standard Neglect

Among categories of Harm Standard neglect, only the incidence of educational neglect varied with enrollment status.

Educational neglect. Children enrolled in school were at greater risk of educational neglect, a statistically marginal difference. Perhaps this is because their absence from classes is tracked regularly, and thus sentinels are more likely to note it during the delimited study reference period. An estimated 5.7 per 1,000 enrolled school-aged children were countable in this maltreatment category, which is 1.8 times the rate of 3.1 per 1,000 children not enrolled.

Severity of Outcomes from Harm Standard Maltreatment

Significant enrollment differences occurred in two levels of outcomes from Harm Standard maltreatment: moderate harm and inferred harm.

Moderate harm. School-aged children enrolled in school were significantly more likely to suffer moderate harm from Harm Standard maltreatment (10.4 per 1,000) compared to their non-enrolled age peers (4.9 per 1,000). Specifically, school-aged children enrolled in school were 2.1 times more likely than children not enrolled in school to be in this category.

Inferred harm. Non-enrolled children had a significantly higher rate of inferred harm as a result of Harm Standard maltreatment than enrolled children (1.4 versus 0.6 per 1,000, respectively). Their risk of inferred harm is 2.3 times higher than that of the enrolled children. This may reflect the fact that specific forms of sexual abuse permit harm to be inferred and the non-enrolled children were sexually abused at a higher rate.

4.5.2 Differences in Endangerment Standard Maltreatment Related to Child's Enrollment in School

Table 4–8 shows the significant and statistically marginal enrollment differences in incidence rates of Endangerment Standard abuse and neglect.

Overall Endangerment Standard Maltreatment

An estimated 37.8 per 1,000 school-age children not enrolled in school experienced Endangerment Standard maltreatment compared with 30.2 per 1,000 enrolled children, a statistically marginal difference. In other words, the non-enrolled children had almost 1.3 times greater risk of Endangerment Standard maltreatment than children enrolled in school.

Table 4–8. Differences Related to Child’s School Enrollment in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006)			
Endangerment Standard Maltreatment Category	School-Aged Children Not Enrolled in School	School-Aged Children Enrolled in School	Significance of Difference
ALL MALTREATMENT	37.8	30.2	m
ABUSE:			
Sexual Abuse	2.9	1.8	*
NEGLECT:			
All Neglect	30.9	23.2	m
Physical Neglect	19.3	11.4	*
Emotional Neglect	16.9	11.5	m
Educational Neglect [†]	3.1	5.7	m
SEVERITY OF HARM:			
Moderate	8.2	14.8	*
Inferred	4.4	1.9	m
Endangered	18.6	7.8	*
<p>* The difference is significant at $p \leq .05$.</p> <p>m The difference is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: Neglect and All Maltreatment.</p>			

Differences related to the child’s enrollment status also emerged in rates of Endangerment Standard neglect. The incidence rate of neglect for non-enrolled children was 30.9 per 1,000, which is 1.3 times the rate of 23.2 per 1,000 enrolled children.

Categories of Endangerment Standard Abuse

Sexual abuse. Endangerment Standard sexual abuse is the only Endangerment Standard abuse category where incidence rates differ significantly in relation to the child’s enrollment status, closely paralleling the Harm Standard result in this category. Children not enrolled in school were significantly more likely to be

sexually abused than children enrolled in school (2.9 versus 1.8 per 1,000). Thus, the rate for children not enrolled in school is 1.6 times higher than the rate for those enrolled.

Categories of Endangerment Standard Neglect

The incidence of all three specific Endangerment Standard neglect categories varied in relation to the child's enrollment status.

Physical neglect. The incidence of Endangerment Standard physical neglect for school-aged children not enrolled in school was significantly higher (19.3 per 1,000) than the rate for enrolled children (11.4 per 1,000). The non-enrolled children were 1.7 times more likely to be physically neglected.

Emotional neglect. School-aged children not enrolled were more likely to suffer Endangerment Standard emotional neglect (16.9 versus 11.5 per 1,000), a statistically marginal difference. The non-enrolled children had a 1.5 times greater risk of this maltreatment than the enrolled children.

Educational neglect. The findings concerning educational neglect are identical under the Harm and Endangerment Standards. They are discussed above (cf. §4.5.1).

Severity of Outcomes from Endangerment Standard Maltreatment

Differences associated with child's school enrollment affected three levels of outcome severity: moderate harm, inferred harm, and endangered.

Moderate harm. Enrolled children were at greater risk of suffering moderate harm due to Endangerment Standard compared to children not enrolled in school (14.8 versus 8.2 per 1,000, respectively). The enrolled children were 1.8 times more likely than non-enrolled children to suffer moderate harm.

Inferred harm. In contrast, the non-enrolled school-aged children were more likely than enrolled children to experience inferred harm in connection with

Endangerment Standard maltreatment, a statistically marginal difference. The incidence of inferred harm was an estimated 4.4 per 1,000 non-enrolled children compared to 1.9 per 1,000 enrolled children. This risk of inferred harm for non-enrolled children is 2.3 times higher than the risk for enrolled children.

Endangered. The incidence of children who were endangered, but not yet harmed, by Endangerment Standard maltreatment, was 18.6 per 1,000 school-aged children not enrolled, whereas the rate was 7.8 per 1,000 enrolled children. This risk of endangerment for the non-enrolled children is almost 2.4 times greater than the risk for enrolled children.

5. DISTRIBUTION OF ABUSE AND NEGLECT BY FAMILY CHARACTERISTICS

This chapter examines how the incidence and severity of abuse and neglect vary by specific characteristics of the children's families, including their parents' employment, socioeconomic status, family structure and living arrangement, any grandparent caregiver, family size, and the metropolitan status of their county of residence. The ensuing sections address the following questions for both the Harm Standard and the Endangerment Standard:

- Do children in families with different characteristics have systematically different incidence rates for the various types of maltreatment or for the different severities of outcomes due to maltreatment?
- (If applicable): Have there been any statistically significant changes since the NIS–3 in the distribution of child maltreatment by the family characteristic in question?⁵⁵

Although the topics in this chapter are family characteristics, the units of measurement for all NIS estimates are the children. Thus, the incidence rates reflect the number of children per 1,000 in the general population who live in families with the characteristic of interest (e.g., children who live in families of low socioeconomic status, children in households with four or more children, etc.).

As in Chapter 4, the findings here reflect unduplicated estimates; that is, each estimate counts each child only once. Also, all differences between subgroups refer only to incidence rates.⁵⁶ As mentioned earlier, the rate measures adjust for differences in the numbers of children in the general population who are in the different subgroups of interest, so all statistical comparisons use the rate measures.⁵⁷

⁵⁵ The measures available in the NIS–3 allowed analyses to address this question for three characteristics: family structure, family size, and metropolitan status of the county of residence.

⁵⁶ Appendices B and C detail all NIS–4 estimates, including the estimated rates as well as totals, together with their standard errors of estimate.

⁵⁷ Appendix D provides the detailed results of all within-NIS–4 statistical comparisons. Appendix E contains the details of all between-study comparisons.

5.1 Differences in the Incidence of Maltreatment Related to Parents' Employment

Analyses distinguished three groups of children based on their parents' employment: those with any parent who was unemployed, those with employed parents, and those with no parent in the labor force.⁵⁸ In order to minimize the number of cases with missing information, the classification combined information about the parents' employment at the time of maltreatment and during the past year.⁵⁹ Parents who were unemployed were those described as unemployed or laid off but looking for work. Parents who were employed included those employed full- or part-time and those who were on active military duty. "Not in the labor force" included parents who were not employed and who were not technically in the active labor force (e.g., retired, homemaker, unemployed and not looking for work, disabled, receiving Temporary Assistance for Needy Families (TANF), on maternity leave, in the hospital, or in jail).⁶⁰

5.1.1 Differences in Harm Standard Maltreatment related to Parents' Employment

Table 5–1 shows that parents' employment was related to the incidence of most Harm Standard maltreatment categories and severities.⁶¹ Unless noted otherwise,

⁵⁸ These analyses excluded children who did not live with any parent (3% of children in the United States).

⁵⁹ The classification applied employment information hierarchically: First, it assigned children who had any parent unemployed during these timeframes to the "Parent(s) Unemployed" category. Next, it assigned children with any parent employed to the "Parent(s) Employed category. Finally, it assigned children with parent(s) not in the labor force to that category. These analyses excluded 6% of the children countable under either definitional standard because they lived in households with no parents present. They also excluded children who lived with parents but who were missing information on parents' labor force participation. Despite the effort to minimize the number of unknown cases by combining information across timeframes, parents' employment remained unknown for 29% of the children countable under the Harm Standard and for 27% of those countable under the Endangerment Standard.

⁶⁰ Incidence rate computations used the following population denominators, reflecting the number (in thousands) of children in the general population: 8,986 children with any parent currently unemployed or unemployed in the past year, 58,218 children with parent(s) employed and none unemployed currently or during the past year, and 3,982 children with no parent in the labor force during these time periods (U.S. Census Bureau, 2008a, 2008b, 2008c).

⁶¹ As noted in the previous chapter, analyses did not assess subgroup differences in fatality rates, because the total number of sample children who died as a result of their maltreatment was fewer than 100, too few to permit reliable subgroup estimates.

Table 5–1. Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006) Related to Parents’ Employment

Harm Standard Maltreatment Category	Parent(s) Unemployed	Parent(s) Employed	Parent(s) Not in the Labor Force	Significance of Differences
ALL MALTREATMENT	15.9	7.6	22.6	A, B
ABUSE:				
All Abuse	4.8	3.9	9.6	B
Emotional Abuse	2.3	1.2	2.9	B
NEGLECT:				
All Neglect	12.1	4.1	14.8	A, B
Physical Neglect	5.6	1.4	6.1	A, B
Emotional Neglect	2.7‡	1.4	4.9‡	a, B
Educational Neglect†	5.8‡	1.8	4.8‡	B
SEVERITY OF HARM:				
Serious	6.9	3.0	11.0	A, B
Moderate	8.2	4.2	9.3	B
Inferred	0.7‡	0.3‡	2.2‡	b
<p>A Difference between “Unemployed” and “Employed” is significant at the $p \leq .05$ level.</p> <p>a Difference between “Unemployed” and “Employed” is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>B Difference between “Employed” and “Not in the Labor Force” is significant at the $p \leq .05$ level.</p> <p>b Difference between “Employed” and “Not in the Labor Force” is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>† Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment.</p> <p>‡ This estimate is less reliable because it derives from fewer than 100 sample children.</p>				

any differences described in the text are statistically significant. In all cases, children with employed parents had the lowest rate of maltreatment.

Overall Harm Standard Maltreatment, Abuse, and Neglect

Children with no parent in the labor force and those with an unemployed parent were at significantly higher risk of Harm Standard maltreatment compared to those whose parents were employed. An estimated 15.9 per 1,000 children with an unemployed parent suffered some form of Harm Standard maltreatment. This rate is

more than 2 times the rate for children with an employed parent (7.6 children per 1,000). The rate for children with no parent in the labor force (22.6 children per 1,000) is almost 3 times the rate for children an employed parent.

Children with no parent in the labor force were also more likely to suffer Harm Standard abuse than those with employed parents. The rate for children with no parent in the labor force is more than 2 times that of children with employed parents (9.6 per 1,000 versus 3.9 per 1,000).

The incidence of overall Harm Standard neglect is significantly higher among children with an unemployed parent and those with no parent in the labor force. Children with an unemployed parent had almost 3 times greater risk of suffering Harm Standard neglect compared to children with employed parents (12.1 versus 4.1 children per 1,000), and children with no parent in the labor force had more than 3 times greater risk than children with employed parents (14.8 versus 4.1 children per 1,000).

Specific Categories of Harm Standard Abuse

Rates of specific categories of Harm Standard physical and sexual abuse did not statistically differ in relation to parents' employment. However, children with no parent in the labor force had a higher rate of emotional abuse than those with employed parents (2.9 versus 1.2 children per 1,000), a statistically marginal difference.

Specific Categories of Harm Standard Neglect

All three specific categories of Harm Standard neglect evidenced significant differences related to parents' employment.

Physical neglect. Children with employed parents had a significantly lower rate of Harm Standard physical neglect (1.4 children per 1,000) compared to those in the other groups. The rate for children with no parent in the labor force is more than 4 times higher than the rate for children with employed parents (6.1 versus 1.4 children per 1,000), while the rate for children with unemployed parents (5.6 per 1,000) is exactly 4 times higher.

Emotional neglect. Children with no parent in the labor force had the highest risk of Harm Standard emotional neglect (4.9 per 1,000), almost 3.5 times higher than the rate for children with an employed parent (1.4 per 1,000), a statistically significant difference. Children with an unemployed parent had nearly 2 times the rate of Harm Standard emotional neglect compared to those with employed parents (2.7 versus 1.4 children per 1,000), which is a statistically marginal difference.

Educational neglect. The incidence of educational neglect was nearly 2.7 times higher for children with no parent in the labor force compared to those with working parents (4.8 versus 1.8 children per 1,000), a significant difference. No other differences in this category are statistically reliable.

Severity of Outcomes from Harm Standard Maltreatment

As Table 5–1 indicates, the incidence of children who were seriously or moderately harmed by Harm Standard maltreatment or for whom harm could be inferred related to their parents' employment status.

Serious harm. Children with an unemployed parent and those with no parent in the labor force suffered serious harm from Harm Standard maltreatment at significantly higher rates (6.9 and 11.0 per 1,000, respectively) compared to children with working parents (3.0 per 1,000).

Moderate harm. Children with no parent in the labor force had more than 2 times the risk of suffering moderate harm from Harm Standard abuse or neglect compared to children whose parents were steadily employed (9.3 versus 4.2 per 1,000). (Although the rate of moderate harm for children with unemployed parents appears almost as large, that estimate is too unreliable for the difference to be statistically meaningful.)

Inferred harm. The incidence of children with inferred harm due to maltreatment was statistically marginally higher for those with no parent in the labor force compared to children with working parents. An estimated 2.2 children per 1,000 with no parent in the labor force experienced maltreatment sufficiently severe to permit

inferring that they were harmed. This was over 7 times the rate of inferred harm for children with employed parents (0.3 children per 1,000, respectively).

5.1.2 Differences in Maltreatment under the Endangerment Standard Related to Parents' Employment Status

Table 5–2 indicates the statistically meaningful differences in incidence rates based on parental employment in all categories of maltreatment and outcome severity.

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

Chapter 3 reported that an estimated 39.5 children per 1,000 nationwide experienced some form of Endangerment Standard maltreatment. That general result is qualified by significant differences in the incidence rates for children depending on their parents' employment status.

Children with no parent in the labor force had the highest rate of Endangerment Standard maltreatment, an estimated 57.7 per 1,000 children. This rate is more than 3 times the rate for children whose parents were working (17.1 per 1,000). Children with an unemployed parent experienced Endangerment Standard maltreatment at more than 2 times that of children with employed parents (39.9 versus 17.1 per 1,000). Both of these differences are statistically significant. The Endangerment Standard maltreatment rate for children with no parent in the labor force was also higher than for children with an unemployed parent (57.7 versus 39.9 per 1,000), a statistically marginal difference.

Children with no parent in the labor force had the highest the incidence of Endangerment Standard abuse (15.2 per 1,000), 2 or more times higher than the rates for children of working parents (5.8 per 1,000) or with an unemployed parent (7.5 per 1,000).

Rates of Endangerment Standard neglect were significantly higher for children whose parents did not have steady work. The estimated incidence of Endangerment Standard neglect was 46.4 per 1,000 children with parent in the labor force, which is 3.6 times the rate of 12.8 per 1,000 children with employed parents. The

rate for children with an unemployed parent is 2.7 times the rate for children whose parents were consistently employed (35.0 versus 12.8 per 1,000).

Table 5–2. Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006) Related to Parents’ Employment				
Endangerment Standard Maltreatment Category	Parent(s) Unemployed	Parent(s) Employed	Parent(s) Not in the Labor Force	Significance of Differences
ALL MALTREATMENT	39.9	17.1	57.7	A, B, c
ABUSE:				
All Abuse	7.5	5.8	15.2	B, C
Physical Abuse	3.5	3.4	7.3	B, c
Sexual Abuse	0.9	1.1	3.7	b, c
Emotional Abuse	4.1	2.3	7.1	B
NEGLECT:				
All Neglect	35.0	12.8	46.4	A, B
Physical Neglect	23.0	6.0	25.5	A, B
Emotional Neglect	19.1	7.4	25.3	A, B
Educational Neglect†	5.8‡	1.8	4.8‡	B
SEVERITY OF HARM:				
Serious	7.3	3.2	11.3	A, B
Moderate	12.1	6.3	15.7	A, B
Inferred	3.0‡	1.1	6.0‡	B
Endangered	17.5	6.5	24.8	A, B
<p>A Difference between “Unemployed” and “Employed” is significant at the $p \leq .05$ level.</p> <p>B Difference between “Employed” and “Not in the Labor Force” is significant at the $p \leq .05$ level.</p> <p>b Difference between “Employed” and “Not in the Labor Force” is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>C Difference between “Unemployed” and “Not in the Labor Force” is significant at the $p \leq .05$ level.</p> <p>c Difference between “Unemployed” and “Not in the Labor Force” is statistically marginal (i.e., $.10 \geq p > .05$).</p> <p>‡ This estimate is less reliable because it derives from fewer than 100 sample children.</p> <p>† Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment.</p>				

Specific Categories of Endangerment Standard Abuse

In the Endangerment Standard, all specific abuse categories revealed statistically meaningful differences in incidence related to parents' employment status.

Physical abuse. Children with no parent in the labor force had the highest rate of Endangerment Standard physical abuse (7.3 per 1,000), more than 2 times the rates for other children. The difference is statistically significant in comparison to children with employed parents (3.4 per 1,000), but it is statistically marginal in comparison to children with an unemployed parent (3.5 per 1,000) because that estimate is slightly less reliable.

Sexual abuse. Children with no parent in the labor force have a notably higher rate of Endangerment Standard sexual abuse (3.7 per 1,000) compared to those with an unemployed parent (0.9 per 1,000) or steadily employed parents (1.1 per 1,000). Both these differences are statistically marginal.

Emotional abuse. Compared to children with employed parents, children with no parent in the labor force had more than 3 times the rate of Endangerment Standard emotional abuse (2.3 versus 7.1 per 1,000, respectively).

Specific Categories of Endangerment Standard Neglect

Significant differences related to parents' employment emerged in all specific categories of Endangerment Standard neglect.

Physical neglect. Children with an unemployed parent were physically neglected at a rate of 23.0 per 1,000, which is almost 4 times the rate of physical neglect for children with employed parents (6.0 children per 1,000). Children who had no parent in the labor force (25.5 per 1,000) were physically neglected at more than 4 times the rate of children with employed parents. Both of these differences are statistically significant.

Emotional Neglect. The differences in rates of Endangerment Standard emotional neglect follow the consistent pattern. Children with an unemployed parent and those with no parent in the labor force suffered maltreatment at the highest rates (19.1

and 25.5 per 1,000, respectively). Their rates are 2.6 and 3.4 times the rate for children with employed parents, respectively, who had lowest rate (7.4 per 1,000). Again, both of these differences are significant.

Educational neglect. The subgroup differences in rates of educational neglect are identical to those given earlier, so the discussion here does not reiterate them.

Severity of Outcomes from Endangerment Standard Maltreatment

As Table 5–2 indicates, parents’ employment significantly related to the incidence of children with all levels of harm from Endangerment Standard maltreatment.

Serious harm. Children with steadily employed parents suffered serious injury or harm from Endangerment Standard maltreatment at a significantly lower rate (3.2 per 1,000) compared to children with an unemployed parent or with no parent in the labor force (7.3 and 11.3, respectively). Compared to children with employed parents, the rate of serious harm for children with an unemployed parent is 2.3 times higher, and the rate for children with no parent in the labor force is 3.5 times higher.

Moderate harm. The incidence of moderate harm from Endangerment Standard abuse or neglect was almost 2 times higher among children with an unemployed parent compared to the incidence among children whose parents were employed (12.1 versus 6.3 children per 1,000). Children with no parent in the labor force were 2.5 times more likely to be moderately harmed by Endangerment Standard maltreatment compared to those with employed parents (15.7 versus 6.3 children per 1,000). Again, both differences are significant.

Inferred harm. The incidence of children with inferred harm from Endangerment Standard maltreatment was significantly greater for those with no parent in the labor force than for those with employed parents. An estimated 6.0 per 1,000 children with no parent in the labor force experienced maltreatment of a type sufficiently severe that harm could be inferred. This was almost 4.5 times the rate of 1.1 per 1,000 children with working parents.

Endangered. The estimated incidence of children endangered but not yet harmed by abuse or neglect differed significantly in relation to their parents' employment. The rates of endangerment for children with an unemployed parent (17.5 per 1,000) and for children with no parent in the labor force (24.8 per 1,000) were both significantly higher than the rate for children with employed parents (6.5 children per 1,000); both of these differences are statistically significant.

5.2 Differences in the Incidence of Maltreatment Related to Socioeconomic Status (SES)

The NIS–4 collected data on several indicators of economic well-being or socio-economic status: household income, household poverty-related program participation,⁶² and parents' education. However, initial analyses revealed that majorities of the countable NIS–4 children were missing data on these measures.⁶³ In order to minimize missing values, final analyses used a composite measure of family socioeconomic status (SES) that integrated any available information across these three measures.⁶⁴ The composite measure defined children to be in families of low economic status (low SES) if they were in the bottom tier on any indicator: household income was below \$15,000 a year, parents' highest education level was less than high school, or any household member participated in a poverty-related program.^{65,66}

⁶² Study data forms asked whether anyone in the child's household was participating in any poverty-related program. Instructions defined poverty-related programs to include subsidized school breakfasts or lunches, Temporary Assistance for Needy Families (TANF), food stamps, public housing, energy assistance, and public assistance.

⁶³ Household income was missing for 68% of the children who experienced Harm Standard maltreatment and for 66% of those who experienced Endangerment Standard maltreatment. Household poverty program participation was missing for 58% of children who were countable under the Harm Standard and 54% of those countable under the Endangerment Standard. Information about parents' education was missing for 76% of children who were countable under the Harm Standard and 77% of those whose maltreatment fit the Endangerment Standard.

⁶⁴ This hybrid measure integrates information at the household and family levels. It is termed "family socioeconomic status" for purposes here, since a family-level measure (parents' education) is the lowest level in the combined index. The index assumes that if either household income or poverty-program participation indicates low socioeconomic status then this status applies to all families living in the household.

⁶⁵ Although this strategy reduced the percentage of children with missing data to just under 50%, the composite low socioeconomic status measure was still missing for those children who were missing data on all three component measures: 48% of children who experienced Harm Standard maltreatment and 45% of those who suffered Endangerment Standard maltreatment. Missing data can bias NIS findings if
(Footnote continues on next page.)

Analyses of changes in this composite measure since the NIS–3 were not possible because the NIS–3 did not obtain information about household poverty program participation and parental education.

5.2.1 Differences in Harm Standard Maltreatment Related to Socioeconomic Status (SES)

As Table 5–3 reveals, household SES was significantly related to incidence rates in all categories of Harm Standard maltreatment and levels of outcome severity.

Overall Harm Standard Maltreatment, Abuse, and Neglect

Children in families of low SES were at significantly greater risk of Harm Standard maltreatment overall. An estimated 22.5 children per 1,000 children in low-SES families experienced Harm Standard maltreatment, which is more than 5 times the rate of 4.4 per 1,000 children in families that were not of low SES.

Children in families of low SES were also at significantly greater risk of Harm Standard abuse. An estimated 7.7 children per 1,000 children in low-SES families experienced Harm Standard abuse compared to 2.5 per 1,000 children not in low-SES

(Continued from previous page.)

the cases that are missing information are predominantly in a specific subgroup, since that would cause NIS to systematically underestimate the incidence of maltreatment in that subgroup. To gauge the robustness of the findings on socioeconomic status, hypothetical analyses examined the worst-case scenario regarding the potential bias of the missing data, by allocating *all* the children still missing values on this measure to the higher socioeconomic category (i.e., the subgroup with lower incidence rates across all maltreatment categories). Statistically significant differences remained for half of the maltreatment categories under both the Harm and Endangerment Standards. Specifically, the hypothetical subgroups still differed, under both definitional standards, in the incidence of all maltreatment, emotional abuse, all neglect, physical neglect, emotional neglect, and serious harm. In addition, the hypothetical subgroups differed significantly in their rates of experiencing moderate harm and endangerment from Endangerment Standard maltreatment.

⁶⁶ Calculations of incidence rates used the following population denominators, in thousands: 19,750 children in families of low socioeconomic status and 53,885 children not in families of low socioeconomic status (U.S. Census Bureau, 2008a, 2008b, 2008c).

families. The incidence rate for children in low-SES families is more than 3 times the rate for children not in low-SES families.

Children in families of low SES had a significantly higher rate of Harm Standard neglect than those not in low-SES families (16.1 versus 2.2 per 1,000 children, respectively). Thus, the risk of Harm Standard neglect for children in low-SES families was over 7 times the risk for children not in families of low SES.

Table 5–3. Differences Related to Family Socioeconomic Status in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006)*		
Harm Standard Maltreatment Category	Children not in low SES Families	Children in Low SES Families
ALL MALTREATMENT	4.4	22.5
ABUSE:		
All Abuse	2.5	7.7
Physical Abuse	1.5	4.4
Sexual Abuse	0.6	1.7
Emotional Abuse	0.5	2.6
NEGLECT:		
All Neglect	2.2	16.1
Physical Neglect	0.8	6.9
Emotional Neglect	0.8	3.8
Educational Neglect [†]	1.0	7.1
SEVERITY OF HARM:		
Serious	1.7	9.9
Moderate	2.4	11.7
Inferred	0.2 [‡]	0.9
<p>* All differences are significant at $p \leq .05$.</p> <p>[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment.</p> <p>[‡] This estimate is less reliable because it derives from fewer than 100 sample children.</p>		

Specific Categories of Harm Standard Abuse

The NIS–4 found significant socioeconomic status differences in all categories of Harm Standard abuse: physical, sexual, and emotional.

Physical abuse. Children in families of low SES were at significantly higher risk of Harm Standard physical abuse compared to children not in low-SES families (4.4 versus 1.5 per 1,000, respectively). The incidence rate for children in low-SES families is almost 3 times the rate for children not in low-SES families.

Sexual abuse. Children in families of low socioeconomic status also experienced a significantly higher risk of Harm Standard sexual abuse. The estimated incidence rate for children in low-SES families was 1.7 per 1,000 children, which is more than 2 times the rate of 0.6 children per 1,000 children not in low-SES families.

Emotional abuse. The incidence of emotional abuse for children in low-SES families was more than 5 times the rate for children not in families of low SES (2.6 versus 0.5 children per 1,000, respectively).

Specific Categories of Harm Standard Neglect

The socioeconomic subgroups had significantly different incidence rates in all specific categories of Harm Standard neglect.

Physical neglect. Children in low-SES families had a significantly higher rate of Harm Standard physical neglect compared to those not in families of low SES. The risk of physical neglect for children in families of low SES is over 8 times the rate for children not in families of low SES (6.9 versus 0.8 per 1,000 children, respectively).

Emotional neglect. Children in families of low SES had a significantly higher risk of Harm Standard emotional neglect. The estimated incidence rate in families of low SES was 3.8 children per 1,000 compared to 0.8 per 1,000 children not in families of low SES. The incidence rate for children in low-SES families is more than 4 times the rate for children not in low-SES families.

Educational neglect. Children in families of low SES were over 7 times more likely to experience educational neglect than children not in families of low SES. The incidence of educational neglect was 7.1 per 1,000 children in low-SES families, whereas the rate was 1.0 per 1,000 children not in low-SES families.

Severity of Outcomes from Harm Standard Maltreatment

Socioeconomic status was significantly related to incidence in three levels of outcomes due to Harm Standard maltreatment: serious, moderate, and inferred harm.

Serious harm. Children in families of low SES had a significantly higher rate of serious injury or harm from Harm Standard maltreatment compared to children not in low-SES families. The incidence rate for children in families of low SES was 9.9 per 1,000 children, which is more than 5 times the rate of 1.7 per 1,000 children not in low-SES families.

Moderate harm. The incidence of children moderately harmed by Harm Standard maltreatment was 11.7 per 1,000 children in low-SES families, compared to 2.4 per 1,000 children not in low-SES families. The incidence of moderate injury or harm for children in families of low SES is nearly 5 times the rate for children not in families of low socioeconomic status.

Inferred harm. Children in families of low SES were more than 4 times more likely than those in families not of low SES to experience maltreatment sufficiently severe that harm could be inferred (0.9 versus 0.2 per 1,000 children, respectively).

5.2.2 Differences in Endangerment Standard Maltreatment Related to Socioeconomic Status (SES)

The two socioeconomic subgroups differed significantly in their risk of maltreatment under the less stringent Endangerment Standard, as Table 5–4 shows. Significant differences in incidence rates emerged for all Endangerment Standard categories of abuse and neglect and the four levels of outcome severity.

Table 5–4. Differences Related to Family Socioeconomic Status in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006)*		
Endangerment Standard Maltreatment Category	Children not in Low-SES Families	Children in Low-SES Families
ALL MALTREATMENT	9.5	55.1
ABUSE:		
All Abuse	3.6	12.1
Physical Abuse	2.2	6.5
Sexual Abuse	0.7	2.4
Emotional Abuse	1.0	5.5
NEGLECT:		
All Neglect	6.7	46.5
Physical Neglect	3.1	27.0
Emotional Neglect	4.0	23.5
Educational Neglect [†]	1.0	7.1
SEVERITY OF HARM:		
Serious	1.8	10.3
Moderate	3.5	18.7
Inferred	0.7	3.4
Endangered	3.5	22.6
* All differences are significant at $p \leq .05$.		
[†] Educational neglect is identical under the Harm and Endangerment Standards. It is included in both tables because it is in the summary categories in both standards: All Neglect and All Maltreatment.		

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

Children in low-SES families were at significantly higher risk of Endangerment Standard maltreatment overall compared to children not in families of low SES. An estimated 55.1 children per 1,000 children in families of low SES experienced one or more categories of Endangerment Standard maltreatment, which is more than 5 times the rate of 9.5 per 1,000 children not in families of low SES.

The incidence rate of Endangerment Standard abuse for children in families of low SES is more than 3 times the rate for children not in families of low SES (12.1 versus 3.6 per 1,000 children, respectively).

Children in families of low SES had a significantly higher rate of Endangerment Standard neglect than children not in families of low SES. The estimated incidence rate for children in low-SES families was 46.5 children per 1,000 children, which is almost 7 times the rate of 6.7 per 1,000 children not in low-SES families.

Specific Categories of Endangerment Standard Abuse

The NIS–4 found that children in families in the lowest socioeconomic tier had significantly higher risk in all three categories of Endangerment Standard abuse: physical, sexual, and emotional.

Physical abuse. Children in families of low SES had a significantly higher risk of Endangerment Standard physical abuse. Their estimated incidence rate, 6.5 per 1,000 children, was 3 times the rate of 2.2 per 1,000 for children not in low-SES families.

Sexual abuse. Children in families of low SES had a significantly higher rate of Endangerment Standard sexual abuse (2.4 children per 1,000) compared to children not in families of low SES (0.7 per 1,000 children). Thus, the incidence rate for children in families of low SES is more than 3 times the rate for children not in families of low SES.

Emotional abuse. The incidence of Endangerment Standard emotional abuse for children in low-SES families was more than 5 times the rate for children not in families of low socioeconomic status (5.5 versus 1.0 per 1,000 children, respectively).

Specific Categories of Endangerment Standard Neglect

Differences between the socioeconomic groups were significant in all three categories of Endangerment Standard neglect.

Physical neglect. Children in families of low SES were significantly more likely to experience Endangerment Standard physical neglect than children not in low-SES families. The risk of physical neglect for children in families of low SES was over 8 times that of children not in families of low socioeconomic status (27.0 per 1,000 children compared to 3.1 per 1,000 children not in families of low SES).

Emotional neglect. Children in families of low SES had a significantly higher rate of Endangerment Standard emotional neglect, 23.5 children per 1,000, compared to 4.0 children per 1,000 children not in families of low SES. Children in low-SES families were more than 5 times more likely to experience emotional neglect than children not in families of low SES.

Educational neglect. The subgroup differences in rates of educational neglect are identical to those given earlier, so information is not reiterated here.

Severity of Outcomes from Endangerment Standard Maltreatment

The NIS–4 revealed significant differences related to family socioeconomic status in the incidence of four levels of outcomes from Endangerment Standard maltreatment: serious harm, moderate harm, inferred harm, and endangered.

Serious harm. An estimated 10.3 per 1,000 children in families of low SES experienced serious harm from Endangerment Standard maltreatment, which is more than 5 times the rate for children not in families of low SES (1.8 children per 1,000).

Moderate harm. Children in families of low SES experienced a significantly higher risk of moderate harm from Endangerment Standard maltreatment (18.7 versus 3.5 children per 1,000). Thus, children in families of low SES were more than 5 times more likely to experience moderate harm from Endangerment Standard maltreatment than children not in low-SES families.

Inferred harm. The incidence of Endangerment Standard maltreatment for children in families of low SES was almost 5 times the rate for children not in families of low SES (3.4 versus 0.7 per 1,000 children, respectively).

Endangered. Children in families of low SES were significantly more likely to be endangered, but not yet harmed, by maltreatment. The incidence of endangerment for children in families of low SES was 22.6 per 1,000 children, which is more than 6 times the rate of 3.5 per 1,000 children whose families were not of low SES.

5.3 Differences in the Incidence of Maltreatment Related to Family Structure and Living Arrangement

This section presents differences in the incidence of child maltreatment related to the combination of family structure and parents' living arrangement, including the number of parents in the household, their relationship to the child, and their marital or cohabitating status.

The definition of parent follows that used by the U.S. Census Bureau, which includes birth parents, adoptive parents, and stepparents. Children may live with two parents, one parent, or neither parent. In two-parent households, parents can be both biologically related to the child or one or both may have another legal parental relationship to the child (e.g., adoptive parent, step-parent). A child may have two unmarried cohabiting parents, biological or with other relationships to the child. A single parent (of any relationship to the child) may or may not have a cohabiting partner. These variations in family structure and living arrangement classified children into six categories: (1) living with two married biological parents, (2) living with other married parents (not both biological but both having a legal parental relationship to the child), (3) living with two unmarried parents (biological or other), (4) living with one parent who had an unmarried partner (not the child's parent) in the household, (5) living with one parent who had no partner in the household, and (6) living with no parent.^{67,68}

⁶⁷ The incidence rate calculations used population denominators derived from the 2005 and 2006 Annual Estimates of the Population (U.S. Census Bureau, 2008a) and the 2007 March Supplement of the Current Population Survey (U.S. Census Bureau, 2008d). Combined information from these three sources indicated that, during the NIS-4 reference periods, an average of 44,799,000 children were living with two married biological parents; 5,152,000 children were living with other married parents; 2,192,000 children were living with two unmarried parents; 2,081,000 children were living with one parent who had an unmarried partner in the household, 16,962,000 children were living with one parent who had no partner in the household, and 2,449,000 children were living with no parent. These groups represent 61%, 7%, 3%, 3%, 23% and 3% of the general child population in the United States, respectively.

5.3.1 Differences in the Incidence of Harm Standard Maltreatment Related to Family Structure and Living Arrangement

Overall Harm Standard Maltreatment, Abuse, and Neglect

Figure 5–1 shows the incidence rates of overall Harm Standard maltreatment, abuse, and neglect for children in the six conditions of family structure and living arrangement.

All maltreatment. Children living with two married biological parents had the lowest rate of overall Harm Standard maltreatment, at 6.8 per 1,000 children. This rate differs significantly from the rates for all other family structure and living arrangement circumstances. Children living with one parent who had an unmarried partner in the household had the highest incidence of Harm Standard maltreatment (57.2 per 1,000). Their rate is more than 8 times greater than the rate for children living with two married biological parents.

The incidence of Harm Standard maltreatment also is significantly higher for children living with one parent and that parent’s unmarried partner than for children in three other conditions: children living with other married parents (24.4 children per 1,000), those living with two unmarried parents (23.5 children per 1,000), and those living with a single parent with no partner in the household (28.4 children per 1,000). The risk of Harm Standard maltreatment for children whose single parent has an unmarried partner is more than 2 times greater than the risk for children living in these other living arrangements.

(Continued from previous page.)

⁶⁸ In each category of maltreatment or level of harm, decisions about the significance of differences relied on the Bonferroni critical values for t. This adjusted for the multiplicity of the comparisons involved. Appendix D gives the details concerning the statistical tests for significance of differences in maltreatment incidence related to family structure and living arrangement.

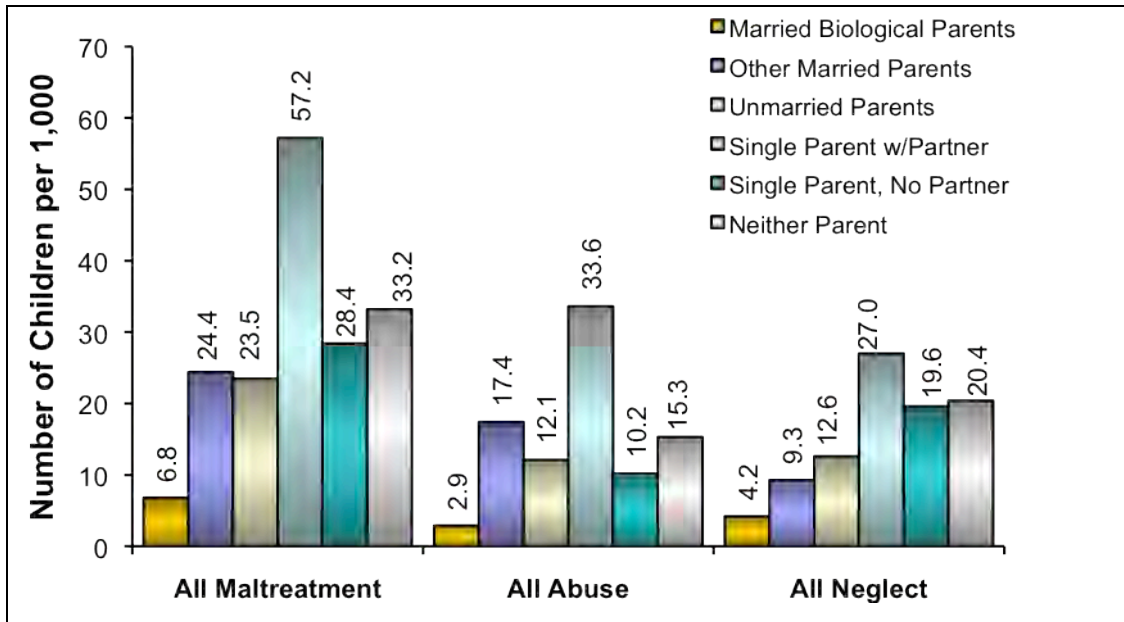


Figure 5–1. Incidence of Harm Standard Maltreatment by Family Structure and Living Arrangement.

Abuse. The rate of Harm Standard abuse for children living with two married biological parents (2.9 children per 1,000) is significantly lower than the rate for children living in all other conditions of family structure and living arrangement (10.2 or more children per 1,000). Again, the highest rate was among children living with just one parent and that parent’s unmarried partner (33.6 per 1,000 children). The rates in the highest and lowest risk groups differ by more than a factor of 11.

The risk of Harm Standard abuse for children whose single parent has an unmarried partner is more than twice that of children in three other circumstances. Their risk is significantly higher than the risks for children living with a single parent who has no cohabiting partner (10.2 per 1,000 children), for children living with two unmarried parents (12.1 per 1,000 children), and for those who live with neither parent (15.3 per 1,000 children). The rate of Harm Standard abuse among children whose single parent lives with an unmarried partner is almost twice the rate for children living with other married parents (33.6 versus 17.4 children per 1,000), a statistically marginal difference.

Children living with other married parents experienced Harm Standard abuse at a significantly higher rate than those living with a single parent with no partner (17.4 versus 10.2 children per 1,000).

Neglect. The pattern of group differences is somewhat different for the incidence of Harm Standard neglect. Children living with just one parent, under any living arrangement, had significantly higher rates of Harm Standard neglect (27.0 and 19.6 per 1,000 children) than those living with two married biological parents (4.2 per 1,000 children). The estimated rates in the single-parent conditions are more than 4 times the rate among children living with their married biological parents. Also, children whose single parent had no partner had a significantly higher Harm Standard neglect rate than children living with other married parents (19.6 versus 9.3 children per 1,000).

In addition, children living with their two married biological parents experienced Harm Standard neglect at a lower rate than children with other married legal parents, children with unmarried parents, and children living with neither parent (4.2 versus 9.3, 12.6, and 20.4 children per 1,000, respectively), although these differences are statistically marginal.

Specific Categories of Harm Standard Abuse

Physical abuse.⁶⁹ As Figure 5–2 shows, the incidence of Harm Standard physical abuse was significantly lower for children living with two married biological parents compared to children living in all other conditions. An estimated 1.9 per 1,000 children living with two married biological parents suffered Harm Standard physical abuse, compared to 5.9 or more per 1,000 children in other circumstances. In addition, children whose single parent had an unmarried, live-in partner were at significantly higher risk of Harm Standard physical abuse (19.5 children per 1,000) compared to children in 4 other arrangements: children whose single parent had no partner in the home (5.9 children per 1,000), children with other married parents (9.8 children per 1,000), children with unmarried parents (8.2 children per 1,000), and children living with no parent (6.8 children per 1,000).

⁶⁹ The estimate for children who lived with neither parent is less reliable, as it derives from fewer than 100 sample children.

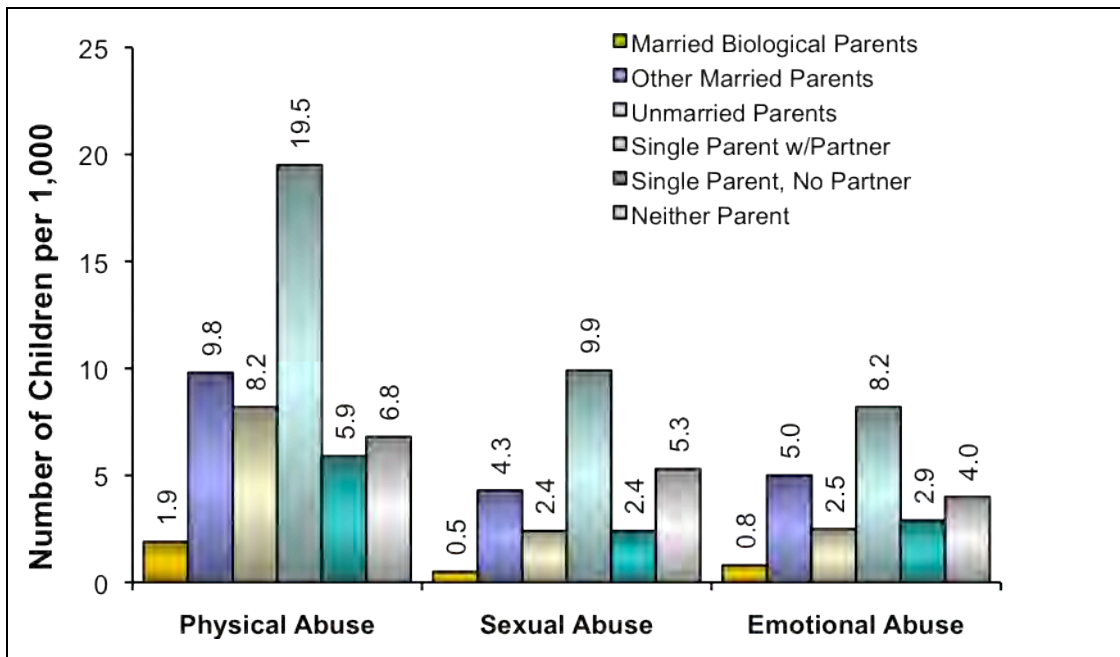


Figure 5–2. Incidence of Harm Standard Abuse by Family Structure and Living Arrangement.

The rate of Harm Standard physical abuse was also higher for children in homes with other married parents than for children living with a single parent who had no cohabiting partner (9.8 versus 5.9 children per 1,000), a statistically marginal difference.

Sexual abuse.⁷⁰ Children living with two married biological parents were sexually abused at a significantly lower rate (0.5 per 1,000) than children living in all but one of the other conditions. The exception is children living with unmarried parents whose incidence rate of sexual abuse does not differ from that of children living with married biological parents.

In addition, children living with a single parent who had no cohabiting partner had a lower sexual abuse rate than children living with other married parents and than children living with a single parent with a partner in the home (2.4 versus 4.3 and 9.9 children per 1,000, respectively), both statistically marginal differences.

⁷⁰ Estimates for children living with unmarried parents and for children living with neither parent are less reliable because each derives from fewer than 100 sample children.

Emotional abuse.⁷¹ Only three significant differences emerged in emotional abuse rates. Children living with other married parents and those living with a single parent, whether with or without a partner, were emotionally abused at significantly higher rates than those living with two married biological parents (2.9 or more children per 1,000 versus 0.8 children per 1,000, respectively). The rates differ by a factor of more than 3; the highest rate, for children whose single parent lived with a partner, is more than 10 times greater than the lowest rate, for children living with two married biological parents.

Specific Categories of Harm Standard Neglect

Physical neglect.⁷² Figure 5–3 indicates that the rate of Harm Standard physical neglect was 1.8 per 1,000 for children living with two married biological parents, compared to rates of 6.3 per 1,000 for children living with two unmarried parents, 6.5 or more per 1,000 for children living with one parent, and 9.1 per 1,000 for children with no parent. All these differences are statistically significant.

Emotional neglect.⁷³ Children living with other married parents and those living with one parent (with or without a cohabiting partner) had significantly higher rates of emotional neglect than children living with two married biological parents. An estimated 3.9 per 1,000 children living with other married parents suffered Harm Standard emotional neglect, as did 10.9 per 1,000 children living with one parent with an unmarried partner and 4.9 per 1,000 children living with one parent without a partner, compared to just 0.9 per 1,000 children with two married biological parents. Compared to the Harm Standard emotional neglect rate for children with two married biological parents, the rate for children whose single parent had a cohabiting partner is 12 times

⁷¹ Estimates are less reliable for children living with unmarried parents, those whose single parent had a cohabiting partner, and those who lived with neither parent, as each derives from fewer than 100 sample children.

⁷² Estimates are less reliable for children with other married parents, those whose single parent had no partner, and those who lived with neither parent, since each relies on fewer than 100 sample children.

⁷³ Estimates are less reliable for children with other married parents, those living with unmarried parents, those whose single parent had a partner, and those who lived with neither parent, since each relies on fewer than 100 sample children.

higher, the rate for children whose single parent had no partner is more than 5 times higher, and the rate for children with other married parents is over 4 times higher.

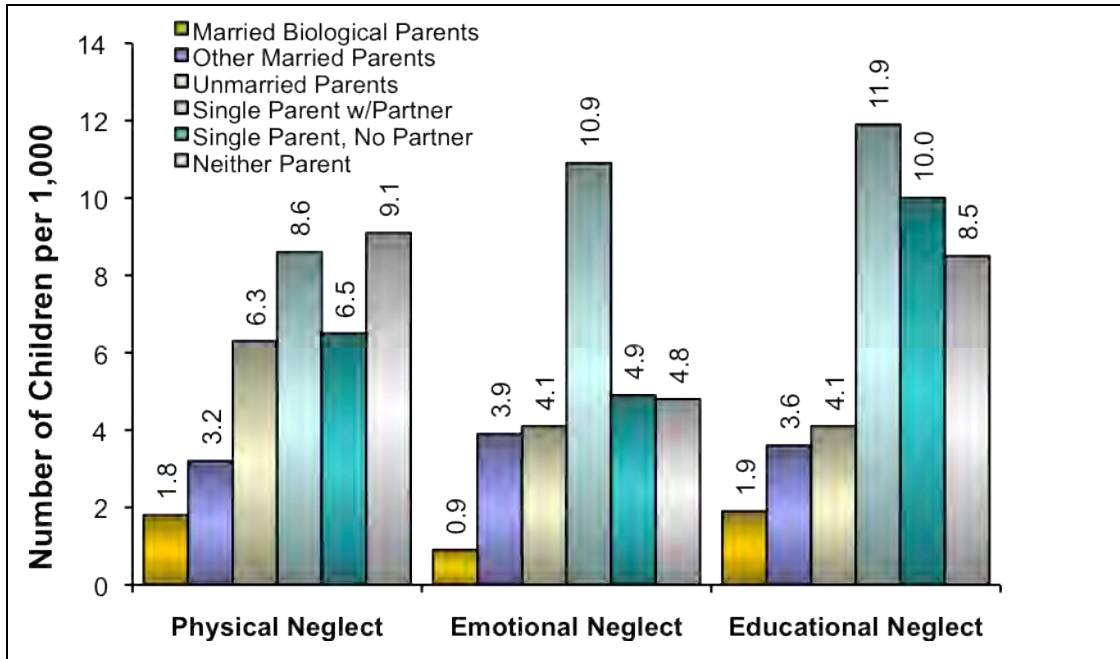


Figure 5–3. Incidence of Harm Standard Neglect by Family Structure and Living Arrangement.

Educational neglect.⁷⁴ The incidence of educational neglect for children living with one parent without a partner was more than 6 times higher than the rate for children living with two married biological parents (11.9 versus 1.9 children per 1,000), a significant difference.

Severity of Outcomes from Harm Standard Maltreatment

Figure 5–4 shows significant differences in three levels of severity of harm attributable to Harm Standard maltreatment.

⁷⁴ Estimated rates of educational neglect and of Harm Standard emotional neglect are unreliable for the same family structure and living arrangement conditions.

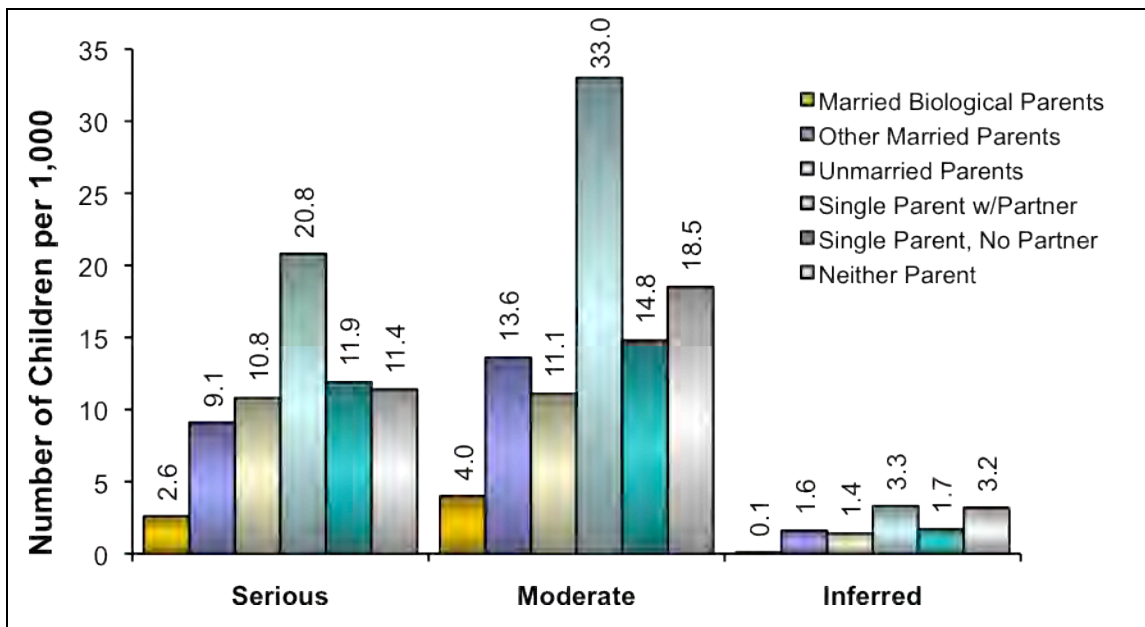


Figure 5–4. Incidence of Outcomes from Harm Standard Maltreatment by Family Structure and Living Arrangement.

Serious harm. The incidence of children who suffered serious harm due to Harm Standard maltreatment was significantly lower for children living with two married biological parents (2.6 per 1,000 children) compared to children living with parents under all other circumstances (9.1 or more children per 1,000).

Children living with a single parent who had a cohabiting partner had more than 2 times the risk of suffering serious harm compared to children living with other married parents (20.8 versus 9.1 per 1,000 children), a statistically marginal difference.

Moderate harm. Children living with their married biological parents had a significantly lower rate of moderate harm from Harm Standard maltreatment compared to children in any other condition. The highest risk of moderate harm was among children who lived with one parent who had an unmarried partner (33.0 children per 1,000); their risk was 8 times higher than that of children who lived with their married biological parents, a considerable rate differential. Additionally, the rate of moderate harm for children whose single parent was cohabiting with a partner was significantly higher compared to the rates for children with other married parents and for children with unmarried parents (33.0 versus 11.1 or more children per 1,000). Children living with one parent with a cohabiting partner experienced moderate harm from Harm Standard

maltreatment at a reliably higher rate than those living with one parent without a partner (33.0 versus 14.8 children per 1,000), a statistically marginal difference.

Inferred harm.⁷⁵ Although the rates of this outcome appear small, the relative differences across the subgroups are considerable and statistically reliable. Children living in any circumstance other than with their two married biological parents had significantly higher risks of inferred harm from Harm Standard maltreatment compared to children living with their two married biological parents. Consistent with the patterns for other categories of maltreatment and outcome, the highest risk was for children whose single parent had an unmarried partner (3.3 per 1,000). These children experienced maltreatment that warranted the inference they were harmed at 33 times the rate of children living with two married biological parents.

Changes since the NIS–3 in the Distribution of Harm Standard Maltreatment Related to Family Structure

The NIS–3 did not obtain information about marital status or the presence of an unmarried partner, so analyses could only assess changes in the incidence of Harm Standard maltreatment in relation to whether one or two parents were present in the household. Further, because the NIS–3 included too few sample children who lived with neither parent to provide reliable estimates for most maltreatment categories,⁷⁶ the between-study analyses compared changes in maltreatment rates for two categories of children: those living with two parents and those living with a single parent.⁷⁷

Harm Standard maltreatment. Figure 5–5 shows significant changes since the NIS–3 in the overall incidence of Harm Standard maltreatment in relation to this binary family structure classification. Whereas incidence rates increased for children

⁷⁵ Except for children who lived with a single parent who had no partner, estimates for children in all other conditions are less reliable because each derives from fewer than 100 sample children.

⁷⁶ NIS–3 data include fewer than 100 sample children who meet the Harm Standard requirements. Endangerment Standard estimates in the NIS–4 derive from fewer than 100 sample children in all but two categories: overall maltreatment and all abuse.

⁷⁷ The definition of “parent” here includes step-parents and adoptive parents as well as all biological parents, regardless of their marital status. Appendix E provides the actual estimates and results of the statistical tests.

living with one parent, they decreased for children living with two parents. For children living with a single parent, the rate of overall Harm Standard maltreatment increased by 30%, abuse increased by 22%, and neglect increased by 36%. At the same time, these rates decreased for children living with both parents, by 39%, 42%, and 33%, respectively.

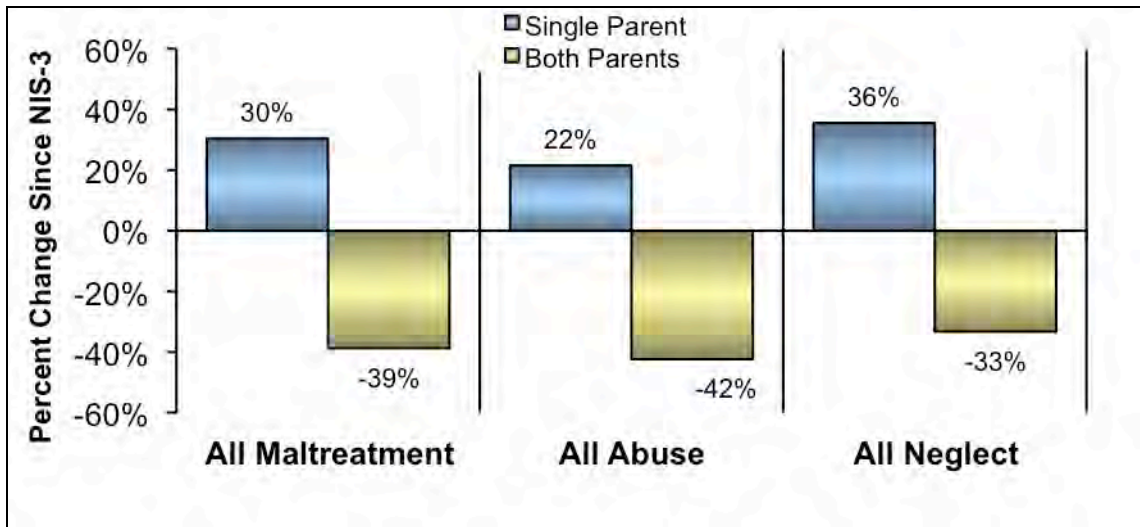


Figure 5–5. Percent Changes since NIS–3 in Rates of Harm Standard Maltreatment, Abuse, and Neglect by Family Structure.

Abuse. Figure 5–6 presents the changes since the NIS–3 in specific categories of Harm Standard abuse that were related to family structure. Family structure was significantly related to the changes in rates of Harm Standard sexual abuse and emotional abuse, while for physical abuse the relationship is statistically marginal. Here again, the figure indicates increased incidence rates for children living with one parent and decreased rates for those living with two parents. Rates of maltreatment for children with one parent increased for Harm Standard physical abuse by 14%, for sexual abuse by 49%, and for emotional abuse by 43%. Rates in these same categories decreased for children living with two parents, by 24% in physical abuse, by 62% in sexual abuse, and by 48% in emotional abuse.

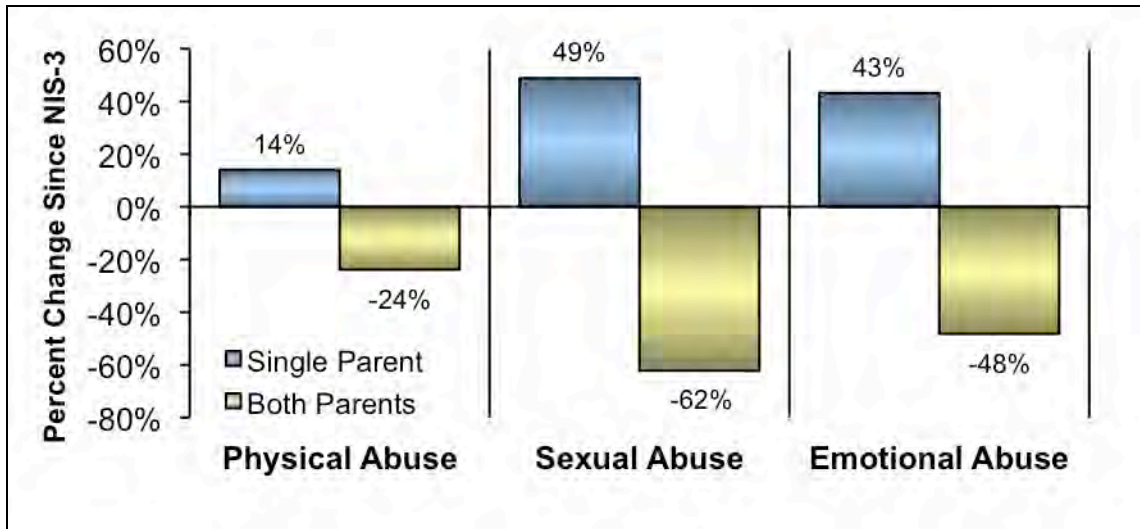


Figure 5–6. Percent Changes since NIS–3 in Rates of Specific Categories of Harm Standard Abuse by Family Structure.

Neglect. Figure 5–7 shows that rates of two specific categories of Harm Standard neglect changed since the NIS–3 in different ways for children living in different family structures. The relationship between family structure and the changes in incidence rates is significant for emotional neglect and statistically marginal for physical neglect. Children with single parents had a 42% higher risk of Harm Standard physical neglect and a 48% higher risk of emotional neglect at the time of the NIS–4 compared to their levels of risk during the NIS–3. Rates in these same categories decreased for children living with both parents, by 28% in physical neglect and by 44% in emotional neglect.

Severity of outcomes from Harm Standard maltreatment. Figure 5–8 displays the changes since the NIS–3 in the incidence of children who suffered serious harm, moderate harm, or inferred harm that differed significantly by family structure. The incidence of children living with single parents who were seriously harmed by Harm Standard maltreatment increased 34%, those moderately harmed increased 25%,

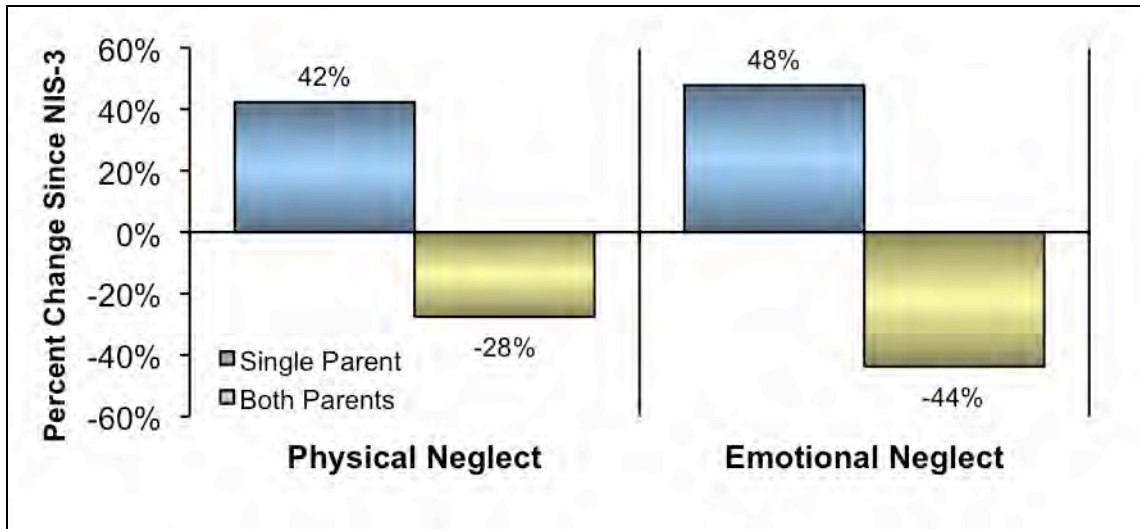


Figure 5-7. Percent Changes since NIS-3 in Rates of Specific Categories of Harm Standard Neglect by Family Structure.

and those who were maltreated in ways that warranted the inference of harm increased by 65%. Opposite changes occurred for children living with both parents: the incidence of children seriously harmed decreased 37%, those moderately harmed decreased 33%, and those whose maltreatment warranted inferred harm decreased 77%.

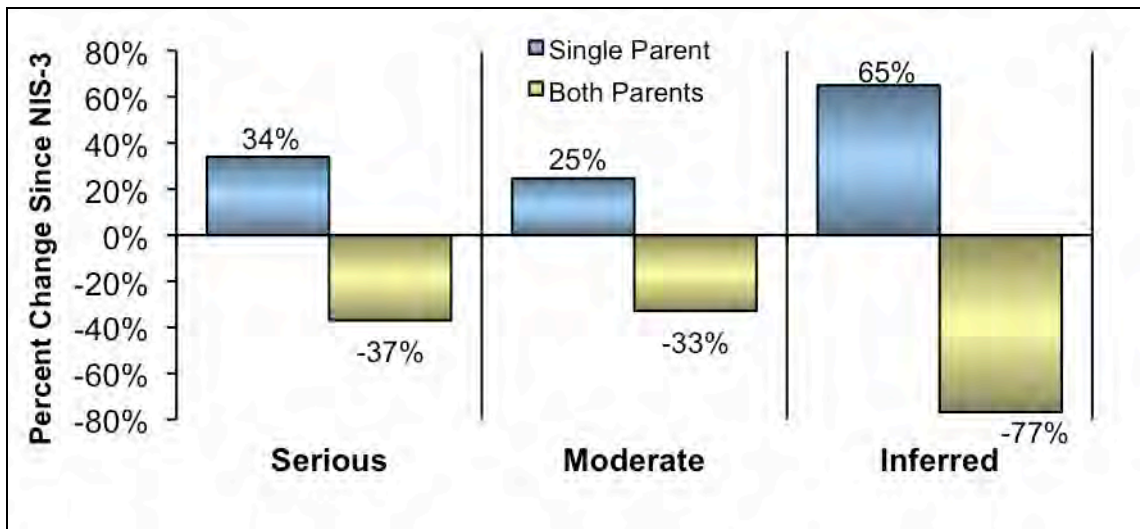


Figure 5-8. Percent Changes since NIS-3 in Severity of Outcomes from Harm Standard Maltreatment by Family Structure.

5.3.2 Differences in the Incidence of Endangerment Standard Maltreatment Related to Family Structure and Living Arrangement

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

All Maltreatment. Figure 5–9 shows the incidence rates of Endangerment Standard maltreatment for the different family structure and living arrangement subgroups. The rate of overall Endangerment Standard maltreatment for children living with two married biological parents (15.8 children per 1,000) is significantly lower than the rates for children in all other circumstances (51.5 or more children per 1,000). Children living with one parent whose unmarried partner was in the household had the highest incidence of Endangerment Standard maltreatment (136.1 children per 1,000). This is equivalent to more than 13 per 100 children, or more than 1 child in 8 whose single parent has a cohabiting partner in the general child population. Their risk of Endangerment Standard maltreatment is more than 8 times higher than that of children living with two married biological parents.

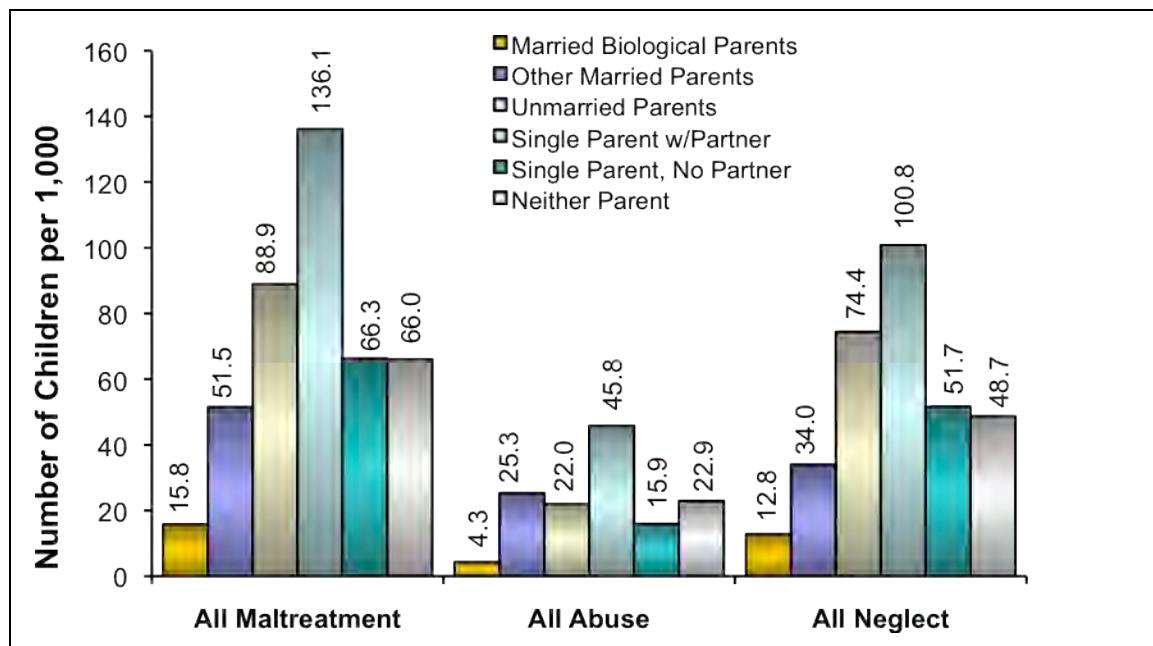


Figure 5–9. Incidence of Endangerment Standard Maltreatment by Family Structure and Living Arrangement.

Children whose single parent cohabited with a partner had significantly higher rates of Endangerment Standard maltreatment compared to children living with other married parents, children with a single parent who had no partner in the home, and children who lived with neither parent. When children had a single parent living with an unmarried partner, their risk of experiencing Endangerment Standard maltreatment was more than twice their risk in these other conditions. In addition, children who lived with two unmarried parents had significantly higher risk of Endangerment Standard maltreatment compared to those who lived with other married parents.

Abuse. Again, children living with two married biological parents had a significantly lower rate of this maltreatment (4.3 per 1,000 children) than those in all other conditions of family structure and living arrangement (15.9 or more per 1,000 children). The highest rate again occurred for children whose single parent had a live-in partner (45.8 per 1,000 children), which is more than 10 times higher than the rate for children with married biological parents. The Endangerment Standard abuse rate for children living with one parent who had a partner was also significantly higher than the rates for children in all the other living arrangements. Moreover, children living with other married parents had significantly higher risk of Endangerment Standard abuse than children living with a single parent who had no partner.

Neglect. The incidence of Endangerment Standard neglect was significantly lower for children living with two married biological parents (12.8 children per 1,000) compared to the risk for children living in all other family structure and living arrangement circumstances (34.0 children or more per 1,000). Children whose single parent had an unmarried partner experienced the highest risk of Endangerment Standard neglect (100.8 children per 1,000), which is nearly 8 times the rate in the lowest risk group.

Children living with one parent with a cohabiting partner had a significantly higher rate of Endangerment Standard neglect than children living with other married parents, children living with a single parent with no partner, and children living with neither parent (100.8 versus 34.0, 51.7, and 48.7 children per 1,000, respectively). The incidence of Endangerment Standard neglect for children living with two unmarried parents is significantly higher than the rate for children living with other married parents (74.4 versus 34.0 children per 1,000).

Specific Categories of Endangerment Standard Abuse

As Figure 5–10 shows, significant differences related to family structure and living arrangement occurred in all specific categories of Endangerment Standard abuse.

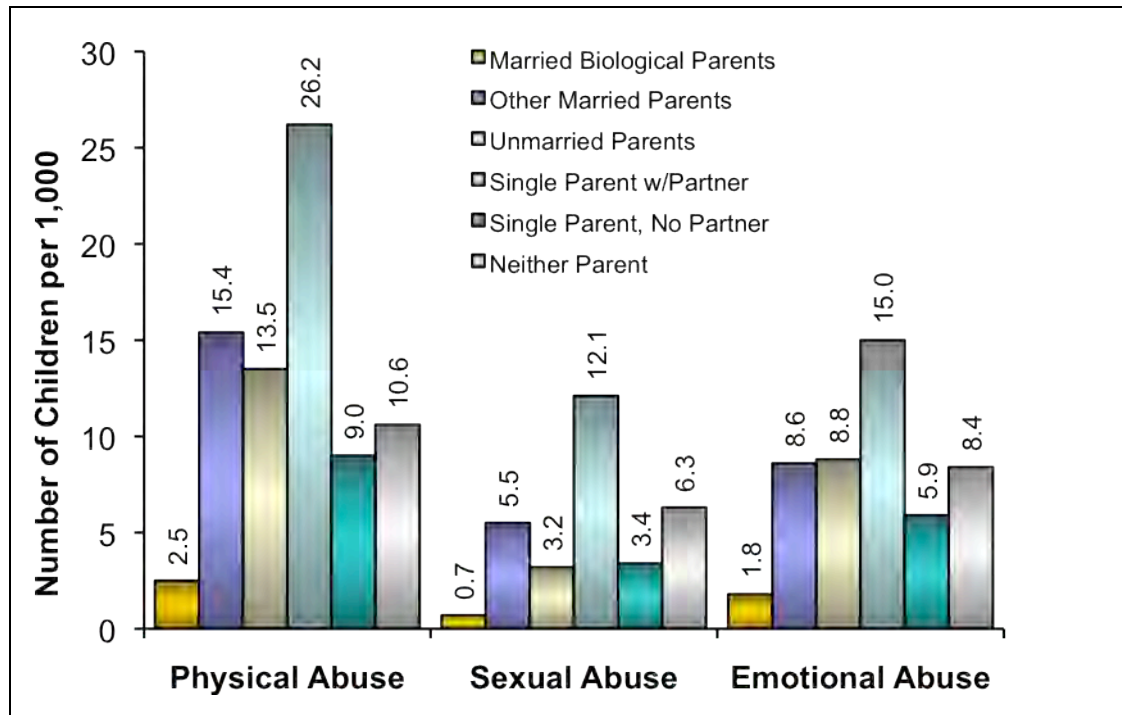


Figure 5–10. Incidence of Endangerment Standard Abuse by Family Structure and Living Arrangement.

Physical abuse. The incidence of Endangerment Standard physical abuse was significantly lower for children living with two married biological parents (2.5 children per 1,000) than for those living in all the other family structures and living arrangements (9.0 or more children per 1,000). Children living with a single parent with an unmarried partner had the highest incidence of physical abuse by far, more than 10 times the lowest rate, and also significantly higher than the rates for children living with other married parents, with unmarried parents, with a single parent without a partner, or with neither parent. In addition, children living with other married parents experienced Endangerment Standard physical abuse at a significantly higher rate than those whose single parent had no live-in partner (15.4 versus 9.0 children per 1,000).

Sexual abuse.⁷⁸ Sexual abuse rates also differed significantly for children living with two married biological parents compared to children living in all but one of the other conditions. The exception is the comparison with children living with unmarried parents, whose rate of sexual abuse does not statistically differ from the rate for children with married biological parents. Only 0.7 per 1,000 children living with two married biological parents were sexually abused, compared to 12.1 per 1,000 children living with a single parent who had an unmarried partner and at least 3.4 per 1,000 children in the other living arrangements with different rates. In addition, children whose single parent lived with a cohabiting partner were at significantly higher risk of Endangerment Standard sexual abuse than those living with two unmarried parents and than those whose single parent had no live-in partner (12.1 versus 3.2 and 3.4 children per 1,000, respectively). Children whose parent had a cohabiting partner were also sexually abused at a higher rate than those with other married parents (12.1 versus 5.5 children per 1,000), a statistically marginal difference.

Emotional abuse.⁷⁹ The subgroups exhibit a similar profile in their rates of Endangerment Standard emotional abuse. This category of maltreatment occurred to 1.8 per 1,000 children who were living with two married biological parents, which is significantly lower than the rates for children living with other married legal parents and for those living with just one parent under any arrangement. The rate of 15.0 per 1,000 children living with a single parent with an unmarried partner is more than 8 times higher than the rate for children with two married biological parents. Children whose single parent had a cohabiting partner were also at significantly higher risk of emotional abuse than those whose single parent had no partner (15.0 versus 5.9 children per 1,000)

Specific Categories of Endangerment Standard Neglect

Figure 5–11 displays the statistically meaningful differences in rates of specific categories of Endangerment Standard neglect related to family structure and living arrangement.

⁷⁸ The estimate for children living with unmarried parents is less reliable because it derives from fewer than 100 sample children.

⁷⁹ The estimate for children living with unmarried parents is less reliable because it derives from fewer than 100 sample children.

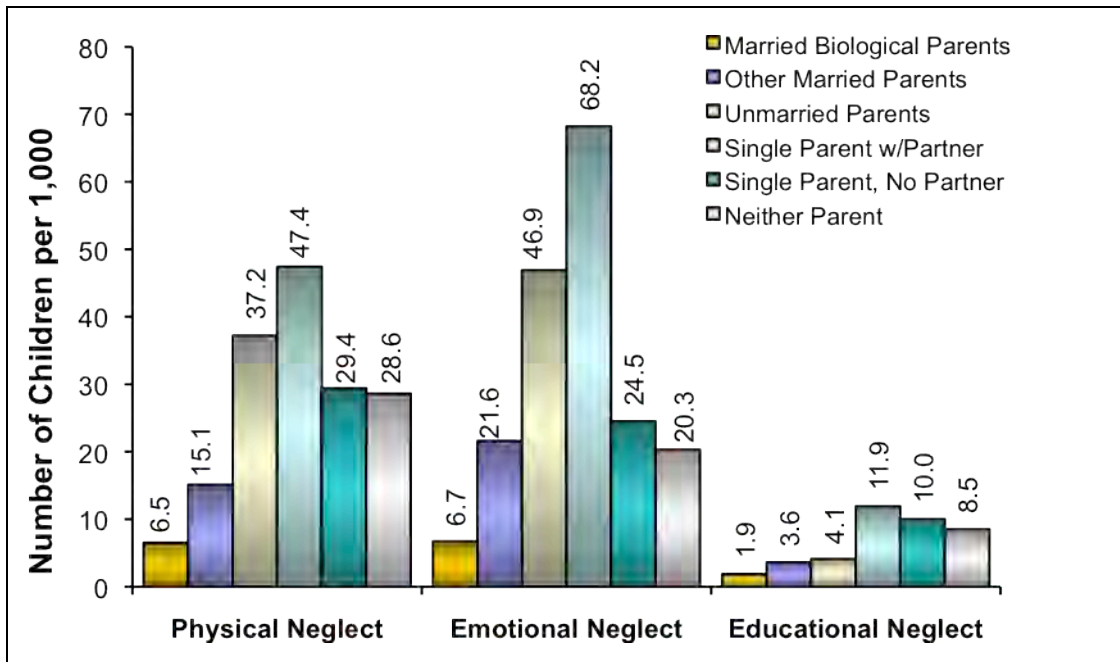


Figure 5–11. Incidence of Endangerment Standard Neglect by Family Structure and Living Arrangement.

Physical neglect. The lowest incidence of Endangerment Standard physical neglect occurred for children living with two married biological parents (6.5 children per 1,000), which is significantly lower than the rates for children in all other living arrangements. The highest rate occurred for children living with a single parent with a cohabiting partner (47.4 children 1,000), which is over 7 times greater than the lowest rate. In addition, the rates of physical neglect for children living with two unmarried parents and for those living with a single parent, with or without an unmarried partner, are significantly higher than that for children living with other married parents.

Emotional neglect. The incidence of emotional neglect was 6.7 per 1,000 children with two married biological parents, which is significantly lower than the rates for children in any other living arrangements (20.3 or more per 1,000 children). Children whose single parent had an unmarried partner again had the highest rate, at 68.2 per 1,000 children, which is a factor of more than 10 times higher than the lowest rate. This rate is also significantly higher than the rates for children in all other conditions. Children whose single parent had a live-in partner also had a significantly higher rate than those with other married parents, those whose single parent had no partner, and those who lived with neither parent. Children living with two unmarried parents had the second-highest

rate of Endangerment Standard emotional neglect (46.9 per 1,000 children), which is significantly higher than the rates in all conditions except that in the highest-risk group (i.e., children whose single parent had a live-in partner).

Educational neglect. Rates of educational neglect are identical under the Harm and Endangerment Standards, so the discussion here does not reiterate those findings.

Severity of Outcomes from Endangerment Standard Maltreatment

Figure 5–12 shows the statistically meaningful differences related to the child’s family structure and living arrangement that emerged in the incidence of different outcomes attributable to Endangerment Standard maltreatment.

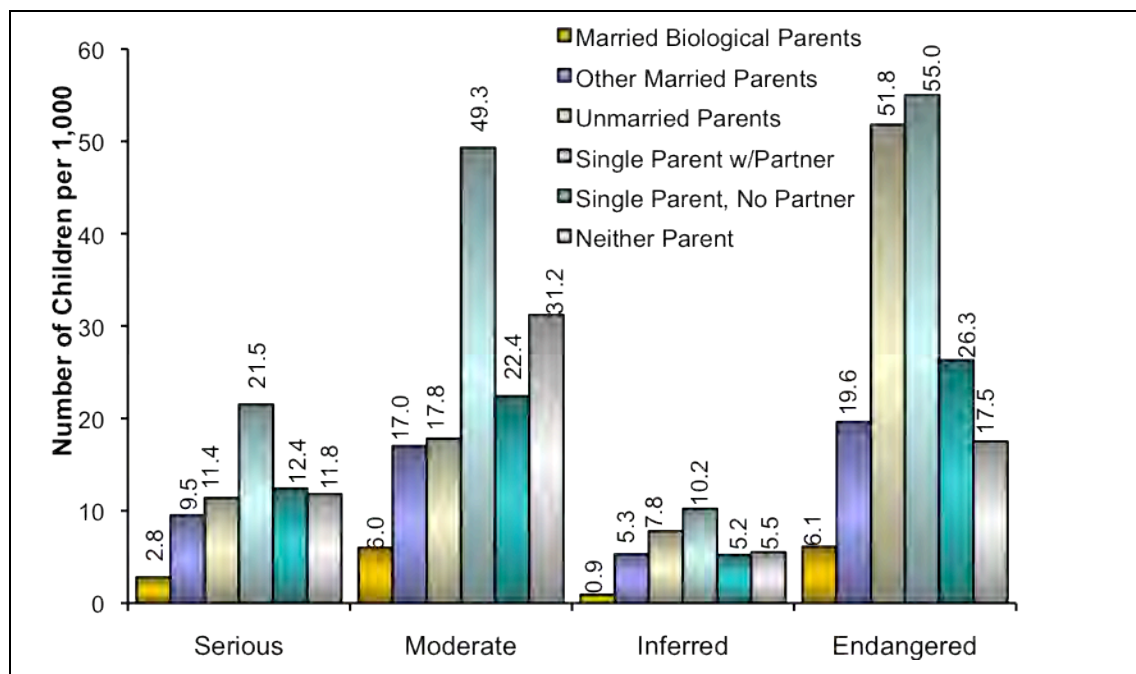


Figure 5–12. Incidence of Outcomes from Endangerment Standard Maltreatment by Family Structure and Living Arrangement.

Serious harm. The incidence of children who suffered serious harm from Endangerment Standard maltreatment was significantly lower among those living with their married biological parents (2.8 children per 1,000), compared to the incidence rates for children living under any other conditions (9.5 children or more per 1,000). Children

living with a single parent who had a cohabiting partner were at the highest risk of serious harm from Endangerment Standard maltreatment (21.5 children per 1,000). Children with a cohabiting single parent were also at higher risk of serious harm from Endangerment Standard maltreatment than children with other married parents (9.5 children per 1,000), but this difference is statistically marginal.

Moderate harm. The incidence of children moderately harmed by Endangerment Standard maltreatment was significantly lower when they lived with married biological parents (6.0 children per 1,000) than under any other family arrangement (17.0 or more children per 1,000). Across these subgroups, the highest rate, for children whose single parent cohabited with a partner (49.3 children per 1,000) is more than 8 times higher than the lowest rate. Children whose single parent had a live-in partner were at significantly higher risk than those living with other married parents and than those living with unmarried parents (17.0 and 17.8 children per 1,000, respectively). Also, children whose single parent had a cohabiting partner had a higher rate of moderate harm from Endangerment Standard maltreatment than those whose single parent had no partner, but this difference was statistically marginal.

Inferred harm.⁸⁰ Risk of experiencing Endangerment Standard maltreatment that permitted the inference of harm was lower for children who lived with two married biological parents (0.9 children per 1,000) compared to those who lived in any other arrangement (5.2 or more children per 1,000). These differences are significant except for the comparison with children living with two unmarried parents (7.8 children per 1,000), where the difference is statistically marginal.

In addition, children living with a single parent who cohabited with a partner had a significantly higher rate of inferred harm from Endangerment Standard maltreatment than those with other married parents, those with a single parent with no partner, and those living with neither parent (5.3, 5.2 and 5.5 children per 1,000, respectively).

⁸⁰ The estimate for children living with unmarried parents is less reliable because it derives from fewer than 100 sample children.

Endangered. The rate of children who were endangered but not yet harmed by Endangerment Standard maltreatment was significantly lower for children living with two married biological parents compared to children living in all other family arrangements (6.1 versus 17.5 or more children per 1,000). The highest rate, 55.0 per 1,000 children who lived with a single parent with partner, is over 9 times the lowest rate. The endangerment rate for children whose single parent had a cohabiting partner is significantly higher than the rate for all except those living with unmarried parents. Children with unmarried parents had a significantly higher rate of endangerment than children in all other conditions except those whose single parent had a cohabiting partner.

Changes since the NIS–3 in the Distribution of Endangerment Standard Maltreatment Related to Family Structure

Changes in Endangerment Standard maltreatment since the NIS–3 significantly related to family structure in all summary categories of maltreatment, all specific categories of abuse, two categories of neglect, and four levels of outcome severity.

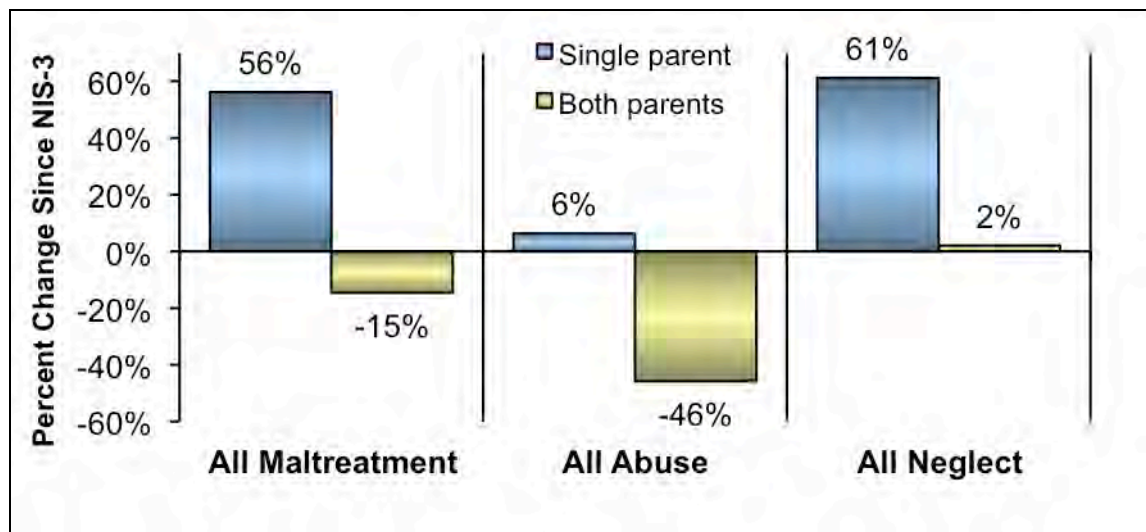


Figure 5–13. Percent Changes since NIS–3 in Rates of Endangerment Standard Maltreatment, Abuse, and Neglect by Family Structure.

Endangerment Standard maltreatment. As Figure 5–13 shows, the rates of overall maltreatment and of neglect increased substantially for children living with one parent (by 56% and 61%, respectively), whereas the rates for children who lived with

both parents showed much smaller changes in those categories (a 15% decrease and 2% increase, respectively). The pattern for changes in rates of Endangerment Standard abuse is somewhat different, however. There, the rate for children in single-parent homes showed negligible change (just a 6% increase), whereas the rate for children living with two parents decreased substantially (by 46%).

Abuse. Figure 5–14, which gives the percent changes in rates for specific abuse categories, demonstrates that the pattern of smaller changes in rates for single-parent children and large rate decreases for two-parent children carries through in all abuse categories. The rates for children in one-parent households increased by 11% in Endangerment Standard physical abuse and by 21% in sexual abuse. The rate of emotional abuse for single-parent children actually decreased by 17%. By contrast, the rates for children in two-parent homes decreased substantially in all abuse categories—physical abuse decreased by 34%, sexual abuse decreased by 60%, and emotional abuse decreased by 55%.

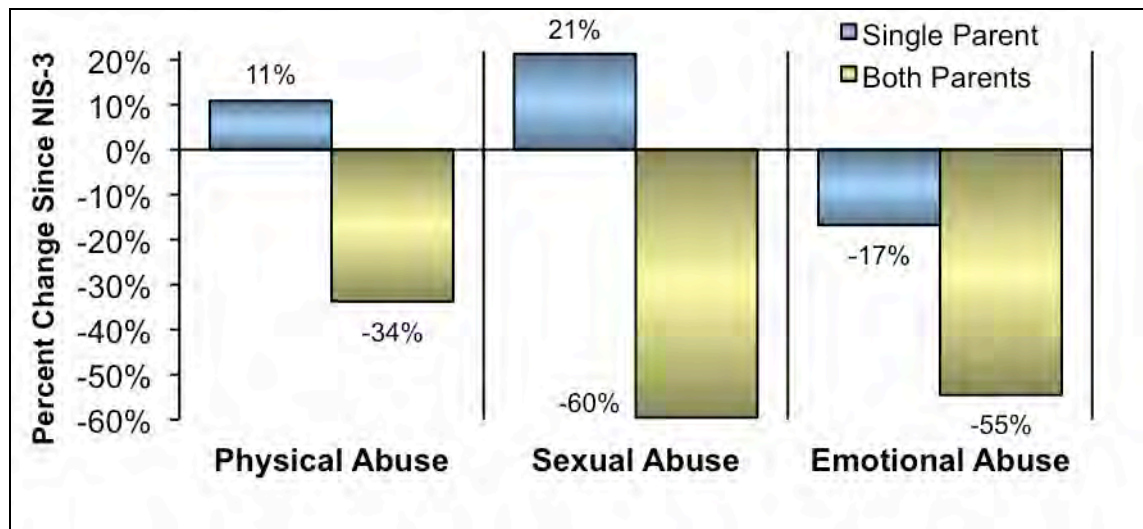


Figure 5–14. Percent Changes since NIS–3 in Rates of Specific Categories of Endangerment Standard Abuse by Family Structure.

Neglect. Figure 5–15 shows that the overall neglect pattern, whereby single-parent children showed a large rate increase and two-parent children showed a lesser increase, only applied to emotional neglect. The rate of Endangerment Standard emotional neglect increased 200% for single-parent children, whereas it increased 58% for two-parent children. The relationship between family structure and changes since NIS–3 in rates of physical neglect was less dramatic, although still statistically

significant. Whereas the rate increased by 21% for single-parent children, it decreased by 18% for children living with two parents.

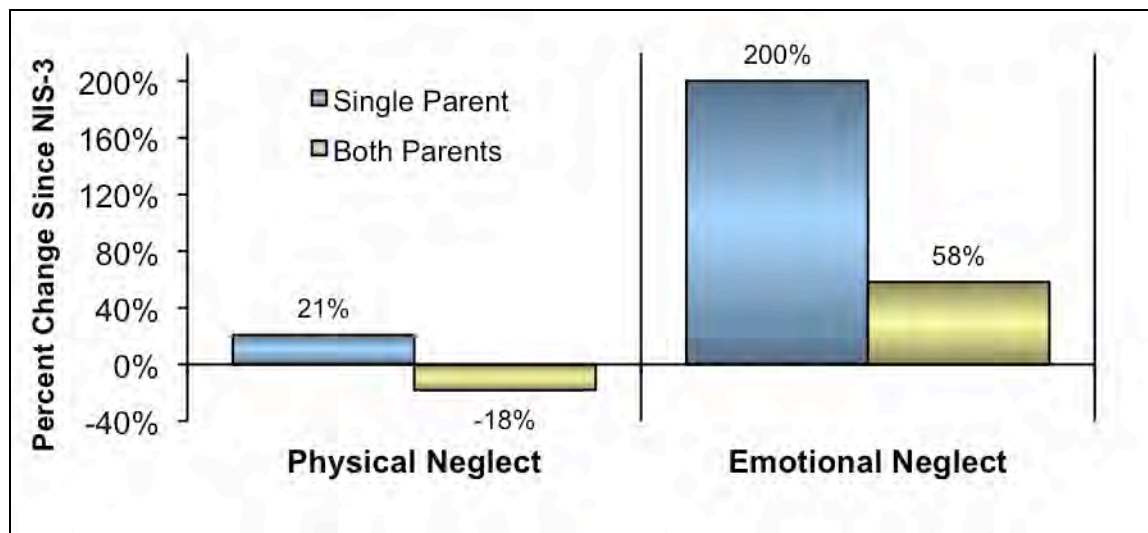


Figure 5–15. Percent Changes since NIS–3 in Rates of Specific Categories of Endangerment Standard Neglect by Family Structure.

Severity of outcomes from Endangerment Standard maltreatment. As Figure 5–16 shows, the changes in the incidence of children with serious harm, moderate harm, and inferred harm from Endangerment Standard maltreatment, and of children who were endangered by their maltreatment differed significantly by family structure. In all cases, the rates for children living with one parent increased. In contrast, the rates for children living with two parents decreased in three outcome categories (serious, moderate, and inferred harm). Although the incidence of endangered two-parent children increased, this rate increase was much smaller than the rate increase for single-parent children in this outcome category (6% versus 50%, respectively).

5.4 Differences in the Incidence of Maltreatment Related to Grandparents as Caregivers

This section describes the relationship between whether or not children had grandparents as caregivers in their household and their incidence of abuse and neglect. The analyses classified children on the basis of whether the information identified a grandparent as a caregiver for the children in the household. The NIS–4 only identified a grandparent as a child’s caregiver under three conditions: when the grandparent was the

child's primary caregiver, when the primary caregiver did not have a spouse or partner and the grandparent was the secondary caregiver, and when the grandparent was a caregiver and maltreated the child.⁸¹ Because the NIS–4 did not exhaustively identify all cases where a maltreated child had a grandparent as caregiver, these findings provide minimum estimates of the rates of child maltreatment in grandparent-caregiver circumstances. Also note that grandparents who are caregivers in these analyses are not necessarily the primary caregivers in the households.

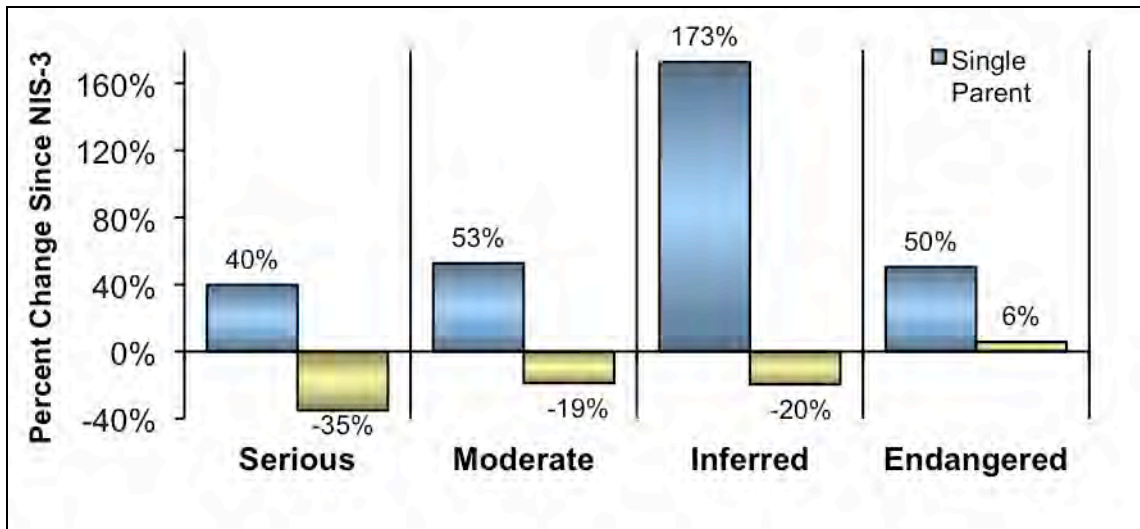


Figure 5–16. Percent Changes since NIS–3 in Severity of Outcomes from Endangerment Standard Maltreatment by Family Structure.

5.4.1 Differences in Harm Standard Maltreatment Related to Grandparents as Caregivers

Table 5–5 shows that two categories of Harm Standard maltreatment—overall abuse and physical abuse—revealed statistically meaningful differences related to whether or not the child had grandparents as caregivers in the household.⁸²

⁸¹ Incidence rate calculations used the following population denominators in thousands: 5,877 children with an identified grandparent as a caregiver and 67,759 children without an identified grandparent (U.S. Census Bureau, 2006).

⁸² Appendix D gives the details concerning the statistical tests for the differences in incidence of maltreatment that relate to whether a grandparent was a caregiver.

Harm Standard abuse. The incidence of overall Harm Standard abuse for children who had a grandparent caregiver was lower than the rate for children with no identified grandparent caregiver (6.1 versus 7.6 children per 1,000), a statistically marginal difference. Children with no identified grandparent caregiver were 1.2 times more likely to experience Harm Standard abuse than children who had a grandparent caregiver.

Table 5–5. Differences in Incidence Rates per 1,000 Children for Harm Standard Maltreatment in the NIS–4 (2005–2006) Related to Grandparents as Caregivers			
Harm Standard Maltreatment Category	Children With Grandparents as Caregivers	Children Without Grandparents as Caregivers	Significance of Difference
ABUSE:			
All Abuse	6.1	7.6	m
Physical Abuse	3.0	4.5	*
* The difference is significant at $p \leq .05$.			
m The difference is statistically marginal (i.e., $.10 > p > .05$).			

Physical abuse. Children whose grandparent cared for them were at significantly lower risk of Harm Standard physical abuse compared to children with no identified grandparent caregiver. An estimated 3.0 children per 1,000 who had a grandparent caregiver experienced Harm Standard physical abuse, whereas the rate was 4.5 per 1,000 children with no identified grandparent caregiver. Thus, the risk of Harm Standard physical abuse for children with no identified grandparent caregiver was 1.5 times the risk for children cared for by a grandparent.

5.4.2 Differences in Endangerment Standard Maltreatment Related to Grandparents as Caregivers

Table 5–6 shows the relationship between incidence rates for Endangerment Standard maltreatment and the presence of a grandparent caregiver. Only three statistically meaningful differences emerged: for physical abuse and for inferred and endangered outcomes resulting from Endangerment Standard maltreatment.

Table 5–6. Differences in Incidence Rates per 1,000 Children for Endangerment Standard Maltreatment in the NIS–4 (2005–2006) Related to Grandparents as Caregivers			
Endangerment Standard Maltreatment Category	Children With Grandparents as Caregivers	Children Without Grandparents as Caregivers	Significance of Difference
ABUSE:			
Physical Abuse	5.2	6.6	m
SEVERITY OF HARM:			
Inferred	2.3 [‡]	3.2	m
Endangered	12.2	15.8	*
<p>* The difference is significant at $p \leq .05$.</p> <p>m The difference is statistically marginal (i.e., $.10 > p > .05$).</p> <p>‡ This estimate is less reliable because it derives from fewer than 100 sample children.</p>			

Physical abuse. Children whose grandparent cared for them had a lower risk of Endangerment Standard physical abuse; this is a statistically marginal difference. An estimated 5.2 children per 1,000 with a grandparent caregiver experienced Endangerment Standard physical abuse compared to 6.6 per 1,000 for children with no identified grandparent caregiver. Children with no identified grandparent caregiver were 1.3 times as likely to experience Endangerment Standard physical abuse.

Inferred harm. Children with a grandparent caregiver had a lower risk of inferred harm from Endangerment Standard maltreatment than children without a grandparent caregiver (2.3 versus 3.2 children per 1,000), a statistically marginal difference. Thus, children without a grandparent caregiver experienced maltreatment that warranted the inference they were harmed at 1.4 times the rate of children who lived with a grandparent caregiver.⁸³

Endangerment. The incidence of children who were endangered, but not yet harmed, by maltreatment was significantly lower for those who had a grandparent caregiver, at 12.2 children per 1,000, compared to children with no identified grandparent caregiver, at 15.8 children per 1,000. Thus, children with no identified grandparent

⁸³ The estimate for children with a grandparent caregiver for Endangerment Standard inferred harm is less reliable because there are fewer than 100 sample children.

caregiver were 1.3 times more likely to experience endangerment compared with children with a grandparent caregiver.

5.5 Family Size Differences in the Incidence of Maltreatment

Analyses examining the relationship between family size⁸⁴ and the incidence of child abuse and neglect categorized children into one of four groups on the basis of the number of children in their family: those in families where they were the only child, those in families with two children, three children, and four or more children.^{85,86}

5.5.1 Family Size Differences in Harm Standard Maltreatment

The incidence of a few categories of Harm Standard maltreatment varied across the family-size groups. Figure 5–17 graphs these categories, showing that they have a consistent pattern: incidence rates are higher for children in the largest families, intermediate for “only” children, and lowest for children in families with two or three children.

Harm Standard Maltreatment Categories

Overall Harm Standard maltreatment. An estimated 21.2 children in households with four or more children suffered some form of Harm Standard maltreatment, which is equivalent to 2.1 children per 100, or 1 in 48 children in these larger families. This, the highest rate, is 1.8 times the lowest rate (11.9 per 1,000 children

⁸⁴ As in previous NIS reports, “family size” reflects the number of children in the household rather than the number of children within separate family units in a household.

⁸⁵ Computations of incidence rates used the following population denominators, reflecting the number (in thousands) of children in the general population: 16,791 children in one-child households, 28,919 children in two-child households, 17,413 children in three-child households, 10,511 children in four-child households (U.S. Census Bureau, 2008a, 2008b, 2008c).

⁸⁶ In each category of maltreatment or level of harm, decisions about the significance of differences relied on the Bonferroni critical values for t. This adjusted for the multiplicity of the comparisons involved. Appendix D gives the details concerning the statistical tests for significance of family size differences.

in households with two children), a significant difference. In addition, the incidence rate for “only” children (17.9 per 1,000 children) was 1.5 times the rate for children in households with two children, a statistically marginal difference.

Neglect. The incidence of overall Harm Standard neglect is significantly higher among children living in households with four or more children compared to those in households with two children. The rate was 13.8 per 1,000 children in the larger households, which is more than twice the rate of 6.4 per 1,000 children in two-child households.

Physical abuse. The rate of physical abuse in the largest families (5.0 per 1,000 children) is higher than the rate in two-child families (3.4 per 1,000 children), a statistically marginal difference.

Physical neglect. Children in households with four or more children suffered physical neglect at a higher rate than those in households with three children (5.9 versus 2.6 children per 1,000, respectively), a difference that is statistically marginal.

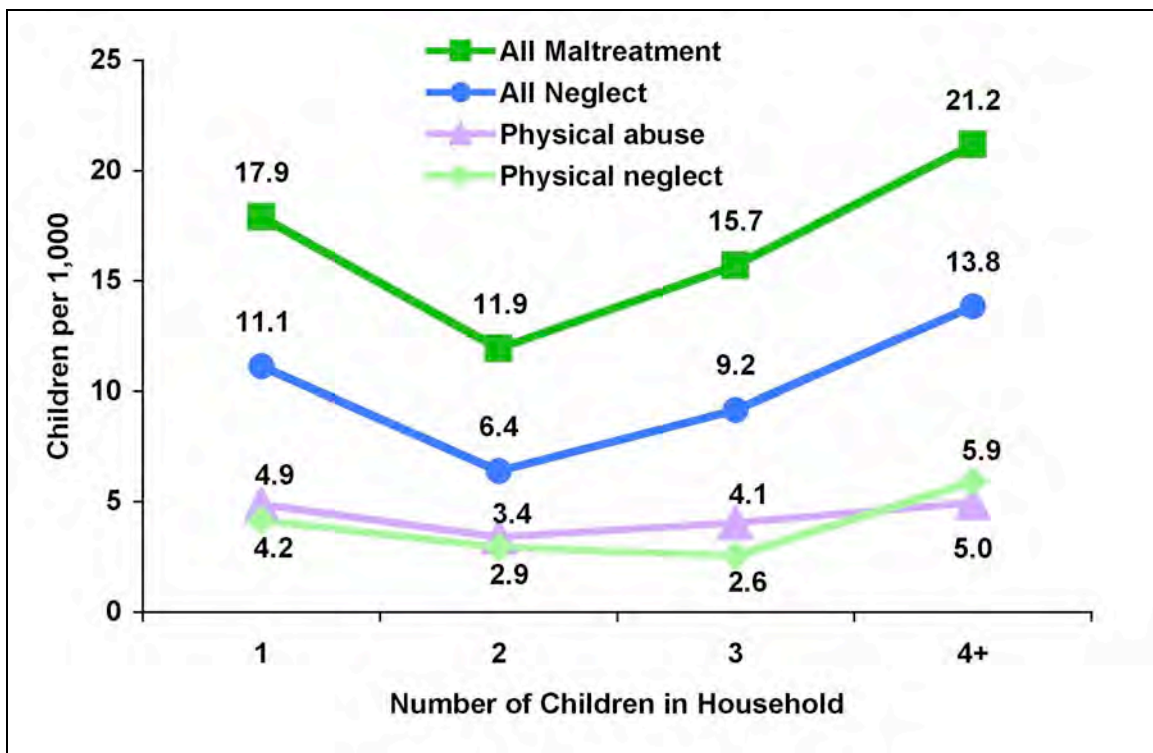


Figure 5–17. Incidence of Harm Standard Maltreatment by Family Size.

Severity of Outcomes from Harm Standard Maltreatment

The incidence of children who suffered serious harm or moderate harm from Harm Standard maltreatment differed depending on the number of children in their households, as Figure 5–18 shows.

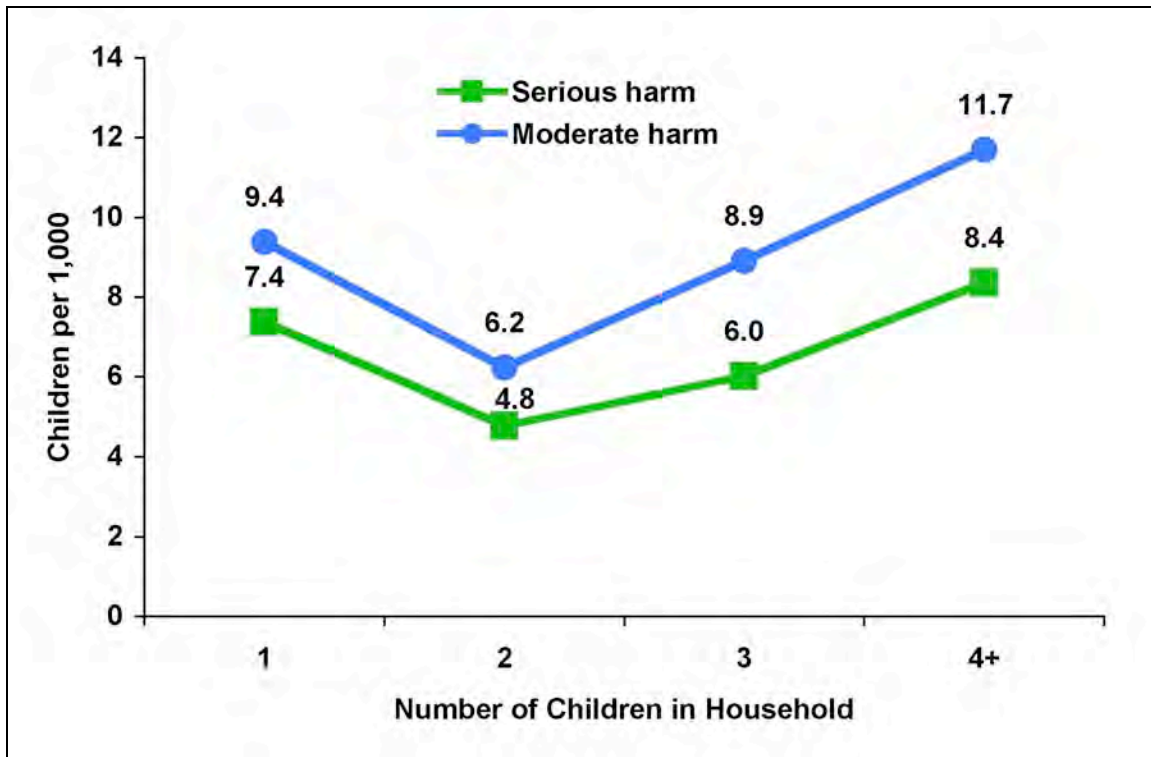


Figure 5–18. Severity of Outcomes from Harm Standard Maltreatment by Family Size.

Serious harm. Children in the largest households (four or more children) had a greater risk of suffering serious harm as a result of their Harm Standard maltreatment than children in households with just two children. An estimated 8.4 per 1,000 children in the largest families were seriously harmed, which is nearly 1.8 times the rate for children in families with two children, where an estimated 4.8 children per 1,000 experienced serious harm from Harm Standard maltreatment. This difference is statistically marginal.

Moderate harm. An estimated 9.4 children per 1,000 “only” children had moderate injuries as a result of their Harm Standard maltreatment, which is 1.5 times the rate of children who had moderate injuries among those with in two-child families (6.2

per 1,000). Also, the rate of moderate harm in the largest families (11.7 per 1,000 children) is almost twice the rate in families with two children (6.2 per 1,000). Both differences are statistically marginal.

Changes since the NIS–3 in the Distribution of Harm Standard Maltreatment Related to Family Size

Changes in maltreatment rates since the NIS–3 related to family size only for the incidence of children with inferred harm from Harm Standard maltreatment.⁸⁷ Figure 5–19 displays this finding.

Inferred harm. The incidence of children with inferred harm as a result of their Harm Standard maltreatment decreased differentially across the three family size groups in the graph, eradicating their differences from the earlier study. The decline was greatest among children living in the largest households, where the rate of inferred harm decreased by 82% (from 6.0 children per 1,000 in the NIS–3 to 1.1 child per 1,000 in the NIS–4). Declines in the other subgroups, although noteworthy, were less dramatic. Among “only” children, the incidence of inferred harm declined by 52% (from 2.5 to 1.1 children per 1,000), and among children in households with two to three children, the rate declined by 47% (from 1.5 to 0.8 children per 1,000).

5.5.2 Family Size Differences in Endangerment Standard Maltreatment

Endangerment Standard incidence rates in several categories of maltreatment and levels of outcome severity differed significantly by family size. Specifically, significant family size differences emerged in the incidence of overall Endangerment Standard maltreatment, the main category of neglect, physical neglect, emotional neglect, moderate harm, inferred harm, and endangerment. Statistically marginal differences

⁸⁷ Analyses of changes since the NIS–3 examined the three family size groups used in that earlier study: one child, 2 to 3 children, and 4 or more children.

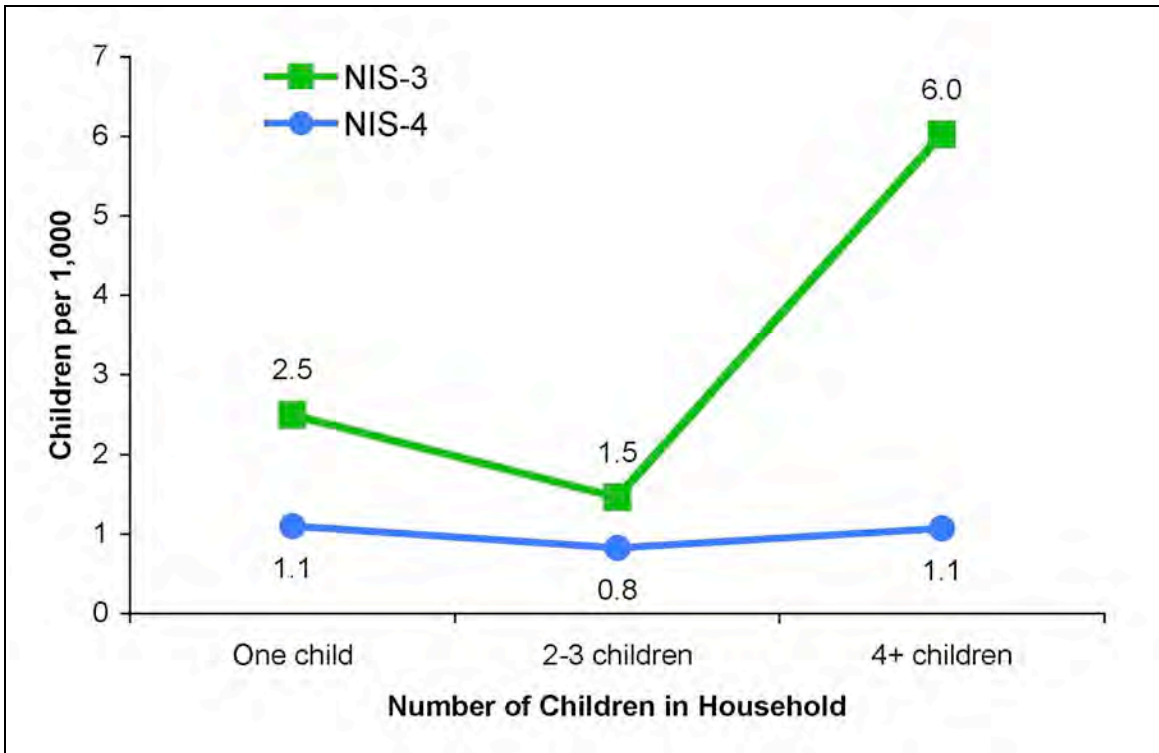


Figure 5–19. Changes since NIS–3 in the Incidence of Inferred Harm from Harm Standard Maltreatment Related to Family Size.

related to family size occurred in the incidence of overall abuse, physical abuse, emotional abuse, and serious harm.

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

Chapter 3 indicated that an estimated 39.5 children per 1,000 nationwide experienced some form of Endangerment Standard maltreatment. Significant differences among the incidence rates for children living in families of different sizes qualify that general result. Figure 5–20 shows that the incidence is much higher for children in the largest families and that rates are lower for children in the other family-size groups.

Overall Endangerment Standard maltreatment. Children in families with four or more children have a significantly higher rate of overall Endangerment Standard maltreatment compared to children in all smaller family groups (62.9 versus 38.2 or fewer children per 1,000). The rate of Endangerment Standard maltreatment for children in households with four or more children is 2.3 times the rate for children in families with

two children, 1.7 times the rate for “only” children, and 1.6 times the rate for children in three-child households. The difference in the incidence rates for children in two-child versus three-child households is statistically marginal.

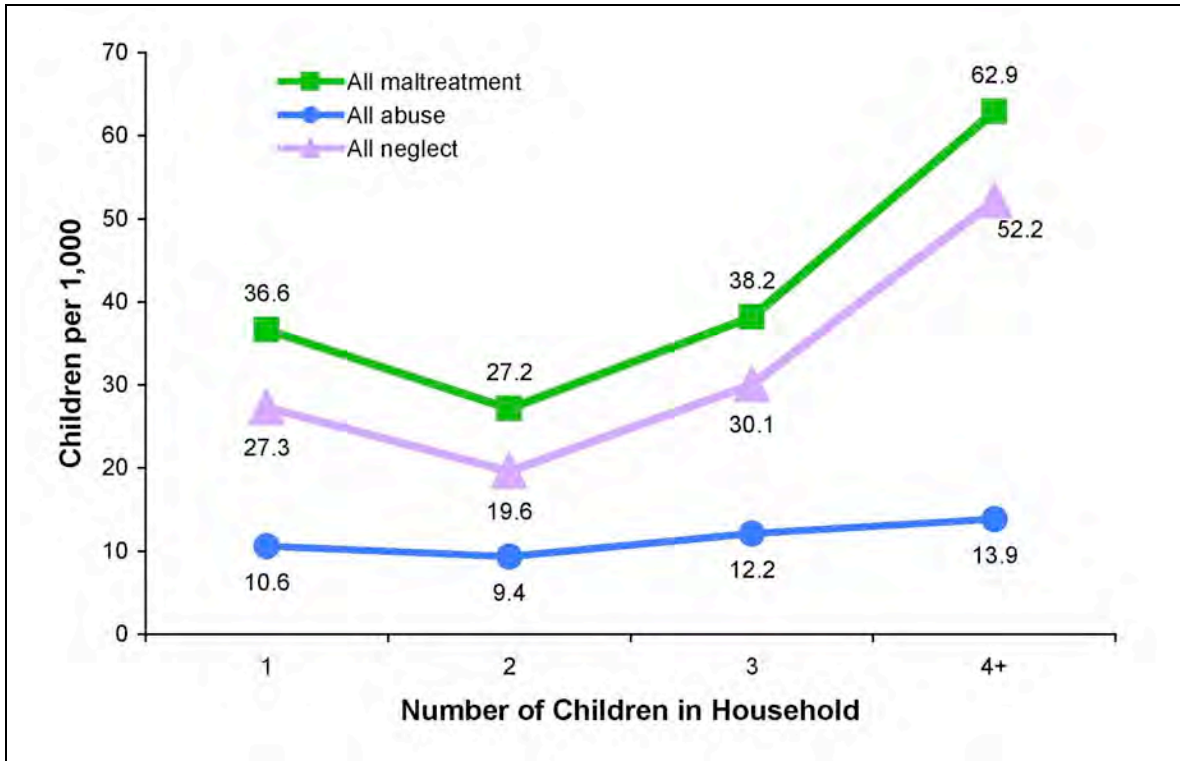


Figure 5–20. Incidence of Endangerment Standard Overall Maltreatment, Abuse, and Neglect by Family Size.

Abuse. Children in families with four or more children had a higher rate of Endangerment Standard abuse compared to those in families with two children. The incidence rate for children in families with four or more children is 1.5 times the rate for children in families with two children (13.9 versus 9.4 children per 1,000). This difference is statistically marginal.

Neglect. In contrast to the small and statistically marginal family-size differences in rates of Endangerment Standard abuse, the differences in neglect rates are substantial and significant. Children in families with four or more children had an incidence rate of 52.2 per 1,000 children, which is significantly higher than the rate of neglect found among children in all smaller families. Children in the largest families have an incidence rate of neglect that is almost 2.7 times the lowest rate of neglect, an estimated 19.6 children in two-child families. The difference in rates of Endangerment

Standard neglect for children in three-child families and those in two-child families is also significant.

Specific Categories of Endangerment Standard Abuse and Neglect

The incidence rates in four specific categories of Endangerment Standard maltreatment varied significantly or marginally in relation to family size. Figure 5–21 displays these findings.

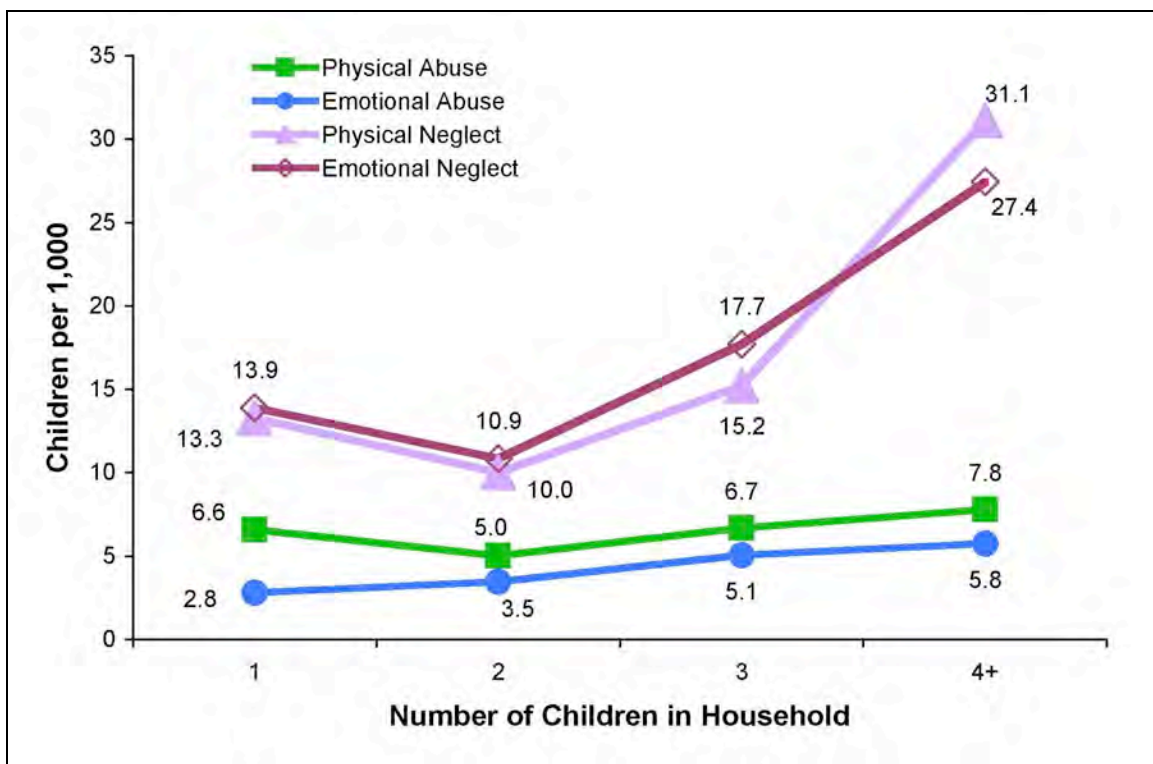


Figure 5–21. Incidence of Specific Categories of Endangerment Standard Maltreatment by Family Size.

Physical abuse. The pattern of family size differences observed above in rates of overall Endangerment Standard abuse emerged in the specific category of physical abuse. Children in larger families had a significantly higher rate of Endangerment Standard physical abuse compared to those in families with two children (7.8 versus 5.0 per 1,000 children). Children in families with four or more children had a more than 1.5 times higher rate of physical abuse than those in two-child families.

Emotional abuse. The incidence of Endangerment Standard emotional abuse among children in families with four or more children was significantly higher than among children who were the only child. Children in the larger families had twice the rate of emotional abuse observed for “only” children (5.8 versus 2.8 per 1,000 children).

Physical neglect. The rate of Endangerment Standard physical neglect was 31.1 per 1,000 children in families with four or more children, which is 2.3 times the rate for “only” children (13.3 children per 1,000), 3.1 times the rate for children in families with two children (10.0 children per 1,000), and 2.0 times the rate for those in families with three children (15.2 children per 1,000). All these differences are statistically significant. In addition, children in families with three children had a higher rate than those in two-child families, a statistically marginal difference.

Emotional neglect. The rate of Endangerment Standard emotional neglect was highest for children in the largest families (27.4 children per 1,000). This rate differs significantly from the rates for children in families with one child (13.9 children per 1,000) and families with two children (10.9 children per 1,000), and differs marginally from the rate for children in three-child families (17.7 children per 1,000). The rate of emotional neglect among children in the largest families is 2.0 times greater than the rate for “only” children, 2.5 times greater than the rate for children in two-child families, and 1.5 times greater than the rate for children in three-child families. In addition, the mid-size family groups had significantly different rates of Endangerment Standard emotional neglect: children in three-child families had 1.6 times the rate of emotional neglect compared to children in two-child families.

Severity of Outcomes from Endangerment Standard Maltreatment

The incidence of children who suffered moderate harm, inferred harm, and endangerment from Endangerment Standard maltreatment differed significantly depending on the number of children in their households. Differences in relation to the incidence of serious harm are statistically marginal. Figure 5–22 graphs these patterns.

Serious harm. The incidence of children who suffered serious harm from Endangerment Standard maltreatment was higher in the largest families compared to the

incidence of seriously harmed children in families with two children (8.8 versus 5.0 children per 1,000). This is a statistically marginal difference.

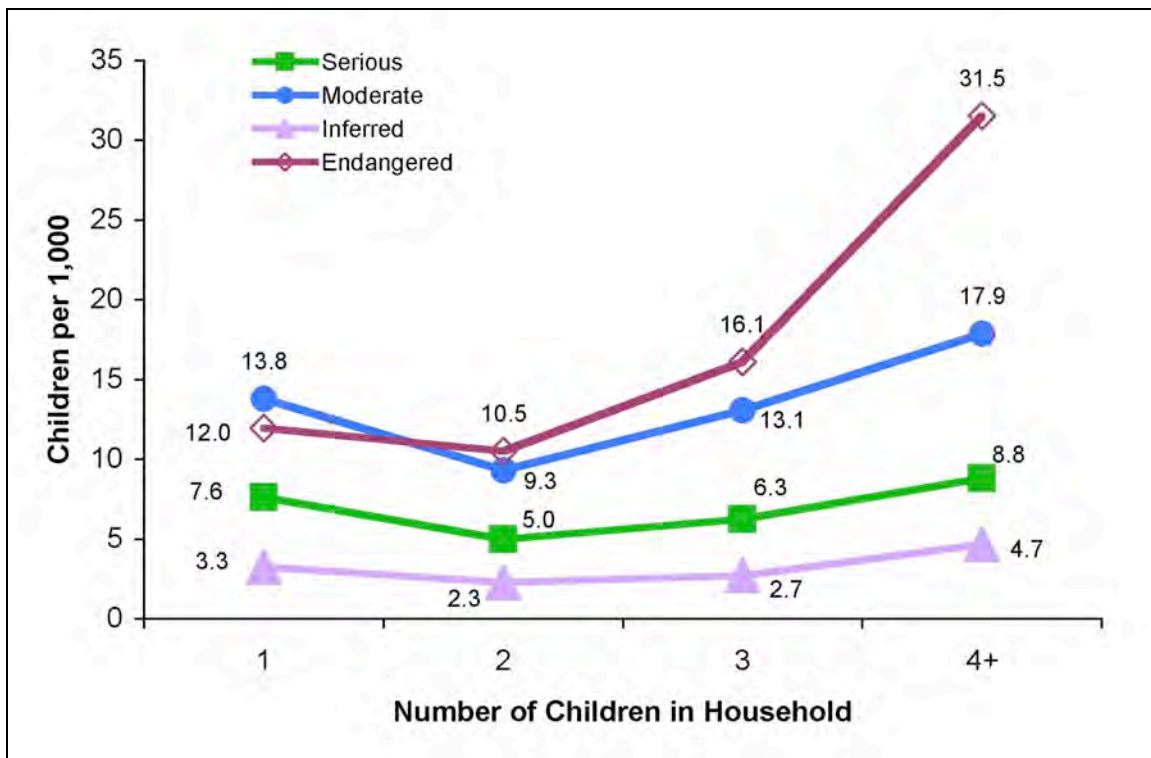


Figure 5–22. Severity of Outcomes from Endangerment Standard Maltreatment by Family Size.

Moderate harm. The rates of children moderately harmed by abuse or neglect were higher in families with four or more children (17.9 per 1,000 children) and in families with one child (13.8 per 1,000 children) than in families with two children (9.3 per 1,000 children). Compared to children in two-child households, those in the largest families had 1.9 times the incidence of moderate harm from their maltreatment (a significant difference) and “only” children had 1.3 times the rate of moderate harm (a statistically marginal difference).

Inferred harm. The incidence of children with inferred harm as a result of Endangerment Standard maltreatment was significantly greater in large families compared to the incidence in families with two children. The estimated rate of 4.7 per 1,000 children in families with four or more children is more than twice the rate of 2.3 per 1,000 children in two-child families.

Endangered. The estimated incidence of children who were endangered, but not yet harmed, by abuse or neglect was significantly higher among children in the largest families compared to those in families with three or fewer children. The incidence of endangered children in the largest families (31.5 children per 1,000) is 2.6 times the rate among “only” children (12.0 children per 1,000), 3.0 times that in families with two children (10.5 children per 1,000), and almost 2.0 times the rate in families with three children (16.1 children per 1,000). Moreover, children in the mid-size families also had significantly different rates: the incidence of children endangered by their maltreatment in three-child families is more than 1.5 times the incidence of endangered children in two-child families.

Changes since the NIS–3 in the Distribution of Endangerment Standard Maltreatment Related to Family Size

Changes since the NIS–3 in the incidence of Endangerment Standard maltreatment did not differ by family size.

5.6 Differences in the Incidence of Maltreatment Related to Metropolitan Status (Metrostatus) of County of Residence

The findings in this section apply a three-way classification of the metrostatus of children’s county of residence: large (major) urban counties, other urban (including suburban) counties, and rural counties.⁸⁸

Although the NIS–3 used a similar classification, the Office of Management and Budget (OMB) recently revised metrostatus definitions. These definitional changes, along with updated population data from Census 2000, reclassified a number of counties in the United States.⁸⁹ The NIS–4 analyses of metrostatus differences in maltreatment

⁸⁸ Computations of incidence rates used the following population denominators, reflecting the number of children (in thousands) in the general population: 40,161 in major urban counties, 21,768 in urban counties and 11,706 in rural counties. (U.S. Census Bureau, 2008a; U.S. Department of Agriculture, Economic Research Service, 2003, 2004).

⁸⁹ In 2000, OMB published new standards for defining metropolitan areas. After applying these new standards to Census 2000 data, OMB announced the new area definitions for U.S. counties (U.S. (Footnote continues on next page.)

rates used these revised definitions and county classifications. However, the analyses regarding changes in metrostatus since the NIS–3 used the earlier metrostatus definitions.

5.6.1 Differences in Harm Standard Maltreatment Related to Metropolitan Status (Metrostatus) of County of Residence

Significant and marginal differences related to county metrostatus emerged in several categories of Harm Standard maltreatment.⁹⁰ As detailed below, incidence rates were consistently higher in rural counties.

Harm Standard Abuse

Figure 5–23 displays the incidence rates for Harm Standard abuse by the metrostatus of the child’s county of residence.

Overall abuse. The incidence of overall Harm Standard abuse in rural counties was 1.7 times the rate in major urban counties (10.8 versus 6.4 children per 1,000), a statistically significant difference.

Sexual abuse. The rate of Harm Standard sexual abuse in rural counties (2.8 per 1,000 children) was twice the rate in urban counties (1.4 children per 1,000), a difference that is significant. The rural rate is also 1.6 times the sexual abuse rate in major urban areas (1.8 children per 1,000), a difference that is statistically marginal.

(Continued from previous page.)

Department of Agriculture, Economic Research Service, 2003). The new system defines metropolitan areas for all urbanized areas regardless of total area population and it includes outlying counties if they meet a commuting threshold of 25%, with no additional requirement. This affected the NIS classification of urban versus rural. In addition, the Census Bureau, using updated population data, modified the Rural-Urban Continuum Codes, which distinguished among counties based on population size (Department of Agriculture, Economic Research Service, 2004). This affected the NIS–4 classification of major urban versus urban, the former being counties in the top tier of this system (i.e., those in metro areas with populations of 1 million or more).

⁹⁰ In each category of maltreatment or harm, decisions about the significance of differences relied on the Bonferroni critical values for t . This adjusted for the multiplicity of the comparisons involved. Appendix D gives the details concerning the statistical tests for significance of metrostatus differences.

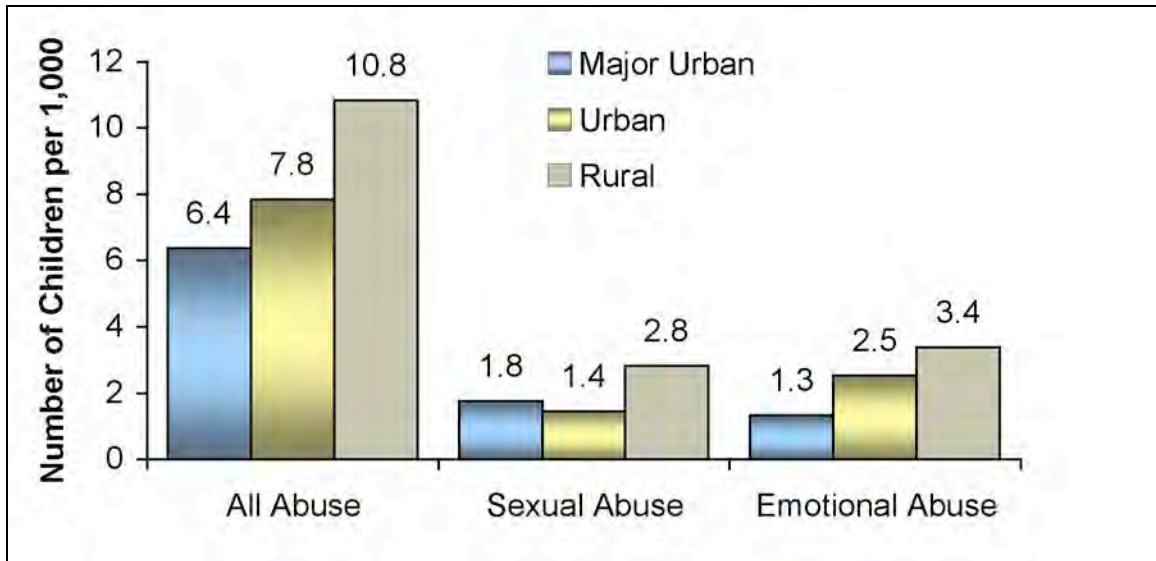


Figure 5–23. Incidence of Harm Standard Abuse by County Metrostatus

Emotional abuse. The pattern of significantly higher maltreatment rates for children in rural areas also applies to emotional abuse. The risk of emotional abuse for children in rural counties was 2.6 times that in major urban counties (3.4 versus 1.3 children per 1,000).

Harm Standard Neglect

Only the rate of emotional neglect differed by county metrostatus and this difference was statistically marginal. Figure 5–24 displays the pattern, which conforms to the differences in other categories.

The incidence of emotional neglect among children living in rural counties (4.7 children per 1,000) is higher than for children living in major urban counties (1.8 children per 1,000), a statistically marginal difference. Thus, the risk of Harm Standard emotional neglect for children in rural counties was 2.6 times that of children in major urban counties.

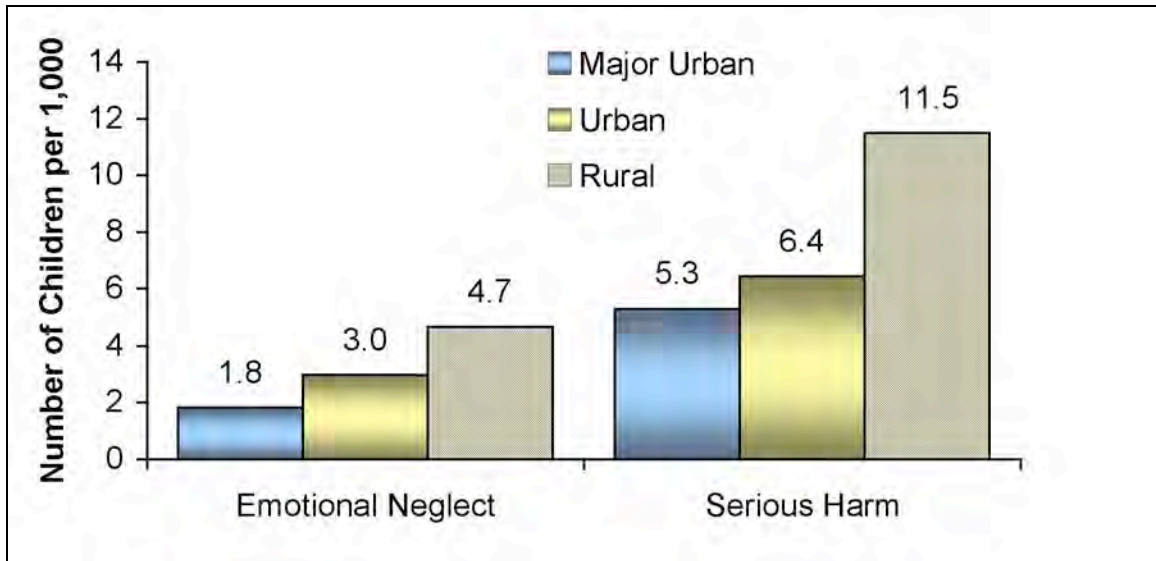


Figure 5–24. Incidence of Harm Standard Neglect and of Serious Harm from Harm Standard Maltreatment by County Metrostatus

Severity of Outcomes from Harm Standard Maltreatment

Serious harm. Figure 5–24 also shows that the incidence of children who were seriously harmed by Harm Standard maltreatment in rural counties is 2.2 times the incidence in major urban counties (11.5 versus 5.3 children per 1,000). This difference is statistically marginal.

Changes since the NIS–3 in the Distribution of Harm Standard Maltreatment Related to County Metrostatus

None of the changes since the NIS–3 in the incidence of Harm Standard maltreatment categories or outcomes differed by county metrostatus.

5.6.2 Differences in Endangerment Standard Maltreatment Related to Metropolitan Status (Metrostatus) of County of Residence

Children in rural counties had higher incidence rates in all categories of Endangerment Standard maltreatment. In nearly every category of maltreatment and level of severity, children living in rural counties had higher rates than those in major urban counties. Also, in four maltreatment categories, children in rural counties had higher incidence rates than those in urban counties. Across all maltreatment categories and levels of outcome severity, the incidence of Endangerment Standard maltreatment in major urban counties did not differ from the incidence in urban counties.

Overall Endangerment Standard Maltreatment, Abuse, and Neglect

The rate of Endangerment Standard maltreatment overall was significantly higher in rural counties than in major urban areas, with children in rural counties 2.2 times as likely to experience Endangerment Standard maltreatment as children residing in major urban counties (68.1 versus 31.3 children per 1,000). Figure 5–25 shows this consistent pattern. The difference in incidence between the rural areas and (nonmajor) urban areas (where the rate was 39.1 children per 1,000) is statistically marginal.

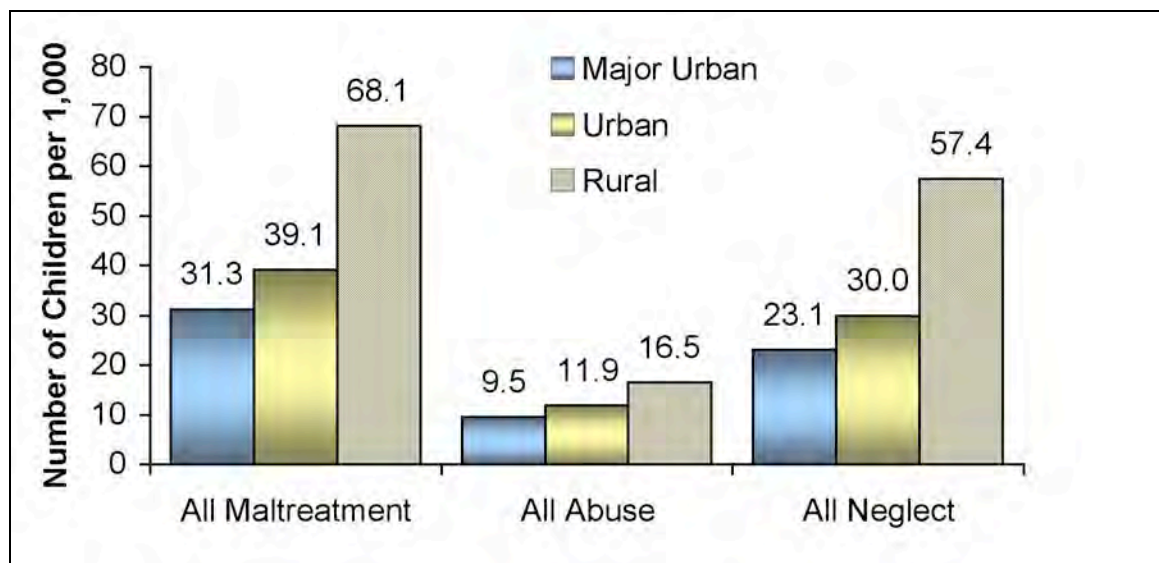


Figure 5–25. Incidence of Endangerment Standard Maltreatment by County Metrostatus

The incidence of Endangerment Standard abuse among rural children is 1.7 times the incidence among children in major urban areas. This difference (16.5 versus 9.5 per 1,000 children) is statistically significant.

Endangerment Standard neglect revealed metrostatus differences similar to those observed for Endangerment Standard maltreatment overall, with a rural rate of 57.4 children per 1,000, an urban rate of 30.0 children per 1,000, and a major urban rate of 23.1 children per 1,000. Children in rural counties were 2.5 times more likely to be neglected than children in major urban counties, a significant difference, and they were 1.9 times as likely as children in urban counties, a statistically marginal difference.

Specific Categories of Endangerment Standard Abuse

The same general pattern of higher incidence rates in rural counties is evident in Figure 5–26, which graphs the incidence of specific categories of Endangerment Standard abuse by county metrostatus.

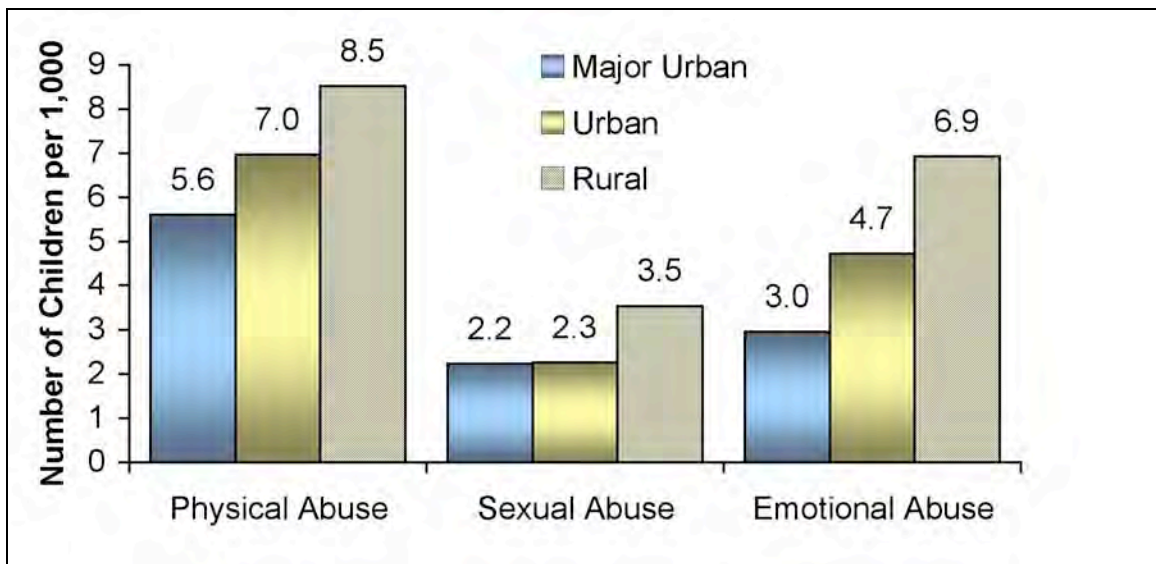


Figure 5–26. Incidence of Specific Categories of Endangerment Standard Abuse by County Metrostatus.

Physical abuse. A statistically marginal difference emerged between the physical abuse rate for children in rural counties (8.5 children per 1,000) and the rate for children in major urban counties (5.6 children per 1,000). Children living in rural areas

were 1.5 times more likely to be physically abused than children living in the major metropolitan areas.

Sexual abuse. The differences between the rate of sexual abuse in rural areas and the rates in major urban and urban areas are statistically marginal. Children in rural counties were about 1.5 times more likely to be sexually abused than children living in the large metropolitan areas or in urban areas.

Emotional abuse. The incidence of emotional abuse in rural counties was significantly higher, at 6.9 children per 1,000, than the rate in major urban counties, at 3.0 children per 1,000. Thus, the children in rural counties were 2.3 times as likely to be emotionally abused as the children in major metropolitan areas.

Specific Categories of Endangerment Standard Neglect

Figure 5–27 depicts the statistically meaningful differences in specific categories of Endangerment Standard neglect related to county metrostatus.

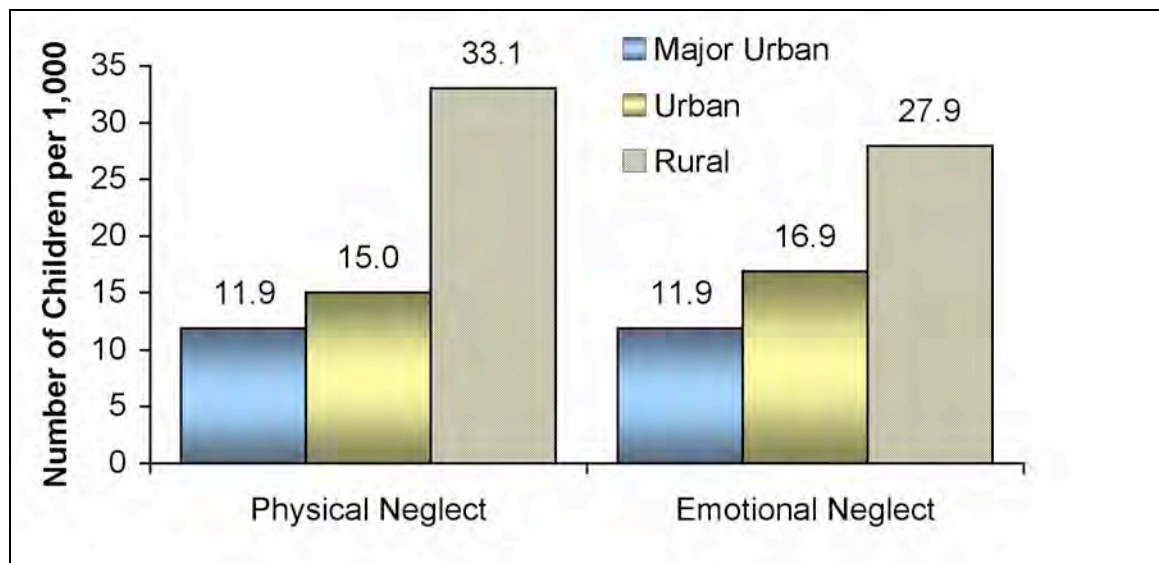


Figure 5–27. Incidence of Specific Categories of Endangerment Standard Neglect by County Metrostatus

Physical neglect. Children in rural counties were 2.8 times more likely to be physically neglected than children in major urban counties and 2.2 times more likely than urban children. Both differences are statistically significant.

Emotional neglect. Children who live in rural counties are also at significantly higher risk of Endangerment Standard emotional neglect compared to children living in major urban counties. The emotional neglect rate of 27.9 per 1,000 rural children is 2.3 times the rate of 11.9 per 1,000 children living in major metropolitan counties.

Severity of Outcomes from Endangerment Standard Maltreatment

Figure 5–28 shows the differences in incidence rates for outcomes from Endangerment Standard maltreatment.

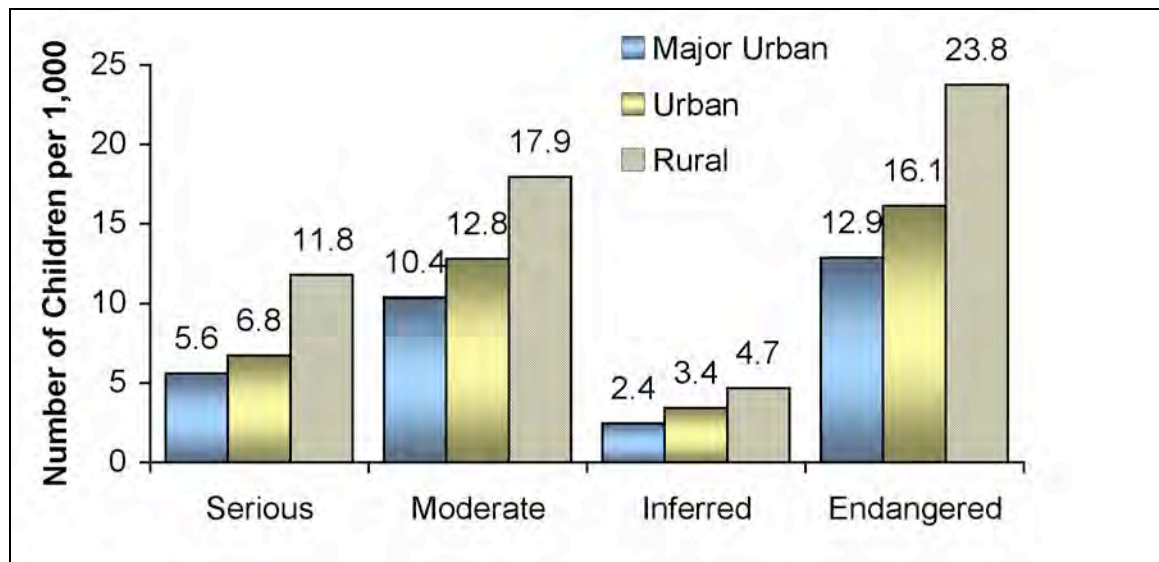


Figure 5–28. Outcomes from Endangerment Standard Maltreatment by County Metrostatus

Serious harm. The incidence of children who were seriously harmed by Endangerment Standard maltreatment is higher in rural counties compared to major urban counties. In rural counties, children were 2.1 times as likely to suffer serious harm from maltreatment compared to children in major urban counties (11.8 versus 5.6 children per 1,000). This difference is statistically marginal.

Moderate harm. Children residing in rural counties had a 2.7 times greater rate of moderate harm from maltreatment compared to children in major urban counties (27.9 versus 10.4 children per 1,000), a significant difference.

Inferred harm. The incidence of children who experienced Endangerment Standard maltreatment sufficiently severe to permit the inference that they were harmed was significantly higher among children in rural areas than among those in major urban counties. An estimated 4.7 children per 1,000 living in rural counties experienced maltreatment that allowed inferred harm, which is twice the rate of 2.4 per 1,000 children living in large urban counties.

Endangered. The estimated incidence of children who had been endangered, but not yet harmed, by abuse and neglect was significantly higher for children living in rural areas compared to those living in large metropolitan areas. The rate of endangered rural children (23.8 per 1,000) was 1.8 times the rate for major urban area children (12.9 per 1,000).

No significant differences in severity of maltreatment outcomes occurred between children in rural and (nonmajor) urban counties or between children in major urban counties and other urban counties.

Changes since the NIS–3 in the Distribution of Endangerment Standard Maltreatment Related to County Metrostatus

Similar to the findings for the Harm Standard, no significant or marginal differences emerged in the analyses of changes in the rates of Endangerment Standard maltreatment by county metrostatus.

6. PERPETRATOR CHARACTERISTICS

This chapter examines perpetrators of Harm Standard maltreatment. The analyses classify children who experienced different categories of Harm Standard maltreatment and different levels of harm according to the perpetrator's relationship to them and by the perpetrator's age and sex, by the child's race, and by whether alcohol use, drug use, or mental illness were factors in the maltreatment.⁹⁰

6.1 Perpetrators of Maltreatment

In the process of deciding whether children qualified as countable in the NIS-4, evaluative coders identified the perpetrator(s) of every alleged form of maltreatment and determined that at least one person who was responsible for the maltreatment met the perpetrator requirement for that form of maltreatment under the Harm Standard. The perpetrator of alleged abuse had to be an adult in charge of the child's care (such as a parent, adult baby-sitter, etc.) or, if the abuser did not meet this requirement, then a parent or caregiver had to permit the abuse for the child to be countable as abused under the Harm Standard. Qualifying perpetrators included the child's biological parent, foster parent, step-parent, or adoptive parent, another person with legal custody of the child or someone with primary responsibility for the care of the child at the time of his or her maltreatment. The perpetrator of alleged neglect had to be a parent or guardian for the child to be countable as neglected under the Harm Standard.

Several special features of these analyses and tables warrant discussion. First, the tables only classified a parent as the perpetrator if she or he committed the maltreatment directly. When a parent permitted someone else to maltreat the child, that parent was not considered to be the perpetrator for purposes of these analyses.⁹¹

⁹⁰ Too many children had missing information about their perpetrator's employment to support analyses of that characteristic. Perpetrator employment information was missing for 49% of all children with Harm Standard maltreatment, 51% of those who were abused, and 46% of those who were neglected.

⁹¹ Although, as Chapter 2 described, children were countable on the basis of a parent or caregiver permitting maltreatment in certain categories.

Second, because multiple persons sometimes maltreated a child, the tables here classify the perpetrator's relationship according to a hierarchy. When a child suffered multiple maltreatment events in a specific maltreatment category with different levels of resulting harm, then the perpetrator was the person whose abuse or neglect caused the most severe outcome. For example, if a physically neglected child was both seriously harmed by inadequate supervision and fatally harmed by delay of medical care, then only the person responsible for the fatal result (i.e., the delay of medical care) was considered to be the perpetrator of the physical neglect. This strategy applied in a similar way at the summary levels of "all abuse," "all neglect," and "all maltreated." For instance, for a child who was both sexually abused and physically abused, the perpetrator in the "all abuse" category was the abuser who caused the more serious harm. Even after applying this strategy to winnow down the number of perpetrators, some children still had multiple perpetrators. The analyses here identified a single perpetrator from the set by selecting the perpetrator who was most closely related to the child. The definition of "most closely related perpetrator" followed the hierarchy given by the ordering of perpetrator categories in Table 6-1.

Third, because some types of perpetrators in the listing on the left-side of Table 6-1 maltreated only small percentages of the children, that hierarchy was simplified by collapsing it into the three categories shown to the right of the brackets.

Fourth, as in earlier chapters, all findings continue to use the child as the unit of measurement. This was necessary because the NIS sample design and weighting strategies, which are fundamental to providing national-level estimates, are all predicated on the child as the unit of analysis. (In order to provide estimates of perpetrators, a different approach to sample design and statistical weighting would be required.) Thus, all NIS findings concerning perpetrators are couched in terms of the child, as in "the percentage of children maltreated by perpetrators who...."

Fifth, this chapter merely describes the perpetrators of Harm Standard maltreatment in the NIS-4. Perpetrator analyses of NIS data are very complex and resource intensive, so the chapter does not provide tabulations of Endangerment Standard perpetrators or assessments of changes since the NIS-3 in the characteristics of Harm Standard perpetrators.

Table 6–1. Categorization of Perpetrators of Child Maltreatment			
Perpetrator Category	Percentage of Children with Closest-Related Perpetrator of Most Severe, Countable Maltreatment		
In-home biological parent	77.5%	}	Biological parents 80.8%
Out-of-home biological parent	3.3%		
In-home step-parent	3.2%	}	Nonbiological parents and parents' partners 12.4%
Other in-home nonbiological parent (foster, adoptive, etc.)	6.7%		
Other out-of-home nonbiological parent	0.1%		
Parent's boyfriend or girlfriend	2.4%		
Other family members	3.6%	}	Others 6.8%
Other unrelated adults	3.0%		
Others	0.2%		
N = 1,256,600			

6.2 Perpetrator's Relationship to the Child

Table 6–1 lists the hierarchy of relationships that classified perpetrators for this chapter and shows the percentages of children by the most closely related perpetrator of their Harm Standard maltreatment. The large majority of countable children (77.5%) were maltreated by their in-home, biological parent(s), while in-home step-parents and other nonbiological parents (such as adoptive or foster parents), make up the next largest perpetrator categories (3.2% and 6.7%, respectively). Only small percentages of children were maltreated by an out-of-home biological parent (3.3%), by out-of-home nonbiological parent (0.1%), or by their parent's boyfriend or girlfriend (2.4%). Other family members or relatives were the most closely related perpetrators of maltreatment for 3.6% of the countable children. The next-to-last category of perpetrators in this

hierarchy comprises other adults known to be unrelated to the child, accounting for another 3.0% of the children. Other individuals (who may or may not have been adults) make up the last category, which represents the most closely related perpetrator for only 0.2% of the Harm Standard children.

Because of the small numbers of children in the database whose most closely related perpetrators were persons other than their biological parents, the perpetrator categories described above were further consolidated into 3 major groupings for the analyses here, as shown by the brackets in Table 6–1:⁹²

- **Biological parent(s):** includes both in-home and out-of-home biological parents;
- **Nonbiological parents or parents’ partners:** includes step-parents, and other nonbiological parents, such as foster parents, separated/divorced spouses of parents not biologically related to the child, and parents’ boyfriends or girlfriends (partners); and
- **Others:** includes all other adults (both those who were and those who were not family members) as well as other perpetrators (persons whose adult status or whose relation to the child was unclear, persons who were clearly not adults including relatives of the child, and others whose identity was unknown).

6.2.1 Perpetrator’s Relationship to the Child for Different Maltreatment Categories

The first two columns in Table 6–2 show the most closely related perpetrator for children with each category of maltreatment. The bottom-most section in this table corresponds to the bracketed categories shown in Table 6–1, again showing that biological parents were the perpetrators for the majority of children (81%) and that

⁹² The majority of children maltreated by biological parents were maltreated *only* by biological parents. That is, the group of children who experienced Harm Standard maltreatment by a biological parent (81% in Table 6–1) includes the 72% of all children with Harm Standard maltreatment who were maltreated only by a biological parent, another 6% who were maltreated by a biological parent as well as by a nonbiological parent or their parent’s partner, and another 2% who were maltreated by a biological parent as well as by someone else, not a nonbiological parent or their parent’s partner.

nonbiological parents or parents' partners and other persons maltreated relatively small percentages of children (12% and 7%, respectively).

Table 6–2. Perpetrator's Relationship to Child and Severity of Harm by the Category of Maltreatment					
Maltreatment Category/ Most Closely Related Perpetrator	Percent Children in Maltreatment Category	Total Maltreated Children	Percent of Children in Row with Harm. . .		
			Fatal or Serious	Moderate	Inferred
ABUSE:	100%	553,300	26%	66%	8%
Biological Parent	64%	354,900	25%	71%	4%
Nonbiological Parent or Partner	20%	108,100	29%	62%	9%
Other Person	16%	90,300	28%	48%	24%
Physical Abuse	100%	323,000	22%	78%	+
Biological Parent	72%	231,100	22%	78%	+
Nonbiological Parent or Partner	19%	61,400	17%	83%	+
Other Person	9%	30,600	31%	69%	+
Sexual Abuse	100%	135,300	33%	35%	32%
Biological Parent	37%	49,500	<i>No Relationship</i>		
Nonbiological Parent or Partner	23%	31,300			
Other Person	40%	54,500			
Emotional Abuse	100%	148,500	30%	69%	*
Biological Parent	73%	108,400	<i>No Relationship</i>		
Nonbiological Parent or Partner	20%	29,400			
Other Person	7%	10,700			
NEGLECT:	100%	771,700	50%	46%	4%
Biological Parent	92%	708,900	<i>No Relationship</i>		
Nonbiological Parent or Partner	8%	62,800			
Other Person	^	^			
Physical Neglect	100%	295,300	64%	25%	11%
Biological Parent	91%	268,000	<i>No Relationship</i>		
Nonbiological Parent or Partner	9%	27,300			
Other Person	^	^			
Emotional Neglect	100%	193,400	92%	8%	+
Biological Parent	90%	173,800	<i>No Relationship</i>		
Nonbiological Parent or Partner	10%	19,600			
Other Person	^	^			
Educational Neglect	100%	360,500	17%	83%	+
Biological Parent	94%	337,500	18%	82%	+
Nonbiological Parent or Partner	6%	22,900	*	94%	+
Other Person	^	^	^	^	^
ALL MALTREATMENT:	100%	1,256,600	39%	55%	6%
Biological Parent	81%	1,015,600	41%	55%	4%
Nonbiological Parent or Partner	12%	155,900	34%	58%	8%
Other Person	7%	85,100	26%	50%	24%
+ This severity level not applicable for this form of maltreatment.					
* Fewer than 20 cases with which to calculate estimate; estimate too unreliable to give.					
^ These perpetrators were not allowed under Harm Standard neglect criteria.					

Table 6–2 also reveals a marked difference in the perpetrators of abuse and neglect. Among abused children, biological parents maltreated 64%, nonbiological parents or parents’ partners maltreated 20%, and someone else maltreated 16%. In contrast, biological parents neglected 92% of all neglected children while nonbiological parents or parents’ partners neglected only 8%. Other persons are not allowable perpetrators of neglect under the Harm Standard criteria, so those table cells are empty by definition. As Chapter 2 discussed, the Harm Standard criteria require that a parent or guardian to be the perpetrator of neglect, whereas anyone, in principle, can abuse a child (if they were the child’s caregiver or if the child’s parent or caregiver permitted the abuse).

Biological parents were the most closely related perpetrators for most children who were physically abused (72%), emotionally abused (73%), physically neglected (91%), emotionally neglected (90%), and educationally neglected (94%). In contrast, the most common perpetrators of sexual abuse were persons other than parents or parents’ partners (40% of sexually abused children). Fewer children were sexually abused by a biological parent (37%) or by nonbiological parents or parents’ partners (23%).

6.2.2 Severity of Harm by Perpetrator’s Relationship and Category of Maltreatment

The last three columns in Table 6–2 display the most serious outcome children suffered from their Harm Standard maltreatment, depending on the category of maltreatment. If the severity of harm also depended on their relationship to the most closely related perpetrator, the table provides those percentages as well. Considering all maltreated children (the bottom-most section of the table), the severity of injury or harm to the child does differ significantly depending on the perpetrator: 41% of children who were maltreated by their biological parents suffered fatal or serious injuries, compared to 34% of children maltreated by nonbiological parents or parents’ partners and 26% of children maltreated by other persons. This overall difference may stem from the fact that biological parents are by far the perpetrators of neglect and neglected children, in turn, have a relatively higher incidence of fatal and serious injuries. Both of these associations derive from the Harm Standard criteria, as Chapter 2 explained).

The perpetrator's relationship to the child is associated with the severity of harm in overall abuse and in the specific category of physical abuse. Children who are abused by another person (not a parent) more often have inferred harm. This pattern may stem from the fact that other persons are most often the perpetrators of sexual abuse which is one of the few categories that permit inferred harm. Physically abused children sustained severe harm when someone other than a parent or parent's partner was the perpetrator, but they tended to suffer moderate harm when their parent (biological or other) physically abused them.

6.3 Perpetrator's Sex

Table 6–3 presents children according to the sex of their perpetrators for each category of maltreatment and perpetrator relationship. Children who were maltreated by both male and female perpetrators are included under both columns, so the percentages in the last three columns can sum to more than 100%. For example, a child who was physically abused by both his biological mother and his biological father is included under both “male” and “female” columns in the “physical abuse by biological parent” row.⁹³

Table 6–3 shows that a biological parent was the perpetrator, the majority of children were maltreated by their mothers (75%), but a sizable percentage were maltreated by their fathers (43%). In contrast, when a nonbiological parent or parent's partner was the perpetrator, this was typically a male (for 64% of children versus only female for only 48%). The pattern is similar when other persons were perpetrators (75% of children were maltreated by males and only 20% by females).

The predominant perpetrator's sex differs for abuse and neglect. The majority of neglected children (86%) had female perpetrators. This finding is consistent

⁹³ This type of multiple-categorization of children was possible in analyses of perpetrator's sex and age. However, it was minimized by applying the nine-category perpetrator hierarchy (in Table 6–1) when identifying the child's perpetrator(s). For example, consider a child who was seriously physically abused by two perpetrators—a step-parent and a parent's boyfriend. According to the nine-category hierarchy, the analyses here focus on the step-parent (the most closely related perpetrator according to the hierarchy), and only that person's sex, age, and employment status are tabulated. Thus, multiple classifications only occurred when there were two (or more) perpetrators of exactly the same degree of relationship according to the nine-category hierarchy.

with the fact that mothers tend to be the primary caregivers and are typically held accountable for any omissions and/or failings in the child's care. In contrast, children typically had male abusers (62%). The predominance of males as the perpetrators of abuse holds true for each specific abuse category and is most pronounced for sexual abuse, where 87% of sexually abused children had male perpetrators.

Table 6–3 further reveals sex differences across the different perpetrator relationships, for overall abuse and for the specific abuse categories. Among all abused children, those abused by their biological parents were nearly equally likely to have been abused by mothers (51%) as by fathers (54%), but those abused by nonbiological parents or parents' partners and those abused by other persons were much more commonly abused by males (79% and 74%). This pattern applies for emotionally abused children, where the percentages of children with male perpetrators differ across the relationship categories. However, there are no differences across relationship categories for female perpetrators of emotional abuse. Moreover, the pattern is also different among physically abused children. When biological parents or other persons were perpetrators, males were the abusers for only about one-half of the children (48% and 56%, respectively), whereas when the perpetrator was a nonbiological parent, nearly three-fourths of the children were abused by a male (74%). The mirror image of this pattern is evident in the differences in percentages of children with female perpetrators across the relationship categories. When the perpetrator was a nonbiological parent, then this was a female for less than one-third of the children (29%); when the perpetrator was a biological parent or other person, then it was more likely to be a female perpetrators (for 56% and 43% of the children, respectively).

Among sexually abused children, the majority of perpetrators were male, regardless of their relationship to the child. However, they were much more likely to be male when they were the child's nonbiological parent. Also, the percentage of female perpetrators differs significantly depending on their relationship to the child. Children who are sexually abused by their biological parents have the highest percentage of female perpetrators (22% versus 6% or less in other relationship categories).

Table 6–4 provides the percentages of children by their perpetrator's sex for each level of outcome severity and perpetrator relationship.⁹⁴ The bottom-most section is

⁹⁴ Analyses did not subdivide the fatally injured children because of the small sample size.

identical to the last section in Table 6–3, showing that children more commonly have female perpetrators than male perpetrators (68% versus 48%, respectively).

Table 6–3. Perpetrator’s Sex by Category of Maltreatment and Perpetrator’s Relationship to Child		
Maltreatment Category/ Most Closely Related Perpetrator	Percent of Children in Row with Perpetrator Whose Sex was . . . [†]	
	Male	Female
ABUSE:	62%	41%
Biological Parent	54%	51%
Nonbiological Parent or Partner	79%	26%
Other Person	74%	21%
Physical Abuse	54%	50%
Biological Parent	48%	56%
Nonbiological Parent or Partner	74%	29%
Other Person	56%	43%
Sexual Abuse	87%	11%
Biological Parent	80%	22%
Nonbiological Parent or Partner	97%	3%
Other Person	86%	6%
Emotional Abuse	60%	50%
Biological Parent	56%	<i>No Relationship</i>
Nonbiological Parent or Partner	76%	
Other Person	60%	
NEGLECT:	38%	86%
Biological Parent	<i>No Relationship</i>	
Nonbiological Parent or Partner		
Other Person [^]		
Physical Neglect	39%	87%
Biological Parent	<i>No Relationship</i>	
Nonbiological Parent or Partner		
Other Person [^]		
Emotional Neglect	41%	80%
Biological Parent	<i>No Relationship</i>	
Nonbiological Parent or Partner		
Other Person [^]		
Educational Neglect	36%	89%
Biological Parent	<i>No Relationship</i>	
Nonbiological Parent or Partner		
Other Person [^]		
ALL MALTREATMENT:	48%	68%
Biological Parent	43%	75%
Nonbiological Parent or Partner	64%	48%
Other Person	75%	20%
[†] Information about perpetrator sex was entirely missing for 2% of children including 6% of those with Other Person perpetrators. [*] Fewer than 20 cases with which to calculate estimate; estimate too unreliable to give. [^] These perpetrators were not allowed under Harm Standard neglect criteria.		

Table 6–4. Perpetrator's Sex by Severity of Harm and Perpetrator's Relationship to Child		
Maltreatment Category/ Most Closely Related Perpetrator	Percent of Children in Row with Perpetrator Whose Sex was. . . [†]	
	Male	Female
FATAL/SERIOUS	48%	70%
Biological Parents	45%	75%
Nonbiological Parent or Partner	61%	59%
Others	80%	15%
MODERATE	45%	70%
Biological Parents	41%	76%
Nonbiological Parent or Partner	62%	45%
Others	63%	32%
INFERRED	64%	41%
Biological Parents	40%	68%
Nonbiological Parent or Partner	86%	*
Others	93%	*
ALL MALTREATMENT:	48%	68%
Biological Parent	43%	75%
Nonbiological Parent or Partner	64%	48%
Other Person	75%	20%
[†] Information about perpetrator sex was entirely missing for 2% of children including 6% of those with Other Person perpetrators.		
* Fewer than 20 cases with which to calculate estimate; estimate too unreliable to give.		

Children who were seriously injured or moderately injured more often had female perpetrators than male perpetrators (70% in each case versus had female perpetrator 48% and 45% with male perpetrators, respectively). This pattern differs for children with inferred harm, who tended to have more male perpetrators than female perpetrators (64% versus 41%). These patterns probably reflect both the fact that female perpetrators predominate in neglect, where more children are severely harmed, and the fact that inferred harm is typically associated with sexual abuse, which males most often perpetrate.

Another feature of the patterns in this table is that the overall sex differences across the relationship categories holds at all the severity levels. Overall, more children maltreated by a biological parent were maltreated by their mother, whereas those

maltreated by a nonbiological parent, parent's partner or by another person were generally maltreated by males. This applies to children at every level of harm.

6.4 Perpetrator's Age

Table 6–5 shows the percentages of children by their perpetrator's age for each category of Harm Standard maltreatment and perpetrator relationship. As in Tables 6–3 and 6–4, the table includes children with multiple perpetrators in all applicable perpetrator age categories. When this occurred, the row percentages sum to more than 100%. Thus, a child who was physically abused by both biological parents, one 22 years old and the other 29 years old, is included in percentages in both the "< 26 years" and "26–35 years" age columns. This table also provides a column for children whose perpetrators were of unknown age, because their percentages are not trivial. Children are in the last column (perpetrator of unknown age) only if age was unknown for all perpetrators in the category. The bottom-most section of Table 6–5 indicates that the perpetrator's age was unknown for almost one-fifth of children with Harm Standard maltreatment (18%). This percentage is highest (25%) for "other" perpetrators, who more often had missing information about their characteristics.

Table 6–5 shows that, overall, more children experienced Harm Standard maltreatment at the hands of perpetrators 26 years of age or older (35% or more) than by perpetrators younger than 26 years old (11%). The oldest perpetrators (over 35 years of age) predominated in the category of nonbiological parents or parents' partners. For well over one-half (57%) of children who were abused or neglected by a nonbiological parent or parent's partner, this person was in the oldest perpetrator age group. Moreover, this pattern appears in every category of Harm Standard maltreatment. The youngest perpetrators (under 26 years old) predominated among nonparents (other persons). These persons can only perpetrate abuse, since NIS definitions require only parents or guardians to be perpetrators of countable neglect.

Table 6–6 presents the percentages of children with perpetrators in different age groups by severity of harm and perpetrator relationship. Perpetrators age 26 and older predominate among children seriously or moderately harmed (35% or higher), but for children with inferred injury or impairment, perpetrators were most commonly older than 35 years of age (42%). Again, differences are apparent across the categories of

perpetrator relationship, with the oldest perpetrators most typical among nonbiological parents and parents' partners. The oldest parents and partners maltreated 63% of the children who sustained fatal or serious harm, 53% of those with moderate harm, and 63%

Table 6–5. Perpetrator's Age by Category of Maltreatment and Perpetrator's Relationship to Child				
Maltreatment Category/ Most Closely Related Perpetrator	Percent of Children in Row with Perpetrator Whose Age was. . .			
	< 26 Years	26 – 35 Years	> 35 Years	Unknown
ABUSE:	12%	33%	37%	18%
Biological Parent	9%	36%	37%	19%
Nonbiological Parent or Partner	6%	36%	51%	7%
Other Person	35%	17%	24%	25%
Physical Abuse	13%	34%	36%	17%
Biological Parent	11%	35%	35%	19%
Nonbiological Parent or Partner	7%	35%	50%	8%
Other Person	40%	21%	18%	22%
Sexual Abuse	15%	27%	32%	27%
Biological Parent	5%	35%	25%	35%
Nonbiological Parent or Partner	*	36%	48%	11%
Other Person	30%	14%	29%	29%
Emotional Abuse	7%	36%	47%	10%
Biological Parent	5%	39%	47%	10%
Nonbiological Parent or Partner	*	31%	62%	*
Other Person	36%	*	*	*
NEGLECT:	9%	37%	38%	18%
Biological Parent	10%	40%	36%	18%
Nonbiological Parent or Partner	*	8%	66%	25%
Other Person	^	^	^	^
Physical Neglect	15%	35%	35%	18%
Biological Parent	16%	38%	31%	18%
Nonbiological Parent or Partner	*	*	81%	14%
Other Person	^	^	^	^
Emotional Neglect	8%	36%	46%	13%
Biological Parent	8%	38%	44%	13%
Nonbiological Parent or Partner	*	*	68%	*
Other Person	^	^	^	^
Educational Neglect	5%	39%	39%	20%
Biological Parent	6%	42%	38%	18%
Nonbiological Parent or Partner	*	*	55%	*
Other Person	^	^	^	^
ALL MALTREATMENT:	11%	35%	38%	18%
Biological Parents	10%	39%	36%	18%
Nonbiological Parent or Partner	4%	25%	57%	15%
Other Person	34%	18%	24%	25%
* Fewer than 20 cases with which to calculate estimate; estimate too unreliable to give.				
^ These perpetrators were not allowed under Harm Standard neglect criteria.				

Table 6–6. Perpetrator's Age by Severity of Harm and Perpetrator's Relationship to Child				
Maltreatment Category/ Most Closely Related Perpetrator	Percent of Children in Row with Perpetrator Whose Age was. . .			
	< 26 Years	26 – 35 Years	> 35 Years	Unknown
SERIOUS	12%	35%	38%	17%
Biological Parent	11%	38%	36%	17%
Nonbiological Parent or Partner	*	20%	63%	14%
Other Person	33%	15%	22%	30%
MODERATE	9%	37%	37%	19%
Biological Parent	8%	40%	35%	19%
Nonbiological Parent or Partner	3%	28%	53%	16%
Other Person	35%	19%	21%	27%
INFERRED	20%	24%	42%	15%
Biological Parent	19%	28%	38%	18%
Nonbiological Parent or Partner	*	22%	63%	*
Other Person	31%	20%	35%	15%
ALL MALTREATMENT:	11%	35%	38%	18%
Biological Parent	10%	39%	36%	18%
Nonbiological Parent or Partner	4%	25%	57%	15%
Other Person	34%	18%	24%	25%
* Fewer than 20 cases with which to calculate estimate; estimate too unreliable to give.				

of children whose maltreatment was so severe that their harm could be inferred. Other (nonparental) persons who perpetrated Harm Standard maltreatment were primarily younger than 26 years old.

6.5 Child's Race as a Function of the Maltreatment and the Perpetrator's Relationship to the Child

The analyses explored whether the children's race was systematically related to the perpetrator's relationship to them, either overall or in specific maltreatment categories. Overall, and across most maltreatment categories, the racial distribution of maltreated children simply reflected the race differences in risk of maltreatment reported

earlier (Chapter 4) and did not vary with their perpetrator's relationship. The one exception was physical neglect.⁹⁵ Figure 6–1 graphs the pattern.

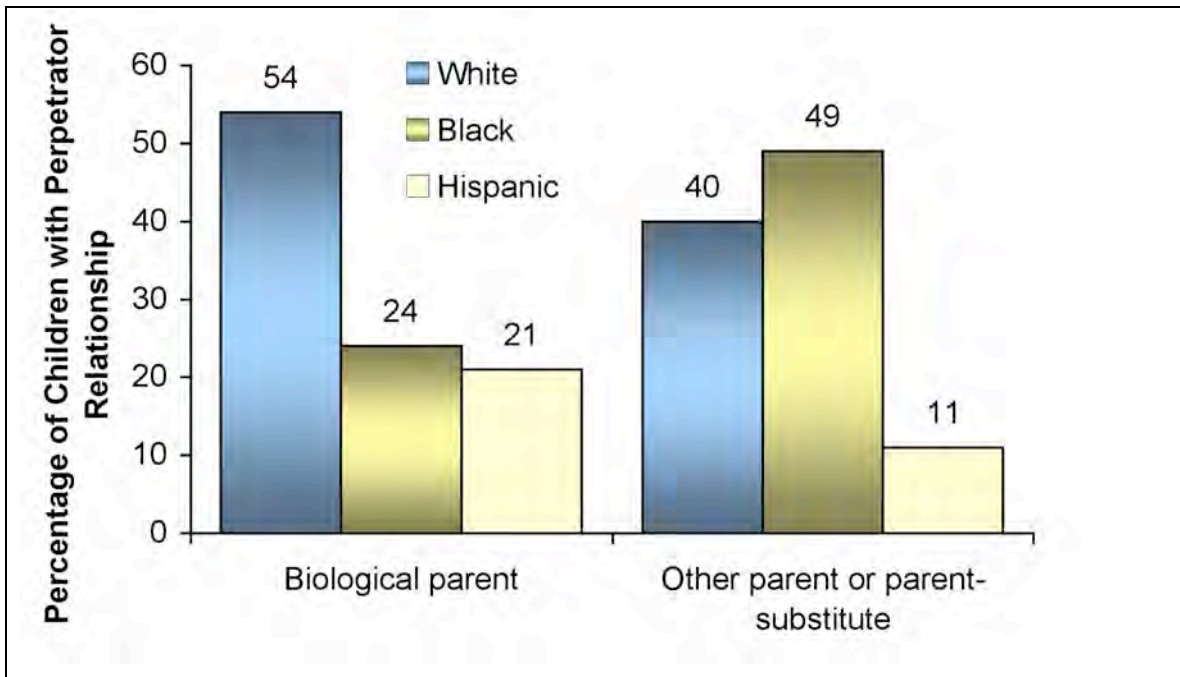


Figure 6–1. Race/ethnicity of Neglected Children by Their Most Closely Related Perpetrator.

The majority of children who were neglected by their biological parent were white, whereas children neglected by a nonbiological parent or parents' partner were predominantly Black. Like white children, Hispanic children are more prevalent among those whose biological parents neglect them than among children neglected by nonbiological parents (21% versus 11%).

6.6 Perpetrator's Alcohol Use, Drug Use, and Mental Illness as Factors in the Maltreatment

The NIS–4 added systematic questions about the perpetrator's alcohol use, drug use, or mental illness, so analyses could examine the extent to which sentinels or CPS investigators considered these issues to be factors in the maltreatment. Figures 6–2

⁹⁵ Sample sizes were too small in some cells to support reliable tests of the relationship in specific neglect categories.

through 6–6 give the percentages of children whose maltreatment involved their most closely related perpetrator’s alcohol use, drug use, or mental illness. The percentages include children under factors that applied to all their perpetrators in the closest-related category. For example a child who was emotionally abused by two biological parents, one of whom was known to have used alcohol and the other of whom used drugs, is included under emotional abuse (and all abuse, and all maltreatment) in both the percentage of children whose perpetrator used alcohol and the percentage of children whose perpetrator used drugs.

Figure 6–2 shows the percentages of children whose perpetrator’s alcohol use, drug use, or mental illness was believed to be a factor in their Harm Standard maltreatment, abuse, or neglect. The perpetrator’s alcohol use and drug use were approximately equivalent factors in the maltreatment of children with any Harm Standard maltreatment (11.4% and 10.8%, respectively) and in neglect (12.1% and 12.5%, respectively). In contrast, the perpetrator’s alcohol use was implicated in the abuse of more maltreated children (12.7%) than was perpetrator’s drug use (9.5%). The graph shows that the perpetrator’s mental illness was a less common factor in Harm Standard maltreatment and that it was essentially equally involved in both abuse and neglect (7.1% and 7.7%, respectively).⁹⁶

Figure 6–3 shows the involvement of perpetrator problems in specific categories of Harm Standard abuse. Their perpetrator’s alcohol use was more prevalent in children’s physical abuse than were the other two perpetrator problems (11.1% versus 6.8% or less); a higher percentage of physically abused children had perpetrators with drug use than with mental illness (6.8% versus 4.5%). In contrast, children who are sexually abused are about equally likely to have perpetrators using alcohol and drugs (8.4% and 9.1%, respectively), but appear less likely to have perpetrators who are mentally ill. The situations of emotionally abused children are quite different. Substantial percentages of emotionally abused children have perpetrators with these problems. One-sixth of the emotionally abused children had perpetrators who used drugs (16.7%) and an equal percentage were emotionally abused by mentally ill perpetrators. Their

⁹⁶ As noted earlier, all analyses in this chapter concern the child’s most closely related perpetrator(s). If the analyses concerning the involvement of drug use, alcohol use, and mental illness had considered all perpetrators, the results would be essentially the same as those reported here. For instance, considering all perpetrators, the percentages in Figure 6–2 would be 11.7% for alcohol involvement (higher by 0.3% from the 11.4% in the figure), 11.2% for drug involvement (higher by 0.4% from the 10.8% in the figure), and 7.3% for mental illness (higher by 0.1% from the 7.2% given in the figure).

perpetrator's alcohol use was a factor in the maltreatment events for more than one in five children who were emotionally abused (21.8%).

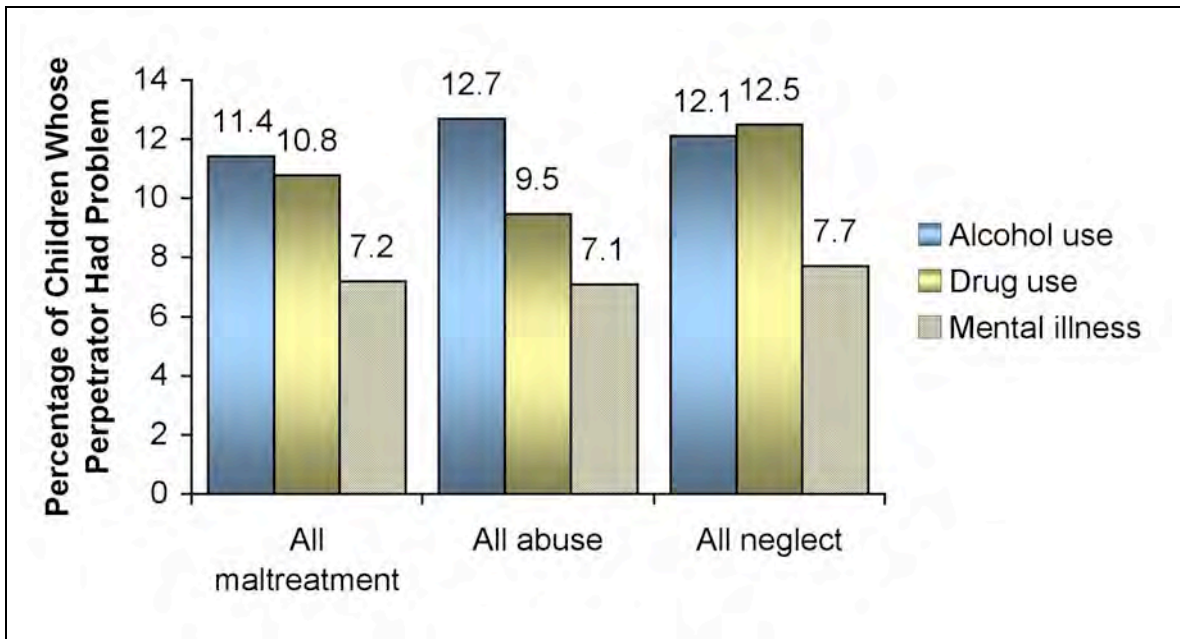


Figure 6-2. Perpetrator Problems in Overall Harm Standard Maltreatment, Abuse, and Neglect.

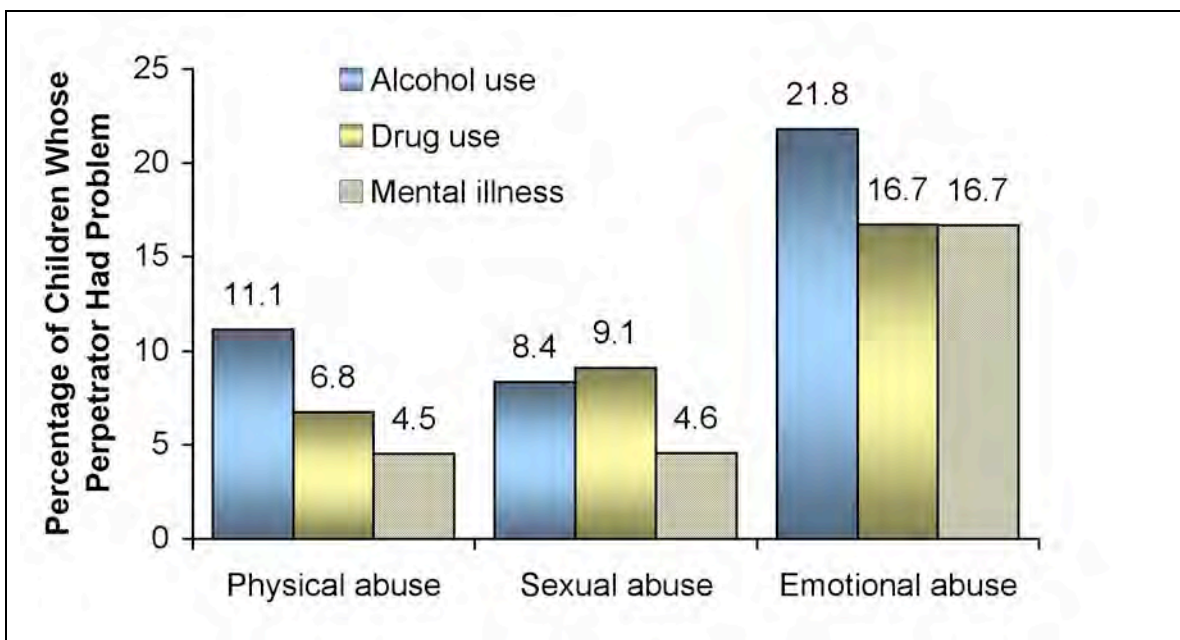


Figure 6-3. Perpetrator Problems in Specific Categories of Harm Standard Abuse.

The graph in Figure 6–4 presents the incidence of different perpetrator problems in specific Harm Standard neglect categories. For the physically neglected children, their perpetrator’s use of drugs appears to be the most common problem (14.7%), followed by perpetrator’s alcohol use (11.3%). Both alcohol and drug use are factors in physical neglect for more children than their perpetrator’s mental illness (7.5%). The patterns for emotionally neglected and educationally neglected children are similar, with fairly similar percentages having perpetrators with alcohol use and drug use, but notably smaller percentages with mentally ill perpetrators. However, the overall incidence of all perpetrator problems is much higher among the emotionally neglected children. About one-fifth of emotionally neglected children have perpetrators whose drug use or alcohol use were factors in their maltreatment (19.9% and 20.7%, respectively), and more than one-eighth (13.0%) had perpetrators who were mentally ill.

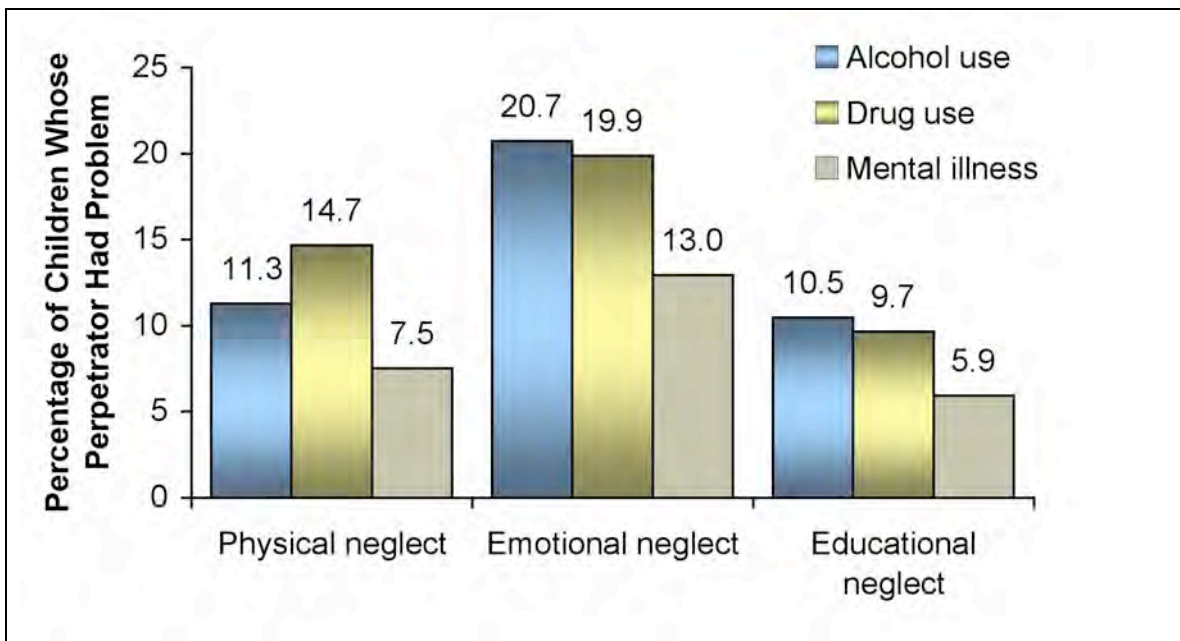


Figure 6–4. Perpetrator Problems in Specific Categories of Harm Standard Neglect.

Figure 6–5 provides the incidence of perpetrator problems among children who experienced different severities of harm as a result of their Harm Standard maltreatment. Both alcohol and drug use by perpetrators are prevalent among children with fatal or serious harm from their maltreatment, affecting more than one in seven children with this outcome severity (14.7% and 14.9%, respectively). Although fewer children have mentally ill perpetrators, this is a factor for nearly one in ten (9.6%) children who were fatally or seriously harmed.

More of the moderately harmed children have perpetrators who used alcohol (9.4%) compared to the other types of problems. This is higher than the percentages of moderately harmed children who had mentally ill perpetrators (5.7%) or whose perpetrators used drugs (7.5%).

Perpetrator's drug use is notably high among children for whom harm could be inferred based on the severity of their maltreatment events (14.7%). This is higher than the percentages of children in this group who have perpetrators with other problems.

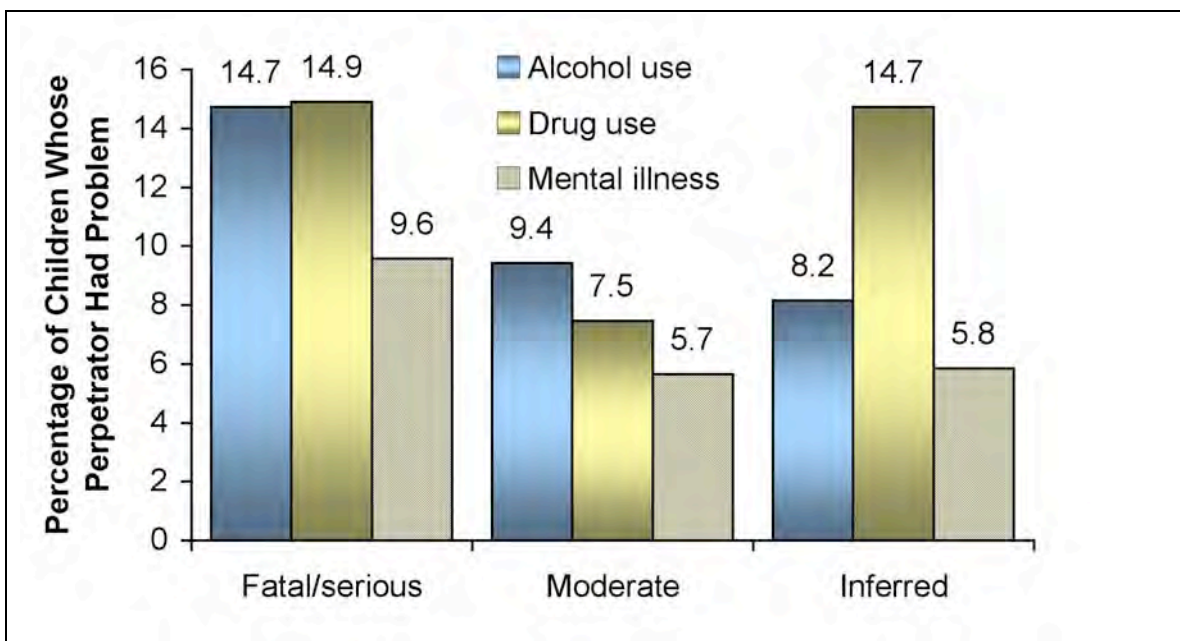


Figure 6–5. Perpetrator Problems in Maltreatment of Children with Different Levels of Harm.

The incidence of problems with alcohol use, drug use, or mental illness also varies with the perpetrator's relationship to the child, as Figure 6–6 illustrates. Across all three perpetrator problems, the factor was involved in the maltreatment of higher percentages of children when the perpetrator was a biological parent. Alcohol use was a factor in maltreatment for 12.4% of children maltreated by their biological parents, compared to 8.6% of those maltreated by other (nonbiological) parents and just 5.5% of those maltreated by other persons. Drug use played a role in the maltreatment for 11.8% of children whose biological parents were perpetrators, compared to 6.9% or less of children with other relationships to their perpetrators. When biological parents were

perpetrators, mental illness was a factor for 7.7% of children, as compared to just 5% of those children who were maltreated by someone else.

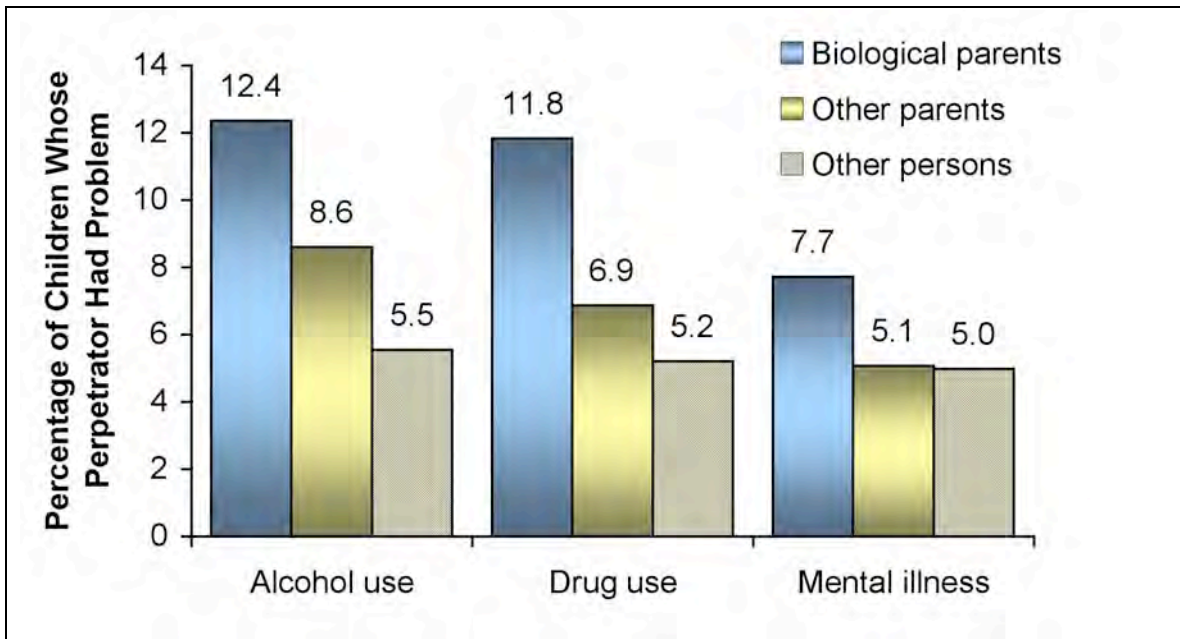


Figure 6–6. Perpetrator’s Problems in Harm Standard Maltreatment by Perpetrator’s Relationship to the Child.

Small numbers of children in the sample in different combinations of conditions prevented most other analyses examining how the incidence of problems varied by the perpetrator’s relationship to the child. However, when there were sufficient children in the sample, the several percentages that did emerge followed the patterns in Figure 6–6, with problems more common when biological parents were perpetrators.

7. RECOGNIZING ABUSED AND NEGLECTED CHILDREN

This chapter examines the sources that recognize maltreated children as abused or neglected. The initial sections address the following questions for children who experienced Harm Standard and Endangerment Standard maltreatment:

- What sources, in agencies or in the general community, encountered these children and recognized their maltreatment?
- What changes have occurred since the NIS–3 in the numbers of maltreated children that different sources identified?

The last section reports on and considers the implications of findings from the *Sentinel Definitions Study* for NIS coverage of the maltreated child population.

- What types of maltreatment situations do sentinels say they would submit to a national study such as the NIS? What situations would they submit to CPS but not to the study? Are there situations they would not submit to either venue (neither the NIS nor CPS)?
- What do these answers suggest about how well the NIS estimates cover the population of children who experience different types of maltreatment?

7.1 Sources Recognizing Abused and Neglected Children

This section examines the sources that recognized abused and neglected children in the NIS–4 and considers how recognition patterns have changed since the NIS–3. It first reports the recognition sources for children who experienced Harm Standard maltreatment, and then focuses on the sources that recognized children whose maltreatment fit the Endangerment Standard. In this context, the term “recognition” subsumes both encountering maltreated children and identifying them as maltreated.

As in previous chapters, all estimates reflect unduplicated numbers of children in the United States who experienced the type of maltreatment in question (Harm Standard or Endangerment Standard). The unit of measurement is the child and each estimate counts each child only once. The tables in this section give estimates both

in terms of the total numbers of children in the U.S. population and in terms of rates per 1,000 children in population. Estimated totals reflect the number of children nationwide who were maltreated during the study year in question, whereas the incidence rates indicate the number of children maltreated during the study year per 1,000 children in the U.S. population during that time period. Comparisons of recognition source contributions in the NIS–4 with their contributions in the NIS–3 used only incidence rate measures because they factor out changes in the overall size of the U.S. child population between studies.

As detailed in Chapter 2, the NIS gathers data about suspected cases of abused and neglected children from CPS agencies as well as from sentinels—community professionals in a number of different agency categories. The NIS classifies maltreated children according to their recognition source by considering: (1) the source(s) who had submitted the data form on the child to the NIS, and (2) for children investigated by CPS agencies, the source(s) who reported the child to CPS. Thus, if a hospital sentinel submitted the child to the NIS, the NIS classifies the child as recognized at a hospital. Alternatively, if the child entered the NIS on a CPS data form (because CPS investigated the child’s maltreatment) and the record shows that the report to CPS came from hospital staff, then the NIS also classifies that child as recognized at a hospital. For children recognized by more than one source in the list, NIS assigns them to a single source by selecting the first source in a classification hierarchy. This hierarchy reflects the agency tiers in the “iceberg model” (cf. Chapter 2) in that it prioritizes agencies with investigatory authority (juvenile probation, law enforcement, public health) over the remaining, non-investigatory agencies.⁹⁷

7.1.1 Sources Recognizing Children Maltreated under the Harm Standard

Figure 7–1 shows the sources that recognized children who met the criteria for Harm Standard maltreatment. These categories are mutually exclusive, with children included in the estimate in only one row. Starting with juvenile probation at the top of the figure, the order of sources clockwise around the figure corresponds to the NIS

⁹⁷ Within these two major tiers, the ordering of agency categories is not based on theoretical considerations, but is the standard ordering that NIS has applied since its inception.

classification hierarchy. If more than one source recognized a child's maltreatment, NIS procedures place the child in the first applicable source in this sequence, with one proviso—sources of reports to CPS take precedence over sources of NIS sentinel data forms. This classification scheme first credits sources that reported children to CPS who were accepted by CPS for investigation. For children not investigated by CPS, the scheme assigns recognition credit to the source who submitted the child to the NIS.

Thus, if both a police department and a CPS agency submitted a child to the NIS, and the CPS received the report on the child from a hospital, NIS classified the hospital as the source that recognized the child.⁹⁸ As the source of the report to CPS, the NIS identifies the hospital as the recognition source. With this exception, the hierarchy applies to resolve multiple sources of reports to CPS and submissions from multiple sentinel sectors. For example, if the NIS received two sentinel data forms on a child, one from a police department and the other from a hospital, the hierarchy applies credit to the police as the recognition source. Similarly, if a child entered the NIS through CPS investigation data and the CPS record shows that CPS received two reports on the child, one from shelter staff and the other from a neighbor, then the hierarchy applies to credit the shelter staff as the recognition source (since the neighbor comes under “All Other Sources,” the lowest source in the hierarchy).

⁹⁸ For this classification to apply, it was not sufficient for the CPS investigation record to simply list the child as a member of the household. It was also necessary that the CPS record show that CPS recognized this child's maltreatment. Operationally, this meant that the CPS record either identified the child as an alleged or indicated victim or described details of the child's countable maltreatment. See the discussion in Chapter 8 concerning CPS recognition of children's maltreatment.

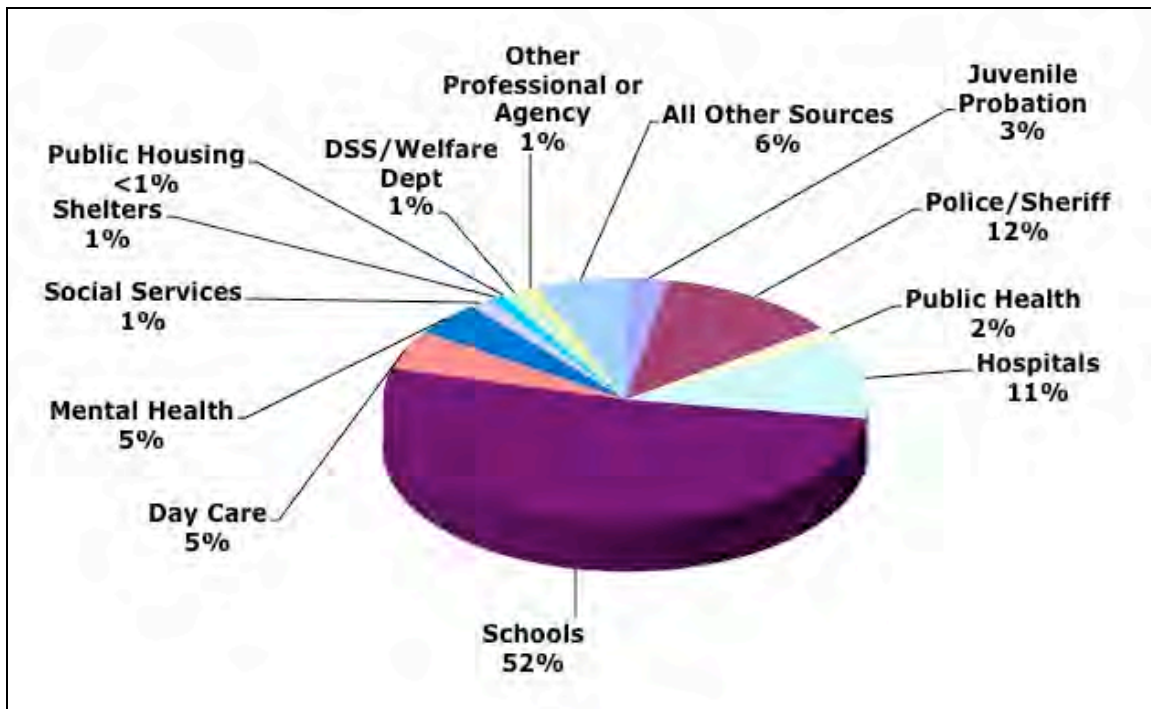


Figure 7–1. Sources that Recognized Children Who Experienced Harm Standard Maltreatment.

The first three agency categories in the hierarchy—juvenile probation, law enforcement, and public health—are investigatory agencies. Investigatory agencies are those in the second tier of the “iceberg” model described in Chapter 2. Figure 7–1 indicates that staff in investigatory agencies recognized 17% of the estimated total number of children who experienced Harm Standard maltreatment during the NIS–4 study year. Staff in law enforcement agencies, municipal police or sheriffs departments recognized most of these, 12% of all maltreated children. Sentinels in other, non-investigatory agencies (hospitals, schools, day care centers, mental health and social service agencies, shelters, and public housing agencies) recognized 75% of the total maltreated children. Non-investigatory agencies in the NIS design are those in the third tier of the “iceberg” model. Taken together, NIS sentinels recognized the large majority of children who experienced Harm Standard maltreatment—92% of all the Harm Standard maltreated children.

Professional staff in schools (teachers, nurses, and counselors) recognized more children than any other single sentinel group, over one-half (52%) of the children who fit the Harm Standard. Considering that this categorization is hierarchical, this estimate does not reflect all the children school sentinels recognized as abused or

neglected. That is, when school sentinels recognized a child who was also recognized by a source higher in the hierarchy, or when a school sentinel recognized a child reported to CPS by another source, the NIS identified that other agency as the recognition source, rather than the school.

The remainder of the children came from sources that only enter the NIS through CPS investigations. These include children who are recognized as maltreated by DSS/Welfare agencies (e.g., CPS agencies in other counties or other divisions of the county welfare agency such as food stamps or Medicaid), by other non-sentinel professionals or agencies (e.g., community health clinics not affiliated with a hospital, private practice pediatricians, physicians, therapists), and all other sources (primarily the general public, such as neighbors, friends, family, anonymous callers, and the victims themselves). Taken together, these CPS-only sources recognized 8% of the total number of children maltreated under the Harm Standard.

Whereas the NIS estimates represent all maltreated children that sentinels recognize as maltreated, the NIS has no information on maltreated children that “Other (CPS-only) Sources” see beyond the ones CPS investigates. The uninvestigated children that these other sources recognize remain unknown to NIS, in the deepest tier of the Chapter 2 “iceberg” model.

Changes since the NIS–3 in Recognition Sources of Harm Standard Maltreatment

Table 7–1 presents the contributions of different sources to the NIS–4 overall Harm Standard estimate of maltreated children, giving the total number and rate per 1,000 children in the general population each source recognized. The table also provides the NIS–3 recognition rates.

Public housing and shelters for battered women and for runaway and homeless youth are new sentinel agency categories in the NIS–4. The table gives the

Table 7–1. Sources Recognizing Maltreated Children Who Fit the Harm Standard in the NIS–4 (2005–2006) and Comparisons with the Estimated Numbers from Different Sources in the NIS–3 (1993)

Source Recognizing the Maltreatment	NIS–4: 2005–2006		NIS–3: 1993		
	Total No. of Children	Rate per 1,000 Children	Total No. of Children	Rate per 1,000 Children	
<i>Investigatory Sentinel Agencies:</i>					
Juvenile Probation	35,500	0.5	36,600	0.5	ns
Police/Sheriff	152,200	2.1	111,500	1.7	ns
Public Health	23,800	0.3	27,500	0.4	ns
Investigatory Agency Subtotal:	211,400	2.9	175,600	2.6	ns
<i>Other Sentinel Agencies:</i>					
Hospitals	134,200	1.8	113,200	1.7	ns
Schools	648,800	8.8	920,000	13.7	*
Day care Centers	65,500	0.9	59,700	0.9	ns
Mental Health Agencies ¹	59,000	0.8	50,900	0.8	ns
Social Service Agencies ²	18,000	0.2	96,000	1.4	*
Shelters	12,800	0.2	N/A	N/A	--
Public Housing	1,500	0.02	N/A	N/A	--
Other Sentinel Agency Subtotal: ³	939,800	12.8	1,239,800	18.5	m
All Sentinel Sources: ⁴	1,151,300	15.8	1,415,400	21.1	m
<i>Other Sources (only through CPS):</i>					
DSS/Welfare Department	18,500	0.3	15,000	0.2	ns
Other Professional or Agency	11,200	0.2	7,000	0.1	m
All Other Sources	75,600	1.0	116,400	1.7	*
Other (CPS-only) Subtotal:	105,300	1.4	138,400	2.1	*
ALL MALTREATMENT ⁵	1,256,600	17.1	1,553,800	23.1	m

* The difference between the NIS–3 and the NIS–4 recognition rates is significant at or below the $p < .05$ level.

m The difference between the NIS–3 and the NIS–4 recognition rates is statistically marginal (i.e., $.10 > p > .05$).

ns The difference between the NIS–3 and the NIS–4 recognition rates is neither significant nor marginal ($p > .10$).

Note: Estimated totals are rounded to the nearest 100.

¹ Mental Health and Social Service Agencies are shown separately but have always been sampled together as a single category.

² The cross study comparison included children reported by shelters in this category in NIS–4 (an estimated 30,800 children, or 0.4 per 1,000), because shelters were included under Social Services in the past studies.

³ The cross-study comparison included 938,300 children (12.7 per 1,000) in this category in NIS–4, excluding Public Housing.

⁴ The cross-study comparison included 1,149,800 children (15.6 per 1,000) in this category in NIS–4, excluding Public Housing.

⁵ The cross-study comparison included 1,255,100 children (17 per 1,000) in this category for NIS–4, excluding Public Housing.

NIS–4 estimates and rates per 1,000 children for these new sources of recognition, but the cross-study comparisons adjust for their different statuses in the different NIS cycles, as the table footnotes describe.

Investigatory agencies’ recognition of Harm Standard maltreatment did not change since the NIS–3. However, rates of recognizing these maltreated children at schools and at social service agencies decreased significantly. Staff at social service agencies decreased their recognition of children maltreated according to the Harm Standard by 70% since the NIS–3, while the recognition of children by school personnel dropped by 36%. Recognition rates for the “Other Sentinel Agencies” and the “All Sentinel Sources” decreased marginally from the NIS–3 to the NIS–4 (from 18.5 to 12.8 children per 1,000 and from 21.1 to 15.8 children per 1,000, respectively). Among CPS-only sources, the recognition contribution from the general public decreased significantly. Since this group accounts for the largest proportion of the CPS-only category, the overall CPS-only category also showed a significant decrease of 33% between the NIS–4 and the NIS–3. Finally, a statistically marginal decrease occurred in the “Other Professional or Agency” category.

7.1.2 Sources Recognizing Children Maltreated under the Endangerment Standard

Figure 7–2 shows the sources that recognized children who met the criteria for Endangerment Standard maltreatment. These categories are mutually exclusive, with children included in the estimate in only one recognition source, which was assigned according to the same classification hierarchy described earlier in Section 7.1.1.

Figure 7–2 indicates that the staff in the investigatory agencies (juvenile probation, law enforcement, and public health) recognized 24% of the estimated total number of children who experienced Endangerment Standard maltreatment during the NIS–4 study year. Similar to the Harm Standard findings, staff in law enforcement (municipal police or sheriffs’ departments) recognized the highest percentage of children, 19% of all maltreated children. Sentinels in other, non-investigatory agencies (hospitals, schools, day care centers, mental health, social services, shelters, and public housing) contributed almost two-thirds (63%) of the total maltreated children. Altogether, the NIS

sentinels recognized an estimated 87% of the total number of children who experienced Endangerment Standard maltreatment.

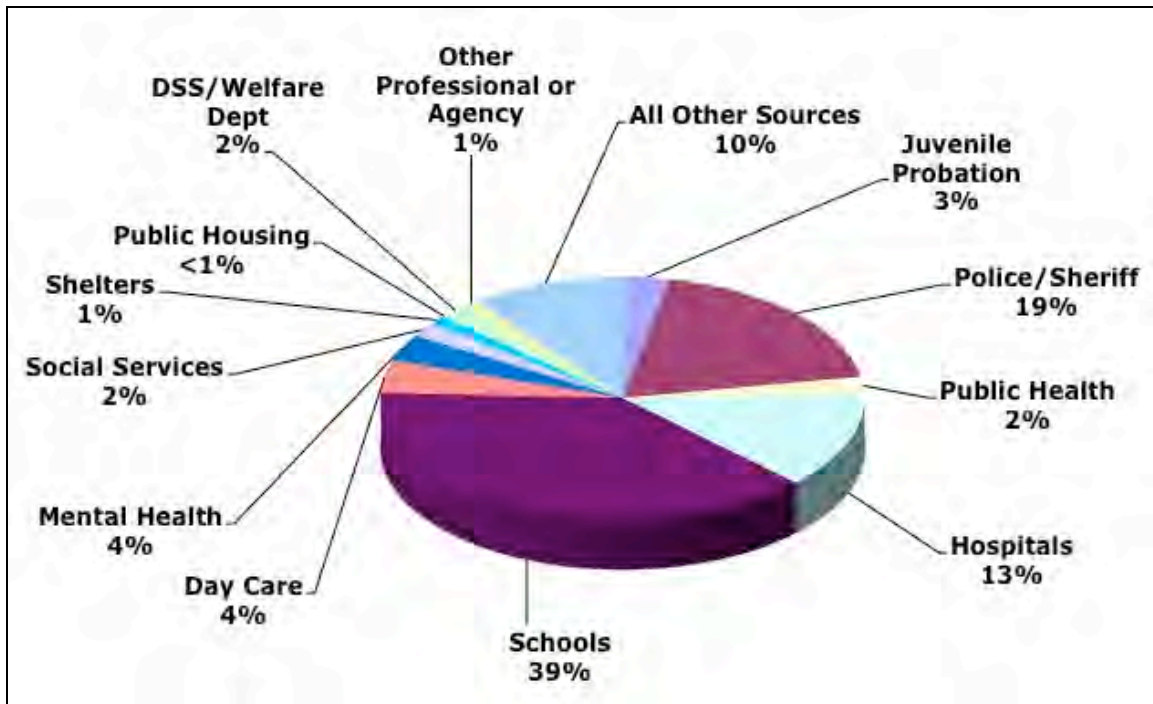


Figure 7-2. Sources that Recognized Children Who Experienced Endangerment Standard Maltreatment

As in the NIS-4 Harm Standard and in previous NIS cycles, school staff dominated sentinels in all other categories, recognizing 39% of the children who experienced Endangerment Standard maltreatment. As noted earlier, because of the NIS hierarchical classification system, this percentage does not include all the children that school sentinels recognize as abused and neglected; it excludes children that school staff recognized when other sources higher in the hierarchy also recognized those children as maltreated.

Sources that only enter the NIS through CPS investigations recognized 13% of children maltreated under the Endangerment Standard. As described above (§7.1.1), these sources include DSS/Welfare agencies (e.g., CPS agencies in other counties or other divisions of the county welfare agency) other (non-sentinel) professionals or agencies (e.g., community health clinics not affiliated with a hospital, private practice pediatricians, physicians, therapists) and all other sources (primarily the general public, such as neighbors, friends, family, anonymous callers, and the victims themselves). The

largest contributor in this sector, providing 10% of the Endangerment Standard total, was the general public.

Changes since the NIS–3 in Recognition Sources of Endangerment Standard Maltreatment

Table 7–2 presents the contribution of the different sources to the NIS–4 overall Endangerment Standard estimate of maltreated children, giving the total number and rate per 1,000 children in the general population each source recognized. The table also provides the NIS–3 recognition rates.

Public housing and shelters (for battered women and for runaway and homeless youth) are new sentinel agency categories in the NIS–4. The table gives the NIS–4 estimates and rates per 1,000 children for these two new sources, but the cross study comparisons adjust for their different treatment in the different NIS cycles, as the table footnotes describe.

Overall the investigatory agencies’ recognition of Endangerment Standard maltreatment significantly increased by 76% from the NIS–3 rate of 5.5 children per 1,000 to 9.7 children per 1,000 in the NIS–4. Both law enforcement and juvenile probation significantly contributed to the increased recognition by sentinels at investigatory agencies. The largest increase of 83% came from law enforcement agencies, where recognition increased from 4.1 children per 1,000 to 7.5 children per 1,000. Juvenile probation recognition grew by 50% from 0.8 children per 1,000 to 1.2 children per 1,000. Other professionals or agencies that contributed to NIS only through CPS investigation records also increased by 50%, from 0.2 children per 1,000 to 0.3 children per 1,000. A statistically marginal increase occurred in the contribution from DSS/welfare departments.

However, the recognition rates of children experiencing Endangerment Standard maltreatment significantly decreased since the NIS–3 among professionals at

Table 7–2. Sources Recognizing Maltreated Children Who Fit the Endangerment Standard in the NIS–4 (2005–2006), and Comparisons with Recognition Sources in the NIS–3 (1993)

Source Recognizing the Maltreatment	NIS–4: 2005–2006		NIS–3: 1993		
	Total No. of Children	Rate per 1,000 Children	Total No. of Children	Rate per 1,000 Children	
<i>Investigatory Sentinel Agencies:</i>					
Juvenile Probation	90,900	1.2	53,300	0.8	*
Police/Sheriff	553,900	7.5	272,000	4.1	*
Public Health	69,400	0.9	47,000	0.7	ns
Investigatory Agency Subtotal:	714,200	9.7	372,400	5.5	*
<i>Other Sentinel Agencies:</i>					
Hospitals	370,600	5.0	181,300	2.7	ns
Schools	1,112,900	15.1	1,510,700	22.5	*
Day care Centers	127,300	1.7	138,000	2.1	ns
Mental Health Agencies ¹	104,500	1.4	97,800	1.5	ns
Social Service Agencies ²	56,200	0.8	174,600	2.6	*
Shelters	33,400	0.5	N/A	N/A	--
Public Housing	5,800	0.1	N/A	N/A	--
Other Sentinel Agency Subtotal: ³	1,810,600	24.6	2,102,500	31.3	ns
All Sentinel Sources: ⁴	2,524,800	34.3	2,474,800	36.9	ns
<i>Other Sources (only through CPS):</i>					
DSS/Welfare Department	55,100	0.7	32,200	0.5	m
Other Professional or Agency	25,500	0.3	12,900	0.2	*
All Other Sources	300,400	4.1	295,700	4.4	ns
Other Sources Subtotal:	381,000	5.2	340,800	5.1	ns
ALL MALTREATMENT ⁵	2,905,800	39.5	2,815,600	41.9	ns

* The difference between the NIS–3 and the NIS–4 recognition rates is significant at or below the $p < .05$ level.

m The difference between the NIS–3 and the NIS–4 recognition rates is statistically marginal (i.e., $.10 > p > .05$).

ns The difference between the NIS–3 and the NIS–4 recognition rates is neither significant nor marginal ($p > .10$).

Note: Estimated totals are rounded to the nearest 100.

¹ Mental Health and Social Service Agencies are shown separately but have always been sampled together as a single category.

² The cross study comparison included children reported by shelters in this category in NIS–4, because shelters were included under Social Services in the past studies.

³ The cross-study comparison included 1,804,800 children (24.5 per 1,000) in this category in NIS–4, excluding Public Housing.

⁴ The cross-study comparison included 2,519,000 children (34.2 per 1,000) in this category in NIS–4, excluding Public Housing.

⁵ The cross-study comparison included 2,900,000 children (39.3 per 1,000) in this category for NIS–4, excluding Public Housing.

schools and social services agencies. Schools recognized maltreatment at the rate of 22.5 children per 1,000 in the NIS–3 but dropped by 33% in the NIS–4 to a rate of 15.1 children per 1,000. Similarly, recognition by sentinels in social service agencies significantly decreased by more than one half (54%) since the NIS–3 (2.6 to 1.2 children per 1,000).⁹⁹

7.2 Sentinels’ Expected Responses to Maltreatment Situations and the Implications for NIS Coverage

The *Sentinel Definitions Study (SDS)*, as described in Chapter 2, surveyed sentinels about their expected reactions to the kinds of maltreatment situations covered in the NIS, asking whether they would report these situations to CPS and whether they would submit them to a national study such as the NIS (McPherson and Sedlak, 2010). The SDS respondents were participating sentinels in the NIS–4 and the SDS questions represented the entire range of situations included in the NIS–4 maltreatment definitions. The SDS findings can, therefore, provide some insight into how well the NIS estimates cover the population of maltreated children.

Sentinels are critical to the NIS because they are the only source of information about maltreated children that CPS does not investigate. Moreover, as presented in the preceding sections, sentinels recognize the majority of countable children. Overall, sentinel sources accounted for 92% of the children who experienced Harm Standard maltreatment and 87% of those countable under the Endangerment Standard. The NIS receives sentinel-recognized children both directly from sentinels and through data on CPS investigations.

NIS coverage of the population of maltreated children. How complete is NIS coverage of the maltreated children that sentinels encounter? The NIS has strong coverage of cases that sentinels submit directly to the study. NIS coverage of cases that the sentinels report to CPS but do not submit to the study is mixed—NIS will only obtain

⁹⁹ The calculation of the change in social services used a combined total estimate of the children reported by shelters and social service agencies (an estimate of 89,600 at a rate of 1.2 per 1,000 children).

data on those cases if CPS screens them in for investigation.¹⁰⁰ Finally, NIS has no coverage of cases that sentinels neither report to CPS nor submit to the study.

Table 7–3 presents sentinels’ answers to the SDS questions about how they would respond to the maltreatment situations presented in the vignettes. The table indicates what the sentinels reported they would do, providing the average percentage who said they would respond in the manner specified to the vignettes within each maltreatment category. (It is important to note that these percentages do not reflect the percentage of *maltreated* children that the sentinels would report; they are percentages of *sentinels* who said they would report the cases in each maltreatment category. The report on the *Sentinel Definitions Survey* (McPherson and Sedlak, 2010) provides further details on the SDS analyses and findings.

Table 7–3. NIS Coverage of Maltreatment Situations as Indexed by Sentinels’ Responses to SDS Vignettes*			
Maltreatment Category	NIS Coverage		
	<u>Strong</u> Give to national study	<u>Mixed</u> Give to CPS but not to national study	<u>None</u> Give to neither CPS nor national study
Physical Abuse	59	27	15
Sexual Abuse	67	28	5
Emotional Abuse	56	26	18
Physical Neglect	55	28	16
Emotional Neglect	48	29	22
Educational Neglect	41	30	30
All Maltreatment	53	28	19
* Cell entries are the average percentages of sentinels providing the indicated response to vignettes in the maltreatment category, computed by first determining the percentage of sentinels giving the response to each vignette (among those who received the vignette) and then averaging the percentages across the vignettes within each maltreatment category.			

Overall, an average of just over one-half of the sentinels across all maltreatment vignettes (53%) said they would submit the situations to the study. An average of slightly more than one-fourth of the sentinels (28%) said they would give the

¹⁰⁰ This depends on CPS screening policy, as discussed in Chapter 8.

maltreatment situations only to CPS. Just under one-fifth of the sentinels (19%), on average, would not give the situations described to either the study or to CPS.

While there are important limitations to these SDS findings, as noted below, they do suggest that sentinels encounter maltreatment situations that do not enter the NIS. The NIS clearly cannot cover situations that the sentinels do not give either to CPS or to the study. Moreover, the percentages across the maltreatment categories point to areas where coverage may be stronger or weaker than others. It appears that NIS coverage is probably best for the sexual abuse cases that sentinels encounter, since an average of 67% of sentinels said they would give these cases to the study and only 5% would not submit the described situations to either the study or CPS. Physical abuse, emotional abuse, and physical neglect appear to have similar coverage profiles in the table, with an average of slightly more than one-half of the sentinels saying they would submit the situations to the study and only between one-seventh and one-sixth saying they would not give the situation to either the study or CPS.

These findings suggest that the NIS coverage may be relatively weak for educational and emotional neglect. Although an average of about 41% of the sentinels said they would give the educational neglect situations to the NIS, almost one in three sentinels said they would give these cases to neither CPS nor the study. In response to the emotional neglect vignettes, although an average of 49% of sentinels say they would submit such situations to the study, more than one-fifth (22%) would not submit these cases to either a national study or CPS.

Completeness of data from school sentinels. The SDS also looked at self-predicted responses to maltreatment according to the type of agency in which the sentinel worked, classifying sentinels into four broad groups: school, health, law enforcement, and other. As previous sections reported, school sentinels overwhelmingly predominate as a recognition source of maltreated children in the NIS. Their preeminence among the NIS recognition sources might imply that school sentinels are most likely to submit their suspected cases to the NIS. However, the SDS findings suggest otherwise, as Figure 7–3 illustrates.

The NIS coverage should be strong for those cases that sentinels submit directly to a national study. In the SDS, school sentinels were the least likely of the four SDS sentinel groups to say they would submit the maltreatment situations to a study such

as the NIS. Figure 7–3 shows that only 41% of school sentinels said they would submit the cases to a national study, compared to between 44% and 58% of sentinels in the other groups. As noted above, the NIS has mixed coverage of cases that sentinels submit to CPS, depending on whether CPS investigates them. The SDS also reveals that the school sentinels were least likely to say they would report maltreatment to CPS. Two-thirds (67%) of school sentinels said they would report countable maltreatment to CPS, compared to about three-fourths (73% to 77%) of sentinels in the other three groups.

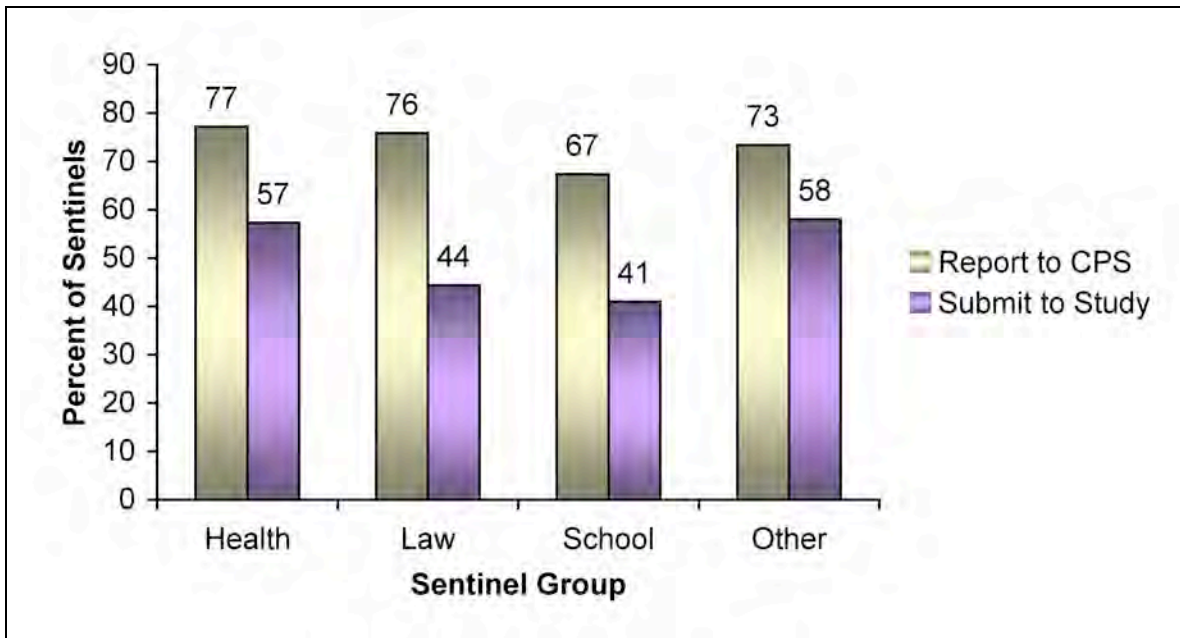


Figure 7–3. Responses to Maltreatment Vignettes in the SDS by Sentinel Groups.

Limitations of these findings. The SDS methodology provided an artificial context and had three important limitations that qualify the implications of the findings. First, the study design equally represented the range of situations included in the NIS definitions. It is unlikely that this distribution of maltreatment types corresponds to the distribution of maltreatment situations that sentinels encounter in real life. The sentinel percentages in Table 7–3 would undoubtedly look quite different if the component vignettes contributed to the averages in proportion to sentinels’ real-world encounters with situations corresponding to those described. Thus, it is not possible to apply the table percentages to the main NIS findings to calibrate the undercoverage of the maltreated child population. The SDS findings are useful in highlighting in a general way those areas where the NIS may have stronger or weaker coverage (following the model of the discussion above). Second, the artificial context may establish expectations

that influence sentinels' responses in unintended ways. Most vignettes in the SDS were countable under the Harm Standard. If participants believed that their answers to different vignettes should discriminate across the set in their questionnaire, they may have attempted to meet this expectation rather than to convey what they honestly thought they would do if they encountered the situation described in each vignette.¹⁰¹ Finally, the SDS findings represent what sentinels *say* they would do; the accuracy of their predictions is not known through this study.

¹⁰¹ A phenomenon known as “demand characteristics” (Weber & Cook, 1972).

8. INVESTIGATING ABUSED AND NEGLECTED CHILDREN

This chapter examines to what degree abused or neglected children had their maltreatment investigated by CPS agencies and what community sources encountered and recognized these children. The chapter is divided into five sections and addresses the following questions:

- To what extent did CPS agencies investigate the maltreated children who experienced Harm Standard or Endangerment Standard maltreatment? Specifically:
 - ♦ What percentages of abused or neglected children had their maltreatment investigated by CPS agencies? How do these investigation rates compare with those found in the NIS–3 and in the NIS–2?
 - ♦ What were the rates of CPS investigation for different maltreatment categories? How have these investigation rates changed since the NIS–3 and the NIS–2?
 - ♦ What were the rates of CPS investigation for maltreated children who were recognized by different sources? How have these investigation rates changed since the NIS–3?
- Did extending NIS CPS data collection by an additional month beyond the reference period improve the observed rates of CPS investigation?
- What are the implications of CPS agencies' screening standards for understanding why some maltreated children do not receive CPS investigation?
- What is the relationship between CPS investigation patterns and CPS agencies' structure and policies?
- What is the relationship between CPS investigation patterns and sentinels' self-reported standards for reporting maltreated children to CPS?

The chapter concludes with an overview of the recognition and investigation patterns identified in the NIS–4 and a discussion of their implications.

8.1 CPS Investigation of Abused and Neglected Children

The NIS design makes it possible to discover whether CPS investigated the maltreatment of the countable children reported to the study. Using that information, the NIS provides estimated totals and percentages of maltreated children whose maltreatment receives attention in a CPS investigation. This section reports on these estimates, first considering the investigation of children whose maltreatment was countable under the Harm Standard and then considering those countable under the Endangerment Standard. For each standard, further analyses also examined changes since the NIS–3 and the NIS–2 in the percentages of children who received CPS investigations.

The standard for identifying children who received a CPS investigation was relatively lenient. It included any children listed on an investigation record that described the child’s countable maltreatment, or at least did not deny that the child was an alleged or indicated victim. Thus, uninvestigated children were only those who did not appear in any CPS investigation record or appeared only in records that clearly omitted any mention of their countable maltreatment and explicitly denied that they were indicated or alleged victims.¹⁰² This method is conservative in that it assumes that a child received CPS investigation when the CPS record listed the child but omitted any information about the child’s status as an alleged or indicated victim.¹⁰³

Because the NIS simply identifies whether or not a maltreated child is within the set of children CPS investigated, those who were not investigated represent an enigma to the study. The NIS data only indicate that they were not among the children listed in CPS investigations or that they were merely listed as uninvolved children in a CPS investigation of their household. There is no means, within the study itself, to determine the reason a maltreated child was not investigated—whether it was because *no one*

¹⁰² The NIS–3 used this same rule. It is slightly more lenient than the NIS–2 classification rule, which required an “investigated” child to have been clearly an alleged or indicated victim or for the CPS investigation record to have described his or her countable maltreatment. The NIS–3 and the NIS–4 approaches included children who were listed in CPS investigations but whose alleged or indicated victim status in the investigation was unknown. This approach made a slightly greater difference in the NIS–4 and in the NIS–3, where more listed children had missing information about their victim status, whereas the effect of using this lenient rule in the NIS–2 would have been so small as to be undetectable.

¹⁰³ Also note that this rule is broadly inclusive in that it classifies a child as having received CPS attention for countable maltreatment even in those cases where the investigation focused on a different maltreatment allegation and even when the maltreatment the investigation had focused on was concluded to be unfounded.

reported the child to CPS or because CPS received a report but did not screen it in for investigation. For this reason, the NIS does not use the phrase “reporting rate,” but instead refers to the “investigation rate” of children.¹⁰⁴

As Chapters 1 and 2 discussed, this ambiguity motivated three independent NIS–4 supplementary studies: the *CPS Structure and Practices Mail Survey (SPM)*, the *CPS Screening Policies Study (SPS)*, and the *Sentinel Definitions Survey (SDS)*. Subsequent sections in this chapter discuss the implications of these supplementary studies’ findings for understanding the CPS investigation rates observed in the main NIS data. Independent reports on the supplementary studies provide further details about their methodology and full descriptions of their findings.

8.1.1 CPS Investigation of Children Maltreated under the Harm Standard

Figure 8–1 shows the overall incidence of children who experienced Harm Standard maltreatment across all the NIS cycles, identifying the percentage of children as well as the rate per 1,000 children in each study whose maltreatment was investigated by CPS.

The percentage of children with Harm Standard maltreatment who received CPS investigation showed negligible change between the NIS–3 (28%) and the NIS–4 (32%). The slight increase in the percentage is not statistically meaningful. The comparison of the percentage of children investigated between the NIS–4 (32%) and the NIS–2 (44%) is statistically marginal. In terms of the percentage of Harm Standard children investigated, the NIS–4 percentage is very close to the 33% investigated in the NIS–1, however, the total number of children maltreated and investigated was much lower in the NIS–1.

¹⁰⁴ The NIS–1 report did use the phrase “reporting rate,” but that is misleading for the reasons discussed here. The NIS–2 report attempted to clarify this by variously referring to “CPS awareness” of the children, or to children who were “officially known to CPS,” but those labels could have been misinterpreted to refer to all reported cases, whether or not CPS accepted them for investigation. The NIS–4 and the NIS–3 preferred the phrase “investigation rate” because it more clearly indicates that cases screened-out from investigation are not included, despite the fact that a reporter had attempted to bring them to CPS attention. Nor does the NIS “investigation rate” include those children who receive forms of CPS attention other than an investigation, such as assessments or what the field calls “alternative response” services.

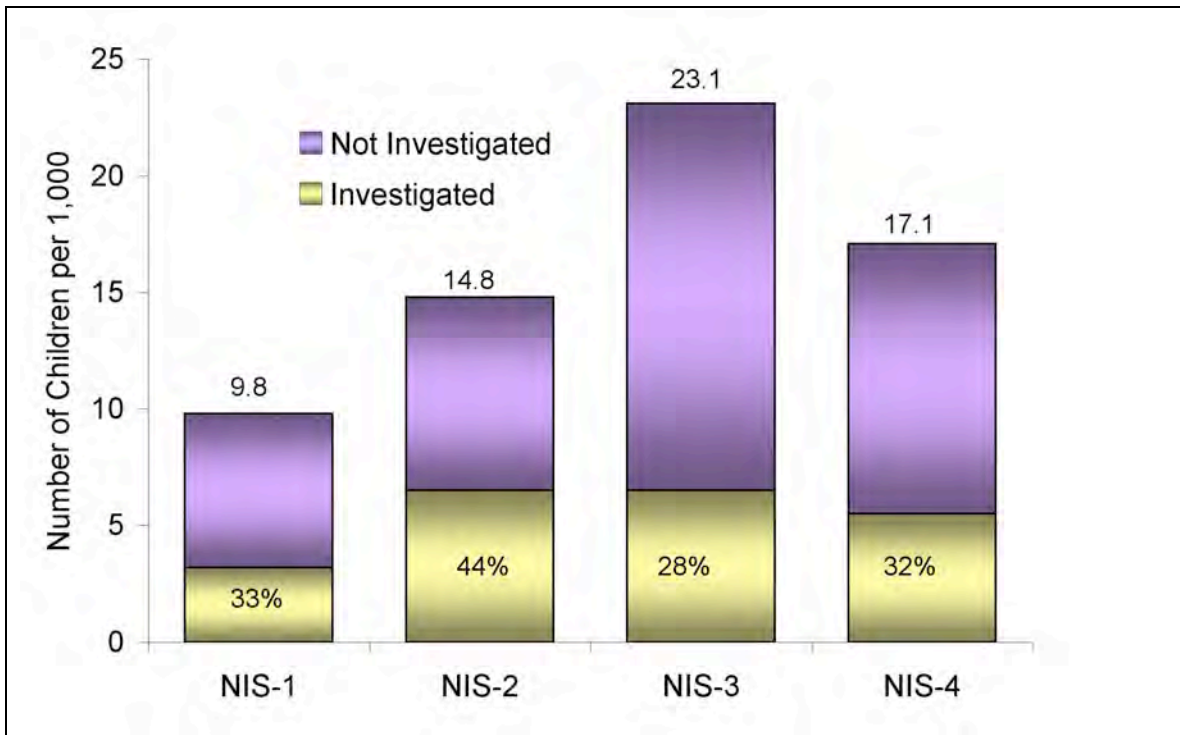


Figure 8–1. Changes in Rates of CPS Investigation of Children with Harm Standard Maltreatment

Figure 8–1 also shows that the total number of maltreated children who are investigated per 1,000 children in the population has remained approximately level since the NIS–2, at 6.5 per 1,000 children in the NIS–2 and NIS–3 and at the statistically equivalent rate of 5.5 per 1,000 children in the NIS–4. Subsequent sections consider various factors that may affect the investigation rate: sentinels not reporting maltreated children to CPS, or CPS screening out reports on these children or assigning them for a non-investigation agency response.

CPS Investigation Rates by Harm Standard Maltreatment Categories and the Nature and Severity of Harm

Figure 8–2 shows the NIS–4 investigation rates for children with different categories of Harm Standard maltreatment and different levels of harm from their maltreatment. As in earlier chapters, children are included in every maltreatment category that applied to them, but they are included in only one level of outcome severity,

based on the most serious harm they suffered from countable maltreatment. The figure excludes children who died as a result of their maltreatment, because their numbers are too small to appear on the graph. The absolute sizes of the bars in the figure reflect the total number of children per 1,000 who experienced the maltreatment or harm noted. The percentage shown next to each category label indicates the portion of the bar on the left side of the graph, reflecting the percentage in the category that CPS investigated.

Categorizing children as having received CPS investigative attention is a child-level conclusion, not specifically associated with the specific categories of maltreatment they experienced. This means, for example, that educationally neglected children who are classified as having been investigated by CPS may have been maltreated in multiple ways, and the CPS investigation may, in fact, have focused on one of the other categories of maltreatment they suffered, not on their educational neglect. Thus, the extent of CPS investigation for each maltreatment category is a generous measure, including children who may have received a CPS investigation for something other than the specific maltreatment in question.¹⁰⁵

Despite the fact that these percentages overstate the extent of CPS investigation, they are still notably low. As reported above, 32% of all children countable under the Harm Standard had their maltreatment investigated by CPS. Figure 8–2 shows that one-half of all a children who experienced abuse were investigated. Slight majorities of children who were physically abused (53%) or sexually abused (55%) received an investigation. Emotionally abused children and neglected children had lower rates of CPS investigation (36% and 20%, respectively). As previous NIS studies also found, educationally neglected children had the lowest investigation rate (9%).

¹⁰⁵ Moreover, the maltreatment that was the focus of the CPS investigation need not have been countable under the study definitions.

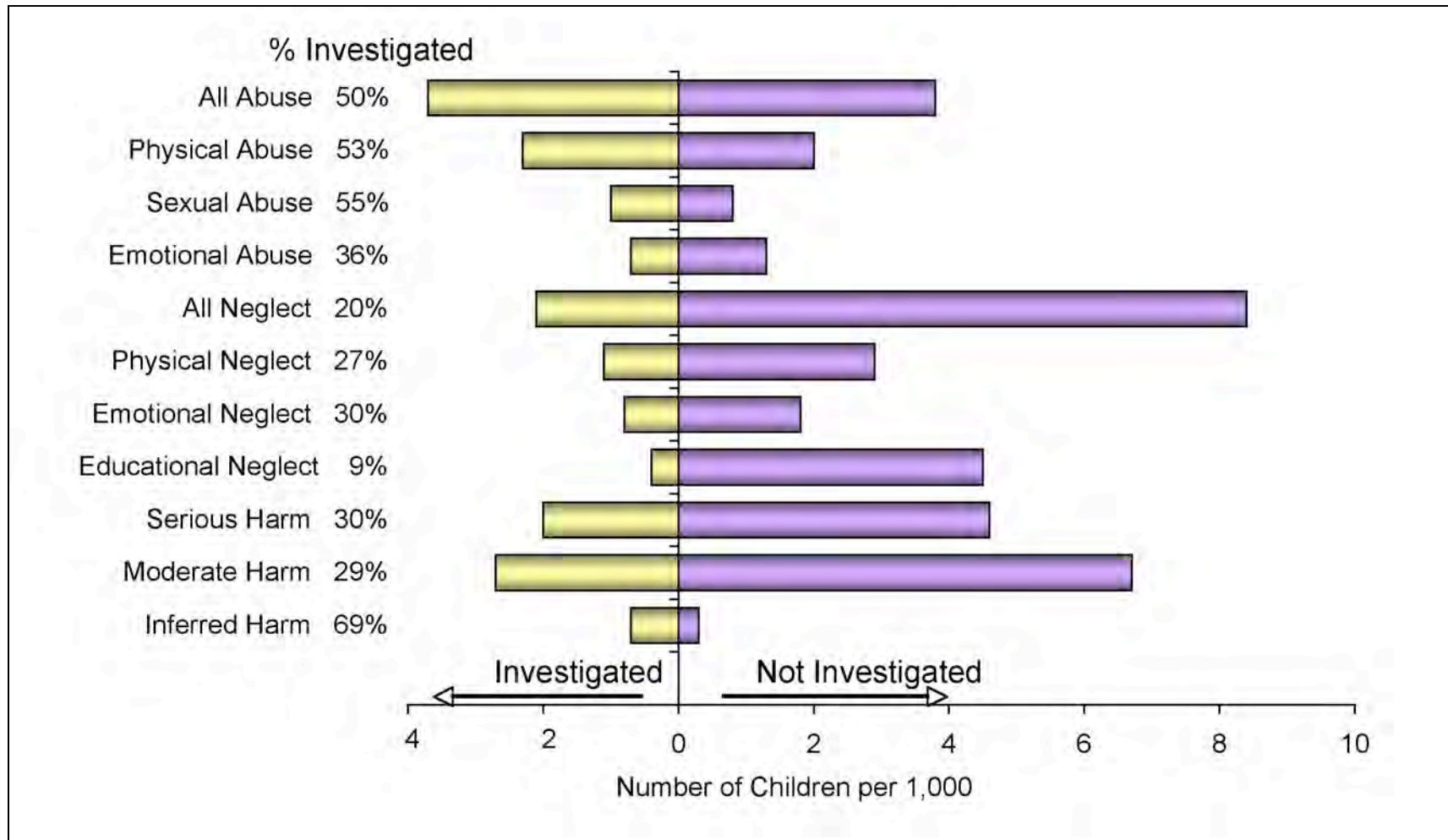


Figure 8–2. CPS Investigation of Maltreated Children in the NIS–4, by Harm Standard Maltreatment Category and Severity of Harm

Less than one-third of the children who experienced serious harm (30%) or moderate harm (29%) due to Harm Standard maltreatment received CPS investigation. However, CPS investigated maltreatment of 69% of those children whose maltreatment was so extreme that their harm could be inferred.

Changes since the NIS-2 and the NIS-3 in Rates of CPS Investigation of Harm Standard Maltreatment.

As the above discussion of Figure 8-1 reported, the rate of investigation of overall Harm Standard maltreatment did not statistically change between the NIS-3 (28%) and the NIS-4 (32%), while the decrease since the NIS-2 (44%) was statistically marginal. Figure 8-3 shows the categories of Harm Standard abuse with statistically meaningful changes in investigation rates since the NIS-2.

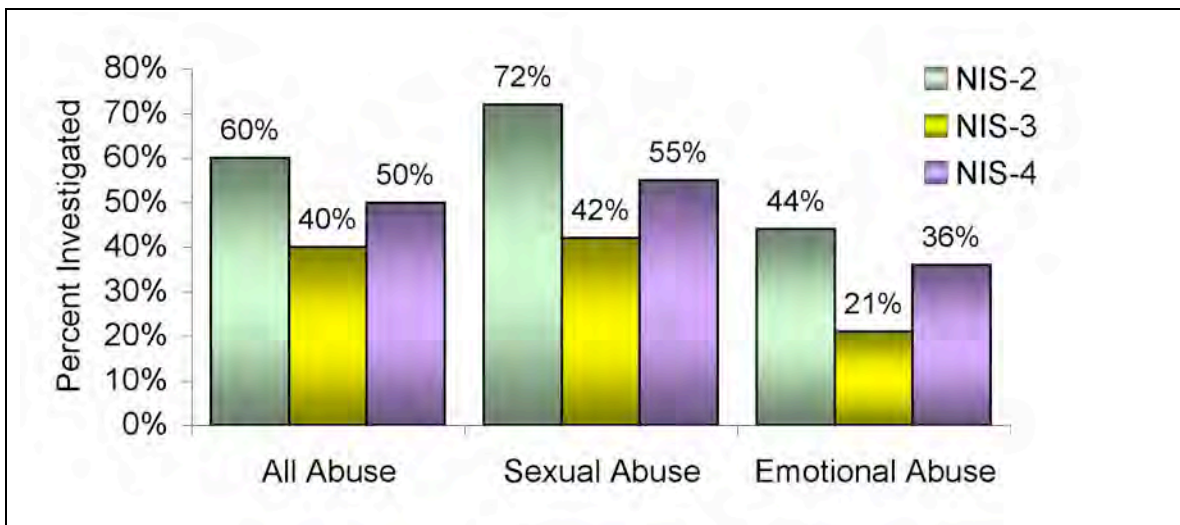


Figure 8-3. Changes in Investigation Rates for Harm Standard Abuse Across NIS Cycles

The 10% increase in the rate of investigation for overall Harm Standard abuse between the NIS-3 (40%) and the NIS-4 (50%) was a statistically marginal change. This increase brought the NIS-4 investigation rate up to level that is not statistically different from its level during the NIS-2 (60%).

CPS investigated more than one-half the children who were sexually abused under the Harm Standard in the NIS-4, which reflects a marginal increase since the NIS-3 in the investigation rate for this category (55% vs. 42%). This latest rate is not statistically different from the NIS-2 level (72%), largely because of the wide margin of error on that earlier estimate.

CPS investigation of emotionally abused children significantly increased since the NIS-3, from 21% to 36%. The new rate does not differ from the NIS-2 investigation rate for emotional abuse.

Two statistically meaningful changes occurred in CPS investigation of Harm Standard neglect, depicted in Figure 8-4. CPS investigated children with Harm Standard emotional neglect at a significantly higher rate in the NIS-4 (30%) than in the NIS-3 (18%). Here, too, the NIS-4 investigation rate for emotional neglect does not differ from the NIS-2 rate.

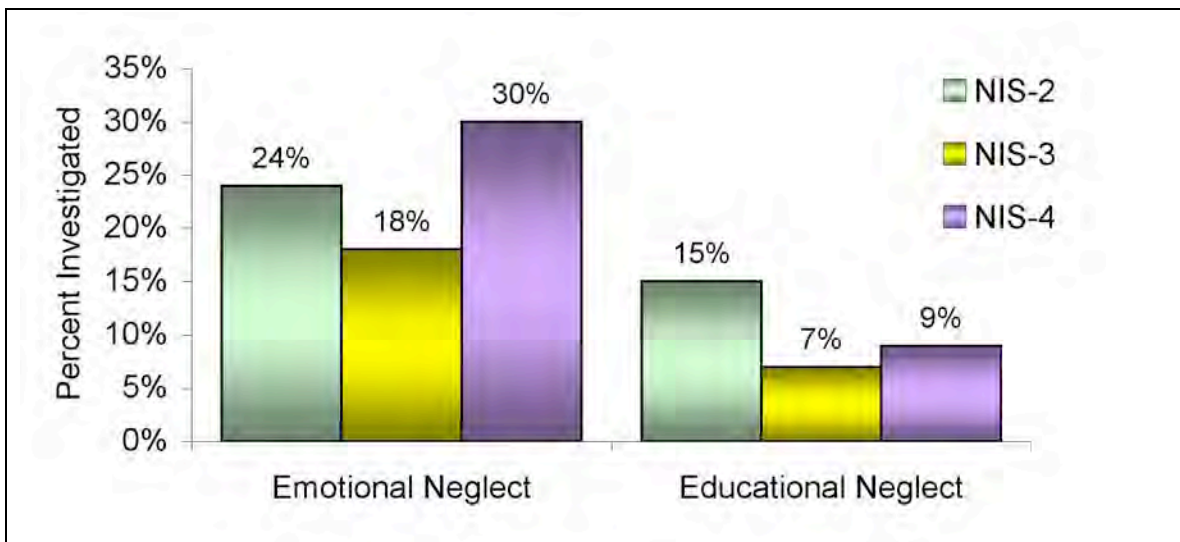


Figure 8-4. Changes in Investigation Rates for Harm Standard Neglect Across NIS Cycles

Although the CPS investigation rate for educational neglect showed essentially no change since the NIS-3, the NIS-4 rate of 9% remains marginally below the NIS-2 level, when CPS investigated 15% of educationally neglected children.

Figure 8–5 shows that CPS investigation rates changed since the NIS–2 for children whose most serious harm from Harm Standard maltreatment was at the moderate level or whose harm could be inferred from the severity of their maltreatment events. The investigation rate for children whose harm from maltreatment could be inferred rose significantly from 48% in the NIS–3 to 69% in the NIS–4. The NIS–4 investigation rate for children with inferred harm does not differ from the NIS–2 investigation rate for this category.

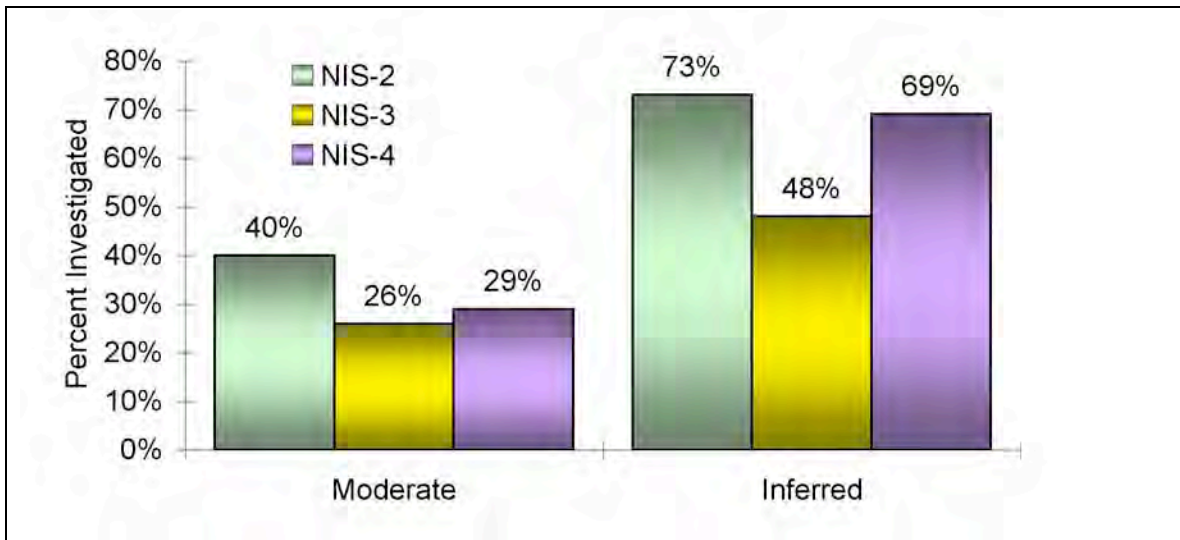


Figure 8–5. Changes in Investigation Rates for Children by the Severity of Their Most Serious Harm from Harm Standard Maltreatment Across NIS Cycles

The CPS investigation of children who suffered moderate harm due to their Harm Standard maltreatment showed no change since its level during the NIS–3, but the NIS–4 rate (29%) is marginally lower than the rate observed at the time of the NIS–2 (40%).

CPS Investigation Rates by the Source Recognizing Harm Standard Maltreatment.

Figure 8–6 shows the investigation rates for children who experienced Harm Standard maltreatment according to their recognition source.

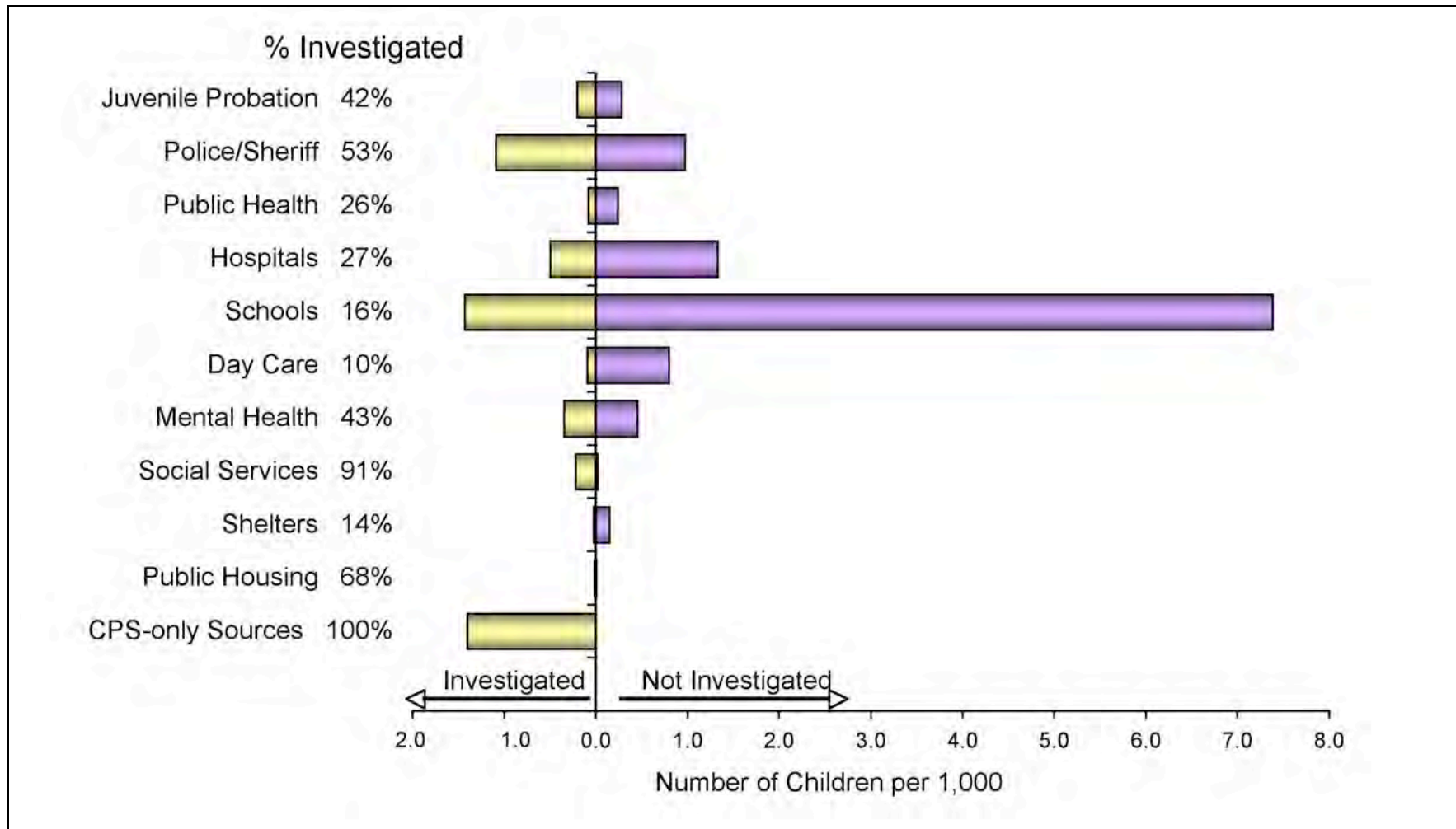


Figure 8–6. CPS Investigation of Children with Harm Standard Maltreatment in the NIS–4, by Recognition Source

As Chapter 7 described (§7.1.1), the strategy for assigning recognition sources uses a hierarchy (shown by their ordering in the figure) and defines mutually exclusive categories, allocating each child to the first applicable source in the listing. Similar to the approach in Figure 8–2, the absolute size of a bar in this figure reflects the total number of children per 1,000 who experienced Harm Standard maltreatment and were recognized by the source in question. The percentage displayed next to the label for each recognition source indicates the portion of the bar that is on the left side of the graph, reflecting the percentage of children from that recognition source whom CPS investigated.

The first three recognition sources in this figure (juvenile probation, police/sheriff, and public health) are investigatory agencies. Taken together, CPS investigated 48% of the children recognized as maltreated by staff in these investigatory agencies. Within this group, CPS investigated more than one-half (53%) of the children recognized by law enforcement, whereas investigation rates were lower for children recognized by staff in juvenile probation and public health departments (42% and 26% respectively).

CPS investigated only 21% of the children identified by sentinels in non-investigatory agencies (hospitals, schools, day care centers, mental health agencies, voluntary social service agencies, shelters, and public housing). In general, the agencies in this group recognized the greatest proportion of Harm Standard maltreated children, and this group also had the vast majority of those who did not receive a CPS investigation. Social service agencies had the highest rate of CPS investigation (91%).

Public housing, a new category in the NIS–4, ranked second with CPS investigating 68% of the Harm Standard countable children they recognized. However, this source recognized a considerably smaller number of countable children compared to other agencies, as evidenced by the almost indiscernible size of its bar in the figure. Among the children recognized by mental health agencies, 43% received official attention from CPS for their maltreatment. Hospitals ranked fourth in this category with CPS investigating slightly more than one-fourth of the maltreated children they recognized (27%). Children recognized by school personnel were comparatively unlikely to receive CPS attention for their Harm Standard maltreatment. Although schools ranked as the predominant contributor to the recognition of children whose maltreatment fit the Harm Standard, CPS investigated only a small minority of these children (16%). Finally,

children recognized at shelters, also a new sentinel category in the NIS–4, and day care had by far the lowest rates of CPS investigation for the children they recognized (14% and 10% respectively).

The last category in Figure 8–6, CPS-only sources, includes children who only enter the NIS through CPS investigations of reports from agencies and individuals that are not represented among the NIS sentinels. As detailed in Chapter 7, these sources include private practice physicians, friends, neighbors, and anonymous reporters, among others. Because NIS represents these sources *only* through the children they report to CPS, the investigation rate for the children they recognize is, by definition, 100%.

Note that the rates of CPS investigation presented in the preceding sections all included the children contributed to NIS by these “CPS-only” sources. As a result, those rates are inflated to some degree, overstating the rate of CPS investigation. If one excludes the CPS-only sources and computes a revised rate based only on children from sources that can also contribute uninvestigated maltreated children to NIS, the overall rate of investigation for Harm Standard maltreatment reduces to 26% (compared to 32% based on all maltreated children, as presented earlier).

A further implication of the fact that NIS cannot observe the uninvestigated children who are known to CPS-only sources is that the NIS underestimates the total population of maltreated children to an unknown degree. There are “deeper” sectors within the “iceberg” of maltreated children not investigated by CPS not included in the NIS, and therefore, not represented in any of the tables or figures presented in this report (i.e., children who would be countable under the study definitions and who are recognized by professionals in private practice or by the general public but who are not in any CPS investigation).

Changes since the NIS–3 in CPS Investigation Rates by the Source Recognizing Harm Standard Maltreatment.

Analyses compared the NIS–4 investigation rates for Harm Standard children recognized by each source with the corresponding investigation rates in the NIS–3. In the NIS–3, 33% of children recognized by investigatory agencies had their maltreatment investigated by CPS, whereas 48% of these children received CPS investigation in the

NIS-4, a significant increase. By contrast, the non-investigatory sentinel agencies, as a group, evidenced no statistically reliable change in CPS investigation rates between the NIS-3 and NIS-4.

Figure 8-7 displays the significant increases in the investigation rates for specific recognition sources. NIS-4 investigation rates were significantly higher for children recognized by staff in juvenile probation, public health, and social services agencies.

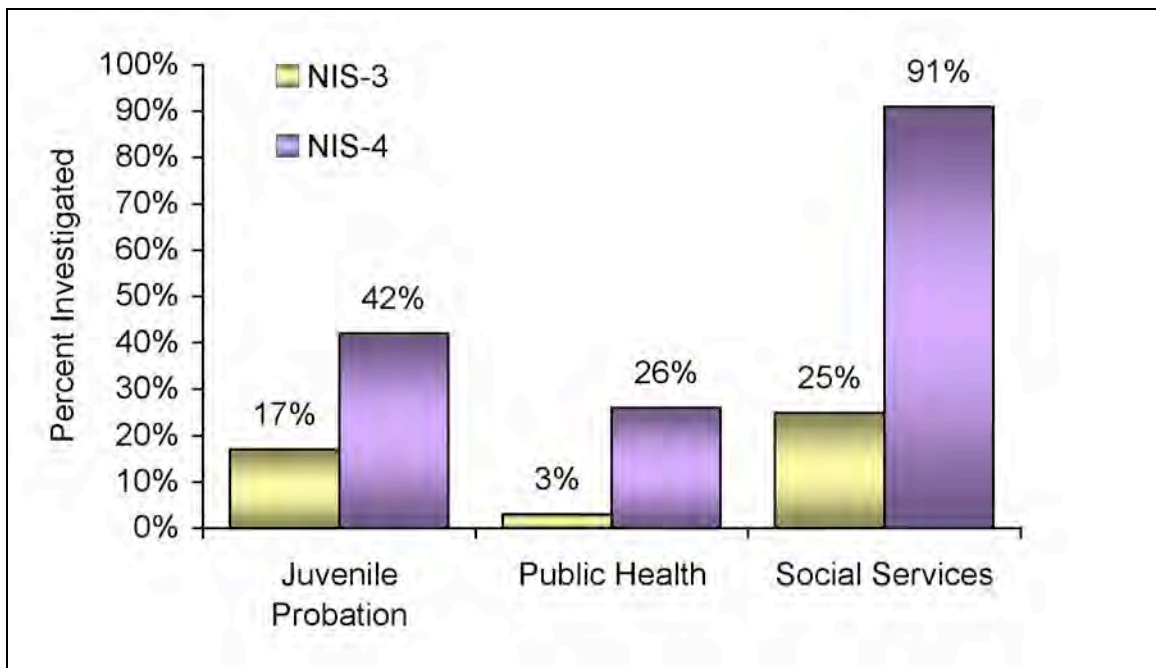


Figure 8-7. Changes since NIS-3 in Investigation Rates of Harm Standard Children by Recognition Source

8.1.2 CPS Investigation of Children Maltreated under the Endangerment Standard

CPS investigations of Endangerment Standard maltreatment increased significantly from 33% in the NIS-3 to 43% in the NIS-4. The NIS-4 Endangerment Standard investigation rate does not differ statistically from its level at the time of the NIS-2 (51%), primarily because there was a relatively large margin of error around that earlier estimate. Figure 8-8 shows these patterns.

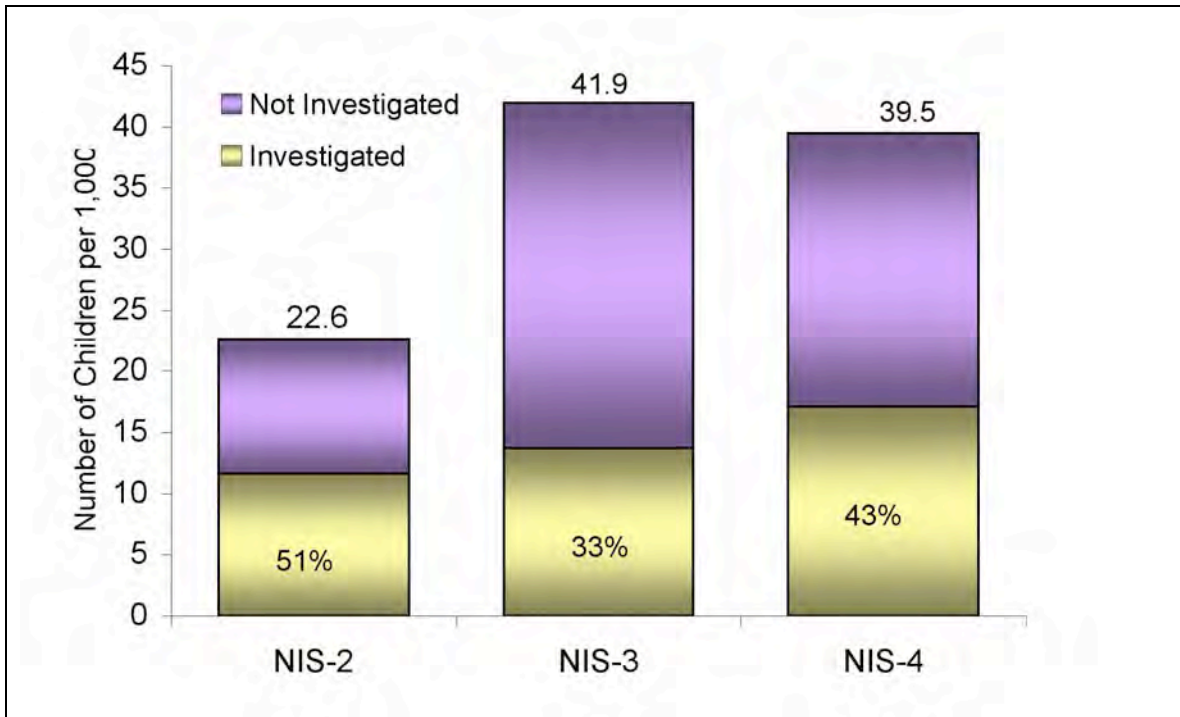


Figure 8–8. Changes in Rates of CPS Investigation of Children with Endangerment Standard Maltreatment.

CPS Investigation Rates by Endangerment Standard Maltreatment Categories and the Nature and Severity of Harm

Figure 8–9 shows the NIS–4 investigation rates for children with different categories of Endangerment Standard maltreatment and different levels of harm due to their maltreatment. As in Figure 8–2 (which provides the corresponding information for children with Harm Standard maltreatment), children are included in every maltreatment category that applied to them, but they are classified into only one level of harm, based on the most serious harm from countable maltreatment. The figure excludes fatalities because their numbers are too small to be discerned on the graph. The absolute sizes of the bars reflect the total number of children per 1,000 who experienced the maltreatment or harm, while the portion of the bar to the left side of the graph shows number of children in the category whom CPS investigated. For each category, the label indicates the percentage of children the left portion of the bar represents.

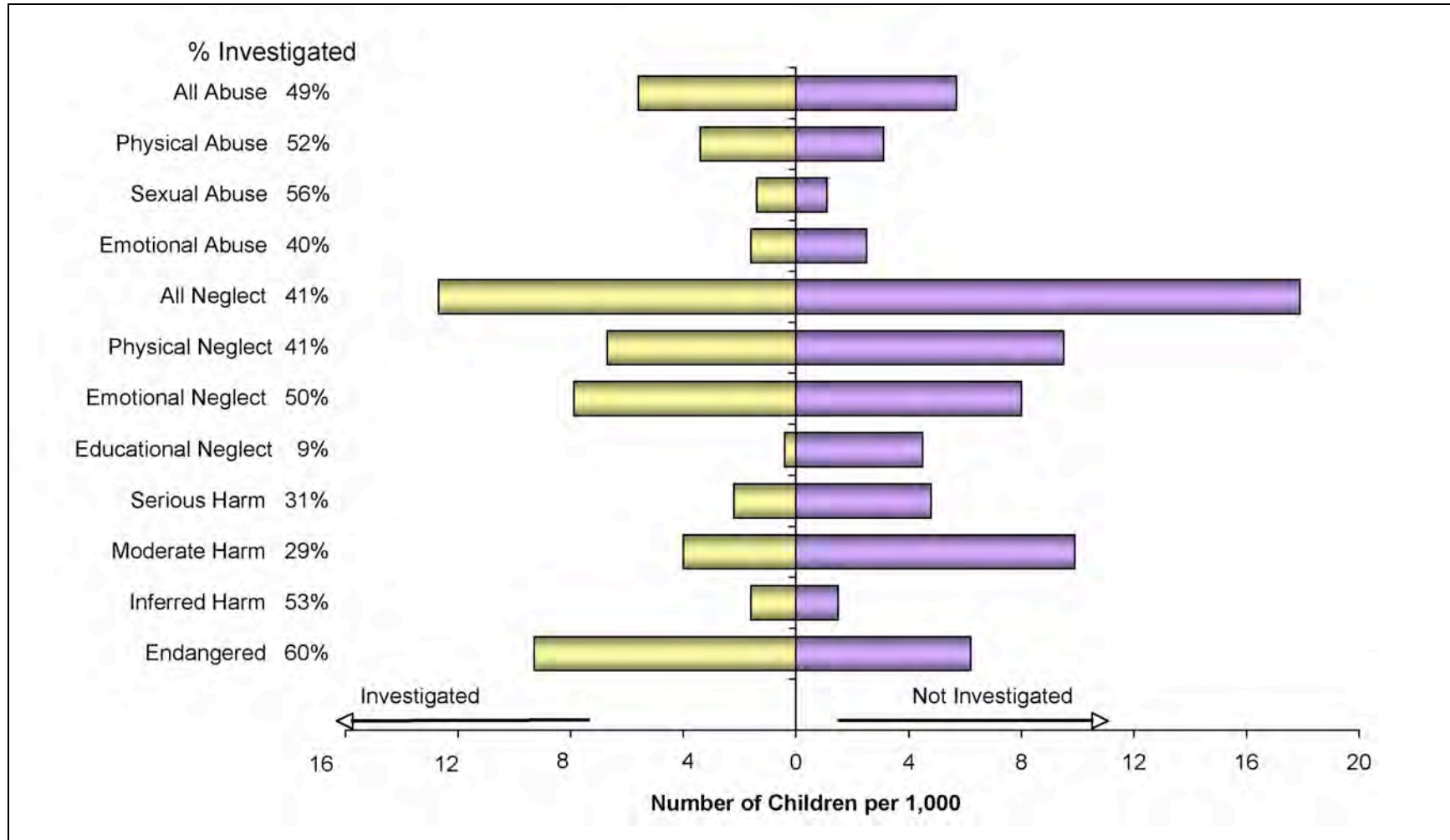


Figure 8–9. CPS Investigation of Maltreated Children in the NIS–4, by Endangerment Standard Maltreatment Category and Severity of Harm

Just as in the Harm Standard, the investigation rate for abused children is higher than the rate for neglected children, but the difference (49% versus 41%) is not as dramatic. The rates of investigation in all categories of Endangerment Standard abuse are similar to the corresponding categories in the Harm Standard (cf. Figure 8–2). However, the investigation rates for Endangerment Standard neglect are notably higher than those for Harm Standard neglect in all categories except educational neglect (which follows identical definitions under the Harm and Endangerment standards). Under both standards, the educationally neglected children are the least likely to receive CPS investigation of their maltreatment (9%).

Also similar to the Harm Standard pattern, CPS investigated less than one-third of the children who experienced serious harm (31%) or moderate harm (29%) due to their maltreatment. CPS investigated 53% of the children whose harm could be inferred based on the severity of their Endangerment Standard maltreatment. Sixty percent of the children, who were endangered, but not yet harmed, received a CPS investigation.

Changes since the NIS–2 and the NIS–3 in Rates of CPS Investigation of Endangerment Standard Maltreatment.

Figure 8–10 displays the statistically reliable changes in CPS investigation rates for Endangerment Standard abuse. Nearly one-half (49%) of the children countable as abused under the Endangerment Standard had their maltreatment investigated by CPS in the NIS–4, a marginal increase from the 39% investigation rate of abused children in the NIS–3. However, this NIS–4 rate remains significantly below the investigation rate for this category during the NIS–2, when CPS investigated 63% of children with Endangerment Standard abuse.

Within specific categories of Endangerment Standard abuse, the only significant change in investigation rates occurred for emotionally abused children. CPS investigations of emotional abuse significantly increased from 28% in the NIS–3 to 40% in the NIS–4. This new rate does not differ statistically from the NIS–2 rate of 51%.

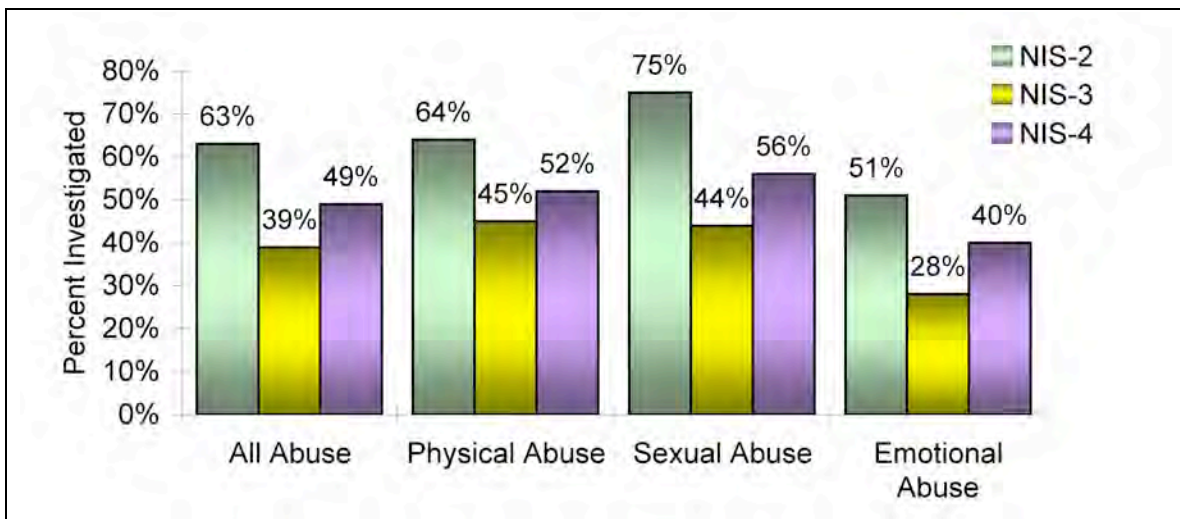


Figure 8–10. Changes in Investigation Rates for Endangerment Standard Abuse Across NIS Cycles

The sexual abuse investigation rate increased marginally in the NIS–4, up to 56% from its NIS–3 level of 44%, but it remained marginally lower than its high of 75% at the time of the NIS–2.

CPS investigation of Endangerment Standard physical abuse showed no statistically reliable change since the NIS–3; it remained marginally lower than its level during the NIS–2 (52% versus 64%).

Figure 8–11 depicts the changes in rates of CPS investigation of Endangerment Standard neglect since the NIS–2, the study that first introduced the Endangerment Standard. Compared to NIS–3 CPS investigation rates for Endangerment Standard neglect, the NIS–4 investigation rates for overall neglect and emotional neglect were significantly higher (41% versus 28% and 50% versus 22%, respectively). These recent increases brought the investigation rates for these categories to levels that are statistically equivalent to the NIS–2 rates.

Because the definition of educational neglect is identical under the two definitional standards, the pattern in Figure 8–11 is identical to that shown in Figure 8–4. The discussion of that earlier figure provides the details.

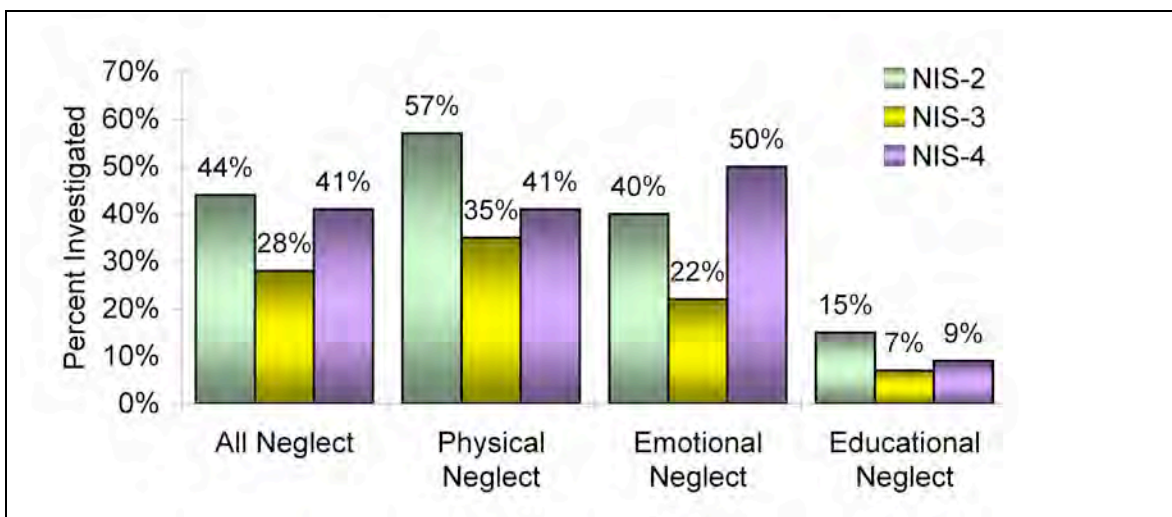


Figure 8–11. Changes in Investigation Rates for Endangerment Standard Neglect Across NIS Cycles

Figure 8–12 shows the statistically meaningful changes since the NIS–2 in CPS investigation of children with different outcomes from Endangerment Standard maltreatment.

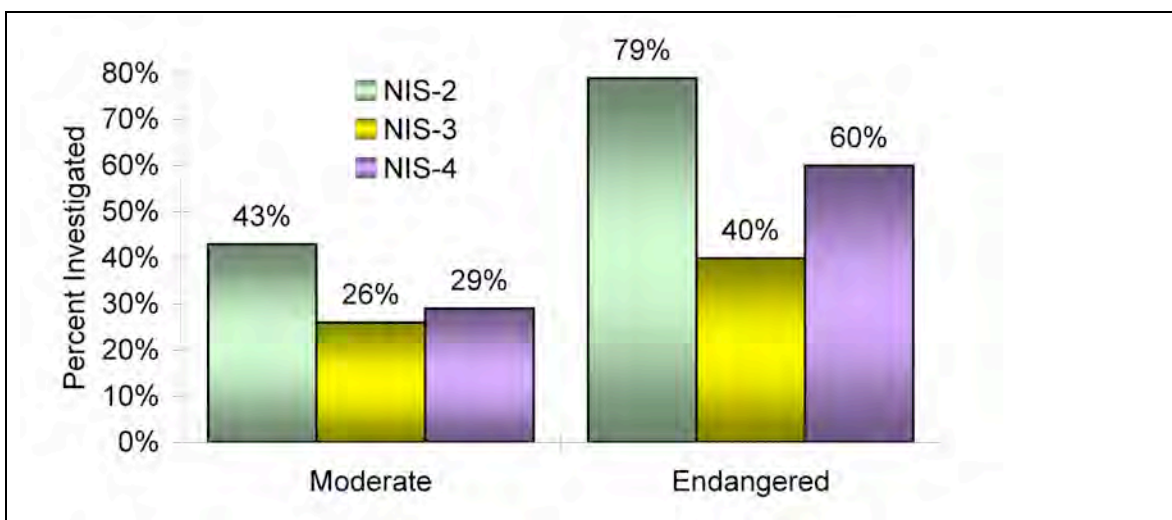


Figure 8–12. Changes in Investigation Rates for Children by the Severity of Their Most Serious Harm from Endangerment Standard Maltreatment Across NIS Cycles

Only the rate of investigation for children who were endangered, but not yet harmed, increased significantly since the NIS–3 (from 40% to 60%). The new NIS–4

rate is still marginally lower than the very high rate of investigation of endangered children at the time of the NIS-2 (79%).

The NIS-4 found no discernable change in the rate of CPS investigation of children who were moderately injured by their Endangerment Standard maltreatment. These children were still significantly less likely to be investigated by CPS in the NIS-4 than they had been during the NIS-2 (29% versus 43%).

CPS Investigation Rates by the Source Recognizing Endangerment Standard Maltreatment

Figure 8-13 shows the investigation rates for children who experienced Endangerment Standard maltreatment according to the source that recognized their maltreatment. This figure is analogous to the earlier Figure 8-6, which presented this graph for the subset of children who experienced Harm Standard maltreatment. Details concerning the hierarchical strategy for assigning recognition sources can be found in Chapter 7 (§7.1.1).

The majority of the children who experience Endangerment Standard maltreatment that comes to the attention of juvenile probation (63%) or law enforcement (64%) staff receive CPS investigation for their maltreatment. The rate of CPS investigation for children recognized by public health departments is much lower (33%). This pattern is very similar to the Harm Standard findings (cf. Figure 8-6). Taken together, 61% of all the maltreated children investigatory agency staff recognized received CPS investigation.

By contrast, children whose maltreatment was recognized by sentinels in non-investigatory agencies had much lower CPS investigation rates. Considering all children recognized by sentinels in non-investigatory agencies, only one-fourth (25%) had their maltreatment investigated by CPS. However, the investigation rates in the non-investigatory agencies have a relatively wide range, from 12% to 94%; this also mirrors the Harm Standard findings described above.

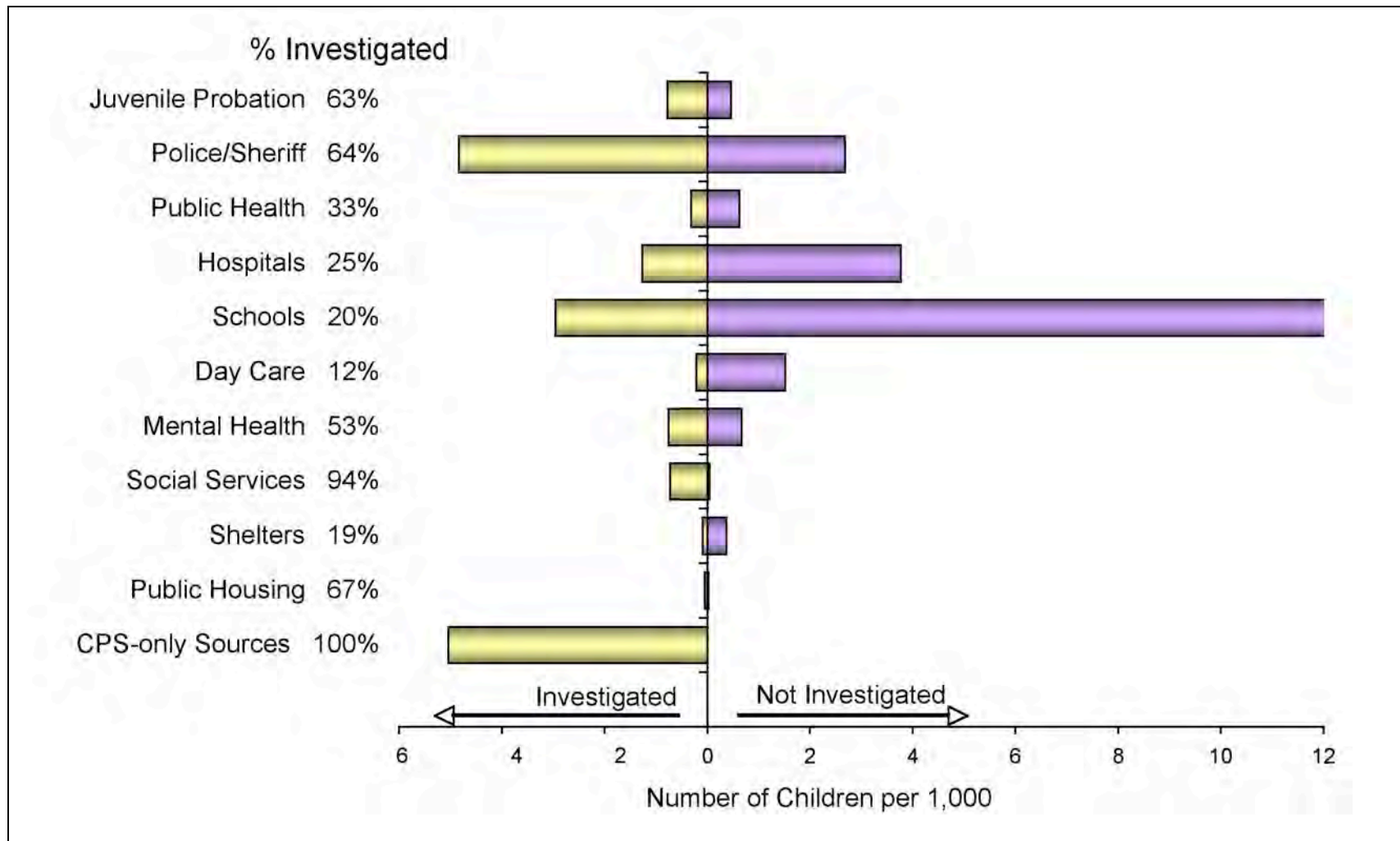


Figure 8–13. CPS Investigation of Children with Endangerment Standard Maltreatment in the NIS–4, by Recognition Source.

Sentinels in only three non-investigatory agency categories had CPS investigate the majority of the children they recognized as maltreated: social services, public housing, and mental health agencies. Children recognized at social services agencies had the highest rate of CPS investigation (94%). Children recognized at public housing authorities (a new sentinel category in the NIS–4) ranked second with 67% receiving CPS investigation. Here again, as was the case for the Harm Standard findings, this source contributed very few countable children to the NIS, so the bar representing these children is almost indiscernible in the figure. Among children recognized by mental health sentinels, 53% received investigative attention from CPS.

Hospitals ranked fourth among the non-investigatory agencies in the investigation of children they recognized as maltreated, with only one-quarter of the children they recognized receiving CPS investigation (25%).

Only one-fifth (20%) of the children with Endangerment Standard maltreatment recognized at schools received CPS investigation. In view of the sheer magnitude of their contribution to the NIS estimates of recognized maltreated children, this low investigation rate contributes disproportionately to the investigated versus not investigated subgroups. School sentinels rank third as a source of investigated Endangerment Standard children (i.e., the size of their contribution to the investigated population, on the left side of the figure). They contribute 17% of the total investigated Endangerment Standard children. In contrast, the contribution of school sentinels to the right-hand side of the figure, which represents the Endangerment Standard children who are not investigated, far outweighs the contribution of all the other groups. School sentinels contribute 52% of all the children represented on the right-hand side of the figure: the Endangerment Standard children who are not investigated.

Children recognized by professional staff in shelters, another new sentinel source in the NIS–4, and those recognized by day care center personnel were unlikely to receive CPS investigation of their maltreatment (only 19% and 12%, respectively).

As noted above in connection with Figure 8–6, children recognized by “CPS-only Sources” can only enter the NIS through a CPS investigation. These children, by definition, universally receive CPS investigation. Including these children in the CPS investigation rates gives an overestimate of the extent of CPS investigation of countable

maltreated children. With these children excluded, the overall rate of CPS investigation of Endangerment Standard maltreatment drops to 35% (compared to 43%, based on all Endangerment Standard children, as given previously).

Changes since the NIS–3 in CPS Investigation Rates by the Source Recognizing Endangerment Standard Maltreatment.

Figure 8–14 displays the four sentinel categories where CPS investigation rates evidenced significant changes since the NIS–3—all categories display increases. The investigation rate rose from 23% to 63% for those children recognized as maltreated by juvenile probation staff. The rate increased from 4% to 33% for maltreated children whom public health agency personnel identified. The investigation rate also increased greatly for children seen as maltreated by workers in social services agencies, from 33% to a sizeable 94%. The smallest reliable change occurred for children recognized by day care staff—the investigation rate rose from just 3% in the NIS–3 to 12% in the NIS–4.

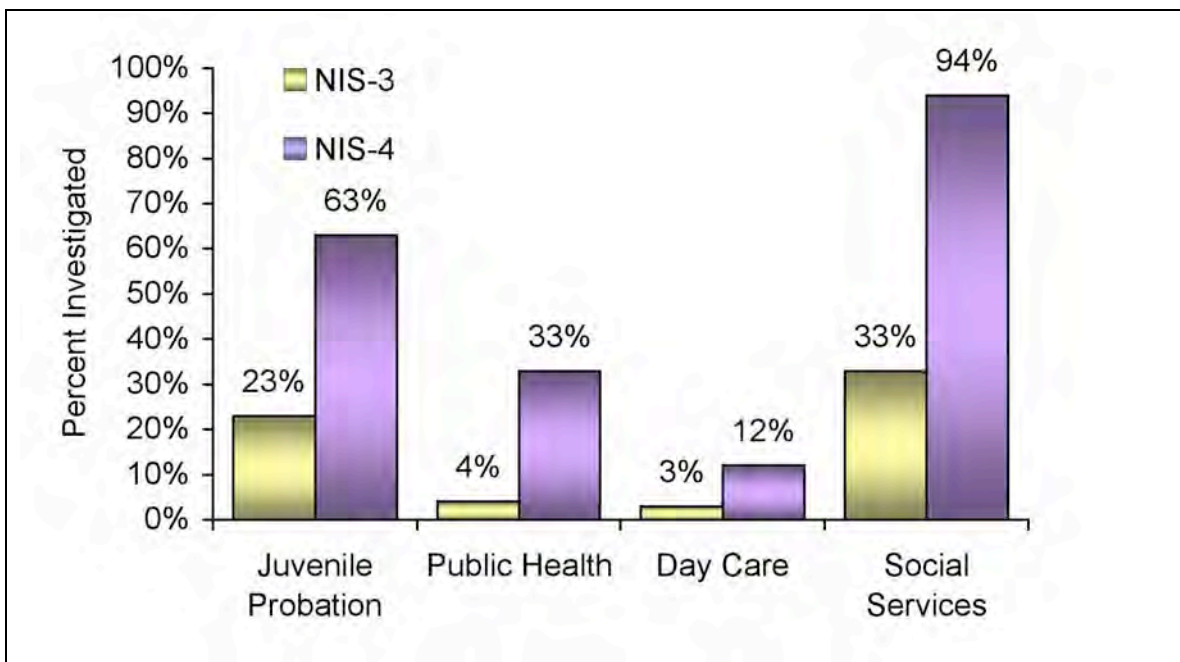


Figure 8–14. Changes since NIS–3 in Investigation Rates of Children with Endangerment Standard Maltreatment by Recognition Source

8.2 Investigation Rates with an Extended CPS Period

The NIS obtains a full census of all cases participating CPS agencies investigated during the study reference period and uses this to identify which of the countable children are among those in CPS investigation records with identified maltreatment. As Chapter 2 discussed, an enhancement to the NIS–4 design obtained an additional month of data on CPS investigated cases to see whether the information from this extended period would identify significantly more countable children as having received CPS investigation. The hypothesis was that the maltreated children that sentinels encounter near the end of the study reference period have less time to appear in CPS investigations during the standard reference period, so the extended month of CPS data would especially affect their investigation rate.

Following this plan, the NIS–4 collected CPS Summary Data Forms for an additional month, from all NIS–4 sampled CPS agencies (n=126). These forms totaled 38,398 and listed an additional 77,995 child records.

Special analyses identified those countable children whose investigation status changed on the basis of the extended month of CPS data. As the ensuing paragraphs indicate, nearly all countable children in the NIS–4 were investigated during the study reference period or not at all. Extending the CPS data period by an additional month had negligible effect on investigation rates under either definitional standard.

Harm Standard. The extended month of CPS investigation data changed the investigation status of just 25 children in the NIS–4 sample who experienced countable maltreatment under the Harm Standard. (An additional 18 sample children with Harm Standard maltreatment had CPS investigations both during the main reference period and during the extended month; the additional month did not change their investigation status.) The reallocation of these 25 sample children increased the estimated total number of Harm Standard children in the United States who received CPS investigation by 16,400. This increased the estimated percentage of Harm Standard children who received CPS investigation by 1.3%, from 31.8% to 33.1%.

Endangerment Standard. Among the more than 12,000 children in the NIS–4 sample with Endangerment Standard maltreatment, the extra month of data affected the classification of just 50 children. (An additional 27 of them were investigated

during the extra month but were already classified as investigated during the study reference period.) These 50 additional children increased the national estimate of the number of Endangerment Standard children who received CPS investigation by 22,800. This increased the investigation rate for Endangerment Standard children by 0.8% from 43.4% to 44.2%.

Thus, extending the period for seeking maltreated children in CPS investigations by an additional month (from 3-months to 4-months) raised the NIS-4 investigation rates across definitional standards by only about 1%.

8.3 Investigation Patterns Related to CPS Screening Policies

The NIS-4 provides estimates of the numbers and percentages of maltreated children who received CPS investigation. Because of the limitations of the NIS data, the children who were not investigated have always represented an enigma to the study, in that it is not possible to say whether the sentinels who recognized their maltreatment did not report it to CPS or whether they did report it to CPS but CPS did not investigate the child because the circumstances did not fit the agency's criteria for screening the case in for investigation. These alternatives have quite different implications for policy.

As Chapter 2 discussed, the NIS-4 includes supplementary studies to help understand the situation of countable children who do not receive CPS investigation. One of these, the *CPS Screening Policies Study (SPS)*, obtained detailed information about CPS screening criteria to determine what role they might play in screening out countable children from CPS investigations (Greene, McPherson, and Sedlak, 2010)..

In the first phase of the SPS, project staff interviewed the intake supervisors in NIS-4 CPS agencies about their agencies' screening criteria, asking them how their agency would respond to situations described in a series of vignettes. The vignettes represented all specific forms of maltreatment specified in the NIS-4 maltreatment typology. In the second phase of the study, NIS-4 evaluative coders examined the data forms for countable children in the main study who had not received a CPS investigation. Considering children in the jurisdiction in each CPS agency, the coders applied the agency's screening criteria to the maltreatment situations on the children's data forms and decided whether, according to the criteria CPS purportedly used, the agency would have

screened these children in for CPS investigation. This design assumes that the agency consistently applied the criteria the screening supervisor described in the interview. If so, then CPS would have screened these uninvestigated children in for an investigation, so the fact that they were not investigated indicates that they were probably not reported to CPS. Children whom the screening criteria would have screened out may or may not have been reported to CPS. It is possible that they were reported to the CPS agency in their jurisdiction, but CPS assigned them for an alternative response or screened them out with no agency response. It is also possible that they were not reported to CPS.

This section presents the results of Phase 2 of the CPS Screening Policies Study, indicating how the agencies' screening criteria would apply to the maltreatment described for the uninvestigated countable children. As in previous chapters and sections, this section first describes the findings for children who experienced Harm Standard maltreatment and then gives the findings for children who were countable under the more inclusive Endangerment Standard. For each standard, a figure and a table provide the findings from alternative perspectives. The figure focuses on the uninvestigated children who are countable under the standard. It shows the percentages of the uninvestigated children in different maltreatment categories that CPS probably would have investigated, based on the agencies' screening policies. The qualifier "probably," as used here, conveys the judgment of the evaluative coders, based on weighing the information on the data forms against the clarity of the screening criteria in the SPS interview responses. The subsequent table considers all the children who were countable as maltreated under the standard and displays, for each maltreatment category, the percentage that CPS actually investigated, the percentage that CPS probably would have investigated if CPS had received a report about them, and the sum of these percentages. The sum is termed the "presumptive investigation rate," since it reflects what the investigation rate would be if all the countable children were reported to CPS and CPS consistently followed the criteria that the screening supervisor described in the SPS interview.

CPS Screening Policies and Harm Standard Maltreatment. Figure 8–15 shows the results of applying the CPS screening policies to sentinel reports of uninvestigated children with Harm Standard maltreatment. This figure subdivides the children who were not investigated in Figure 8–2 into those that CPS would have investigated, if the CPS agencies followed the screening standards the supervisors described in the SPS interviews, and the remaining uninvestigated children. The

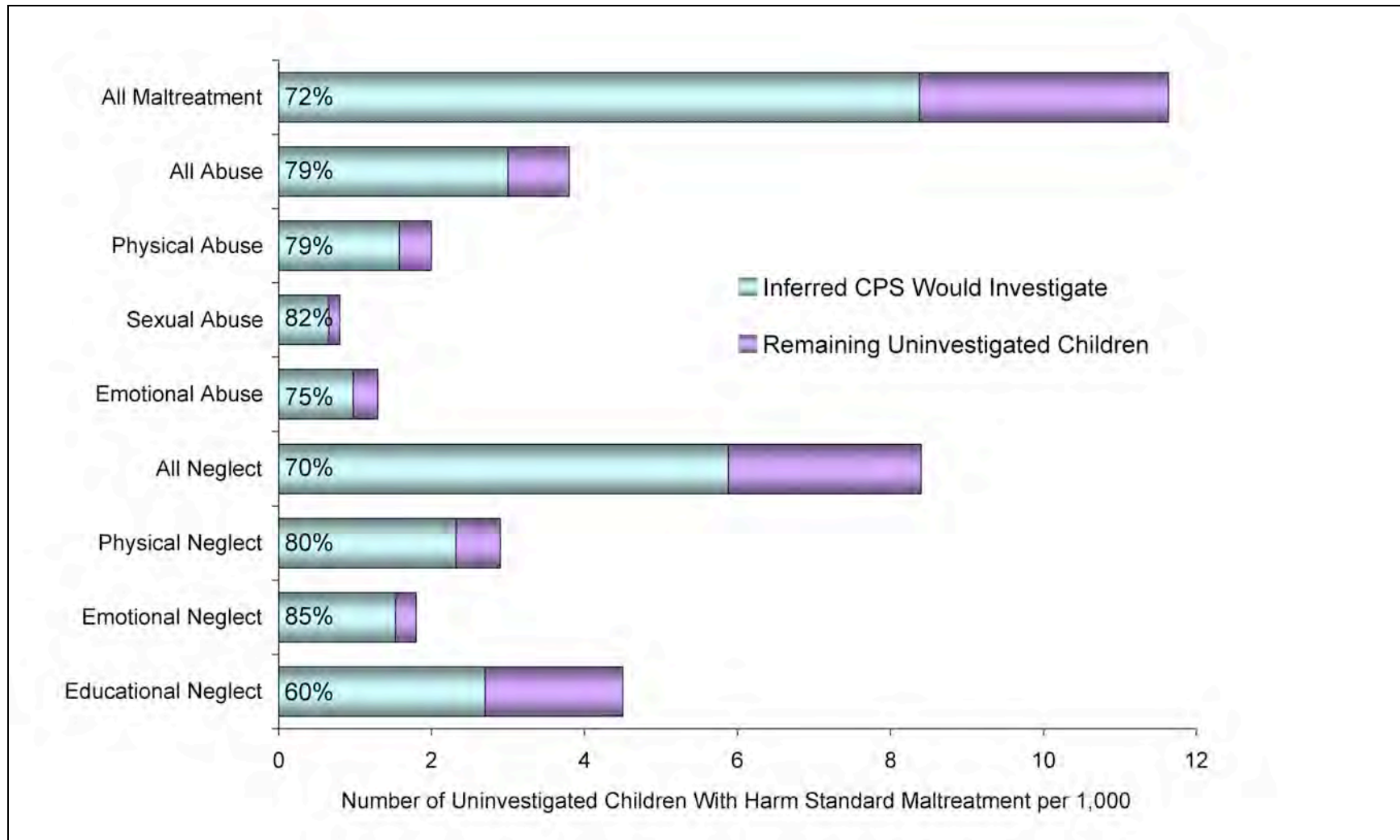


Figure 8–15. Uninvestigated Maltreated Children in the NIS–4 Whom CPS Probably Would Investigate According to Agencies’ Screening Criteria, by Harm Standard Maltreatment Category

remaining children include those who did not reside in a NIS-4 county, those that the CPS screening criteria would have screened out from an investigation (whether screening them out without any agency response or assigning them for an alternative agency response, such as an assessment), as well as children whose classification according to the CPS criteria was unclear.¹⁰⁶

Figure 8–15 indicates that CPS would have probably investigated nearly three-fourths (72%) of the uninvestigated children who experienced maltreatment under the Harm Standard. Moreover, across all categories of Harm Standard maltreatment, CPS probably would have investigated the majority of uninvestigated children in each category. CPS would have probably investigated more than three fourths (79%) of uninvestigated children with Harm Standard abuse, and the same percentage (79%) of uninvestigated children who were physically abused. The percentage of uninvestigated children CPS would have investigated is even higher in the sexual abuse category (82%) and only slightly lower (75%) in the category of Harm Standard emotional abuse.

CPS probably would have investigated 70% of uninvestigated children who experienced Harm Standard neglect. Majorities of the uninvestigated children would probably have been investigated in each specific category of neglect as well. CPS probably would have investigated 80% of uninvestigated physically neglected children. The percentage of uninvestigated children who would have been investigated, if reported, is highest for Harm Standard emotional neglect (85%), across all Harm Standard maltreatment categories. The percentage that CPS probably would have investigated is lowest for educational neglect (60%), but is still a majority of the uninvestigated children who experienced this maltreatment in this category.

Table 8–1 displays the actual and presumptive CPS investigation rates for children with Harm Standard maltreatment. The first column shows the percentages of children whom CPS investigated, while the second column shows the additional percentages of the Harm Standard children who, based on CPS screening policies, probably would have received CPS investigation.¹⁰⁷ The third column sums the first two

¹⁰⁶ This last group included children whose records had insufficient information to decide how the screening criteria applied to their case as well as children in the jurisdiction of CPS agencies with unclear criteria in relation to the child’s maltreatment.

¹⁰⁷ These percentages differ from those in Figure 8–15 because they are computed with different denominators. Figure 8–15 provides the percentages of children CPS would have investigated from all

columns, providing the presumptive investigation rate, if all countable children were reported to CPS. The last column shows the percentage of children in the category that remain; these were not investigated. They include children CPS would have screened out from investigation, children the SPS coders could not evaluate because they did not reside within the jurisdiction of a NIS-4 CPS agency, and children whose classification according to the CPS screening criteria was unclear.

Table 8–1. Rates of CPS Investigation of Harm Standard Maltreatment, Actual and Presumptive (based on CPS Screening Standards)				
Harm Standard Maltreatment Category	A Observed Investigation Rate	B Inferred % CPS Would Have Investigated	(A + B) Presumptive Investigation Rate	C Remaining Children
ALL MALTREATMENT ABUSE:	32%	49%	81%	19%
All Abuse	50%	39%	89%	11%
Physical Abuse	53%	36%	90%	11%
Sexual Abuse	55%	36%	92%	9%
Emotional Abuse	36%	48%	84%	16%
NEGLECT:				
All Neglect	20%	55%	75%	25%
Physical Neglect	27%	58%	85%	15%
Emotional Neglect	30%	59%	89%	11%
Educational Neglect	9%	54%	63%	37%
Notes: Columns A + B + C = 100%. The remaining children include children who did not reside in a NIS-4 county, children CPS probably would have screened out or referred to an alternative response track, and children whose classification according to the CPS screening criteria was unclear.				

those in the category who were not investigated, whereas Table 8–1, Column B, provides the percentages these children represent among the total of children in the category (i.e., including those who actually received a CPS investigation).

As reported at the outset of this chapter (§8.1), 32% of children who experienced Harm Standard maltreatment received CPS investigation. According to the CPS Screening Policies Study findings, CPS probably would have investigated an additional 49% of these children, if it had received a report describing their maltreatment. Taking these groups together (children investigated by CPS and children whom one can infer CPS probably would have investigated (based on the operative screening standards), the presumptive investigation rate is 81% of children with Harm Standard maltreatment.

Table 8–1 also shows that, while CPS investigated 50% of the children who experienced any category of Harm Standard abuse, an additional 39% probably would have been investigated if reported to CPS, for a presumptive investigation rate of 89%. Similarly, the presumptive investigation rates are 90% and 92% for the physically and sexually abused children, respectively. Interestingly, only 36% of children with Harm Standard emotional abuse received CPS investigation. However, CPS probably would have investigated an additional 48% of children in this category, based on CPS screening standards, which results in a presumptive investigation rate of 84%.

Among children with Harm Standard neglect, only 20% received CPS investigation. However, based on what CPS screening supervisors said their agency would do in the SPS interviews, CPS probably would have investigated an additional 55% of the neglected children, increasing the presumptive investigation rate for the neglected children to 75%. The presumptive rates are 85% and 89% for physical neglect and emotional neglect, respectively. Although the presumed gain in percentages of investigated neglected children is high across all three neglect categories, it is most striking for children who were educationally neglected.

CPS investigated only 9% of the educationally neglected children, but an additional 54% probably would have received CPS investigation if someone had reported them to the CPS agency with jurisdiction for their cases. This dramatic difference warrants further explanation. As described earlier, some children are maltreated in multiple ways and all are included in every maltreatment category that applies to them. As a result, CPS may have investigated an educationally neglected child because the child also experienced another category of maltreatment. The same dynamic applies to the inference that CPS would have investigated a maltreated child. The SPS coders separately assessed how the CPS screening criteria would apply to each category of maltreatment the child experienced. However, the final classification is at the child level,

determining whether the child would have received CPS investigation for *any* maltreatment described on the data form. Thus, the conclusion that CPS probably would have investigated an educationally neglected child may derive from maltreatment other than educational neglect.

CPS Screening Policies and Endangerment Standard Maltreatment.

Figure 8–16 shows the results of applying CPS screening policies to sentinel reports of uninvestigated children with Endangerment Standard maltreatment. This figure subdivides the children who were not investigated in Figure 8–9 into the set that CPS would have investigated if someone had reported them to CPS, and the remaining uninvestigated children. Similar to the findings for uninvestigated children with Harm Standard maltreatment, CPS probably would have investigated the majority of children in each Endangerment Standard maltreatment category.

CPS probably would have investigated 66% of the uninvestigated children who experienced Endangerment Standard maltreatment, more than three-fourths (76%) of those with Endangerment Standard abuse, and 67% of those neglected under the Endangerment Standard.

Considering the specific categories of Endangerment Standard abuse, CPS probably would have investigated 76% of physically abused uninvestigated children and 71% of those emotionally abused. The largest percentage of probable investigation occurred in the category of Endangerment Standard sexual abuse, where CPS probably would have investigated a full 83% of the uninvestigated children.

Within specific categories of Endangerment Standard neglect, CPS probably would have investigated 70% of those who were physically neglected but not investigated and 74% of the emotionally neglected uninvestigated children. Educational neglect is identical under the two definitional standards, so the finding here is identical to that reported earlier in connection with the Harm Standard: CPS probably would have investigated 60% of the uninvestigated children who were educationally neglected.

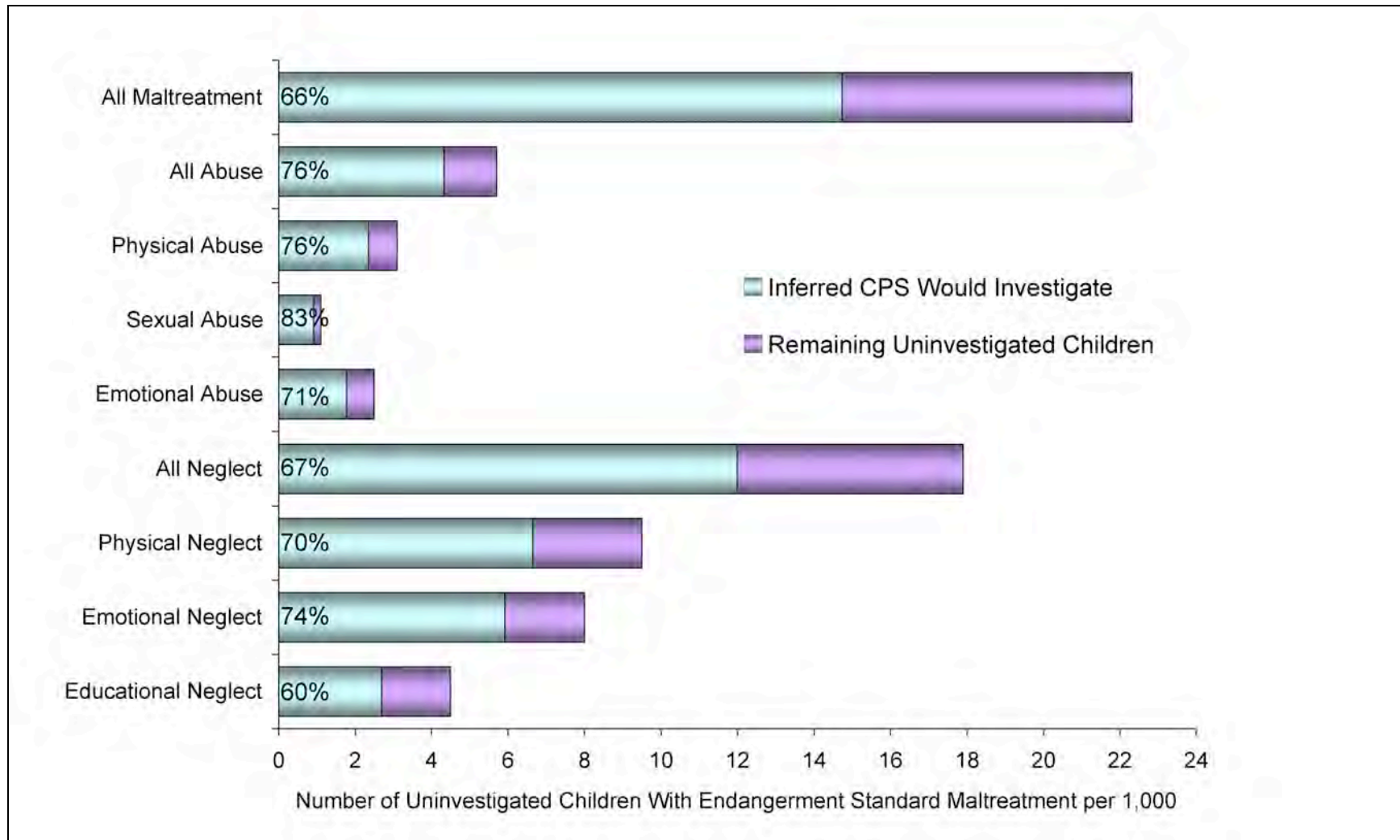


Figure 8–16. Uninvestigated Maltreated Children in the NIS–4 Whom CPS Probably Would Investigate According to Agencies’ Screening Criteria, by Endangerment Standard Maltreatment Category

Table 8–2 shows the actual and presumptive CPS investigation rates for children with Endangerment Standard maltreatment. As presented for the Harm Standard findings (Table 8–1), the first column shows the percentages of children CPS actually investigated, while the second column shows the percentages of uninvestigated children who, based on agencies’ screening policies, CPS probably would have investigated if anyone had reported the children’s maltreatment to CPS. The third column is the sum of the first two columns, indicating the presumptive investigated rate, and the last column gives the percentage of remaining children.

Table 8–2. Rates of CPS Investigation of Endangerment Standard Maltreatment, Actual and Presumptive (based on CPS Screening Standards)				
Endangerment Standard Maltreatment Category	A Observed Investigation Rate	B Inferred % CPS Would Have Investigated	(A + B) Presumptive Investigation Rate	C Remaining Children
ALL MALTREATMENT ABUSE:	43%	37%	80%	20%
All Abuse	49%	38%	87%	13%
Physical Abuse	52%	36%	88%	12%
Sexual Abuse	56%	36%	92%	8%
Emotional Abuse	40%	42%	82%	18%
NEGLECT:				
All Neglect	41%	39%	80%	20%
Physical Neglect	41%	41%	82%	18%
Emotional Neglect	50%	37%	87%	13%
Educational Neglect	9%	54%	63%	37%
Notes: A + B + C = 100%				
The remaining children (Column C) include children who did not reside in a NIS–4 county, children whom CPS probably would have screened out or referred to an alternative response track, and children whose cases and/or corresponding CPS screening criteria were unclear.				

Similar to the patterns for the more stringent Harm Standard, findings from the CPS Screening Policies Study reveal the potential for major increases in the percentages of investigated children, if all were reported to CPS and CPS agencies consistently apply the screening criteria they identified in the SPS interviews. Among all children maltreated under the Endangerment Standard, the main NIS found that 43% percent actually received CPS investigation (§8.1.2). After applying the agencies' screening criteria, however, the SPS found that an additional 37% probably would have received CPS investigation if they had been reported, resulting in a presumptive investigation rate of 80%.

Among those children with Endangerment Standard abuse, CPS actually investigated 49%, but probably would have investigated an additional 38%, which sums to a presumptive investigation rate of 87%. More specifically, CPS probably would have investigated an additional 36% of both physically abused and sexually abused children, which yields presumptive investigation rates for these categories of 88% and 92%, respectively. Among emotionally abused children, the inferred percentage is somewhat higher, but when this is combined with the observed investigation rate which was the lowest among categories of abuse, the resulting presumptive investigation rate is the lowest across the specific abuse categories. Nevertheless, it is still notably high, including the large majority (82%) of the children with Endangerment Standard emotional abuse.

Table 8–2 also shows that reports to CPS probably would have resulted in CPS investigations for large percentages of children classified as neglected under the Endangerment Standard. While 41% of all neglected children actually received CPS investigation, CPS probably would have investigated an almost equivalent number, an additional 39%, if anyone had reported them. CPS probably would have investigated an additional 41% of children with Endangerment Standard physical neglect and an additional 37% of those with emotional neglect, resulting in presumptive investigation rates in these categories of 82% and 87%, respectively. For the educationally neglected children, as given earlier in Table 8–1, CPS would have investigated 54% more children, yielding a presumptive investigation rate of 63%, according to the SPS findings.

8.4 Relationship between CPS Investigation and CPS Agency Structure and Practices

As described in Chapter 2, the *CPS Structures and Practices Mail Survey (SPM)* collected information about various agency characteristics (Sedlak, McPherson, Shusterman, and Li, 2010). A series of special analyses examined the extent to which the characteristics agencies reported in this survey related to the rates of CPS investigation for children in their jurisdiction. The percentages of investigated children presented here are based on all countable maltreated children in the main NIS.

State or regional hotline.¹⁰⁸ Table 8–3 lists those Harm Standard maltreatment categories for which rates of investigation differed when a state or regional hotline screened referrals.

Table 8–3. CPS Investigation Rates for Harm Standard Maltreatment Related to Whether a State or Regional Hotline Screened Referrals.			
Maltreatment Category	Any State or Regional Hotline Screening	Local Screening Only	Significance of Difference
ABUSE:			
All Abuse	46	59	m
Physical Abuse	48	65	*
NEGLECT:			
Emotional Neglect	25	37	*
Educational Neglect [†]	13	7	m
<p>* The difference is significant at $p \leq .05$.</p> <p>m The difference is statistically marginal (i.e., $.05 < p \leq .10$).</p> <p>† Educational neglect is identical under the Harm and Endangerment Standards.</p>			

When a state or regional hotline screened referrals, rates of investigation differed for children who experienced Harm Standard abuse, physical abuse, emotional

¹⁰⁸ The CPS Screening Policies Study (SPS) also obtained information about hotline use. The analyses in this section used the SPS hotline data, since it was verified by multiple sources at the state and local agency levels.

neglect, and educational neglect. Except for educationally neglected children, maltreated children living in jurisdictions where a state or regional hotline conducted screening were less likely to receive a CPS investigation than children in jurisdictions with all screening by the local agency. However, CPS was marginally more likely to investigate educationally neglected children in places where a state or regional hotline did screening.

State or regional hotline screening was related to the investigation rate of only one Endangerment Standard maltreatment category: physical abuse. Similar to the Harm Standard, physically abused children were less likely to receive CPS investigation when a state or regional hotline screened referrals (48% versus 61%), a statistically marginal difference.

Sharing of responsibility for investigation. Agencies answered a series of questions asking whether they had sole responsibility for investigating different categories of maltreatment or whether they shared that responsibility with law enforcement or with another agency. Analyses found that whether CPS had sole responsibility or shared responsibility for investigating a given type of maltreatment was not related to investigation rates for the following maltreatment categories: non-severe physical abuse, severe physical neglect, and emotional abuse/neglect.¹⁰⁹ However, when the agency had sole responsibility for investigating non-severe physical neglect, CPS investigation rates were significantly lower for children with Harm Standard physical neglect (26% versus 43%) and marginally lower for children with Endangerment Standard physical neglect (41% versus 51%). CPS was more likely to investigate educationally neglected children when it had sole responsibility for investigating truancy (17%) than when it shared this responsibility with another agency (7%), a statistically marginal difference. Also, when the agency had sole responsibility for investigating abandonment, children who experienced Endangerment Standard physical neglect (the NIS category that includes abandonment) were less likely to receive a CPS investigation (37% versus 50%), a significant difference.

Treatment of new reports on open cases. In some agencies, a new report on a child or family that is already the focus of an open investigation is combined into the ongoing investigation. Other agencies establish a separate investigation record for these new reports. In agencies that combined new reports into existing investigations,

¹⁰⁹ The sample included too few sexual abuse cases to support a reliable statistical test for this category.

investigation rates were lower for children with Harm Standard physical abuse (50% versus 70%), those with Endangerment Standard physical abuse (50% versus 64%), and those who experienced educational neglect (7% versus 14%).

Excessive workload during the NIS reference period. Agencies reported whether they had an excessive workload in either screening or investigation during the NIS reference period.¹¹⁰ Their answers related to investigation rates in only a few maltreatment categories.

When agencies reported that they had an excessive screening workload, children in their jurisdiction who suffered Harm Standard emotional neglect or Endangerment Standard emotional abuse had significantly higher investigation rates (37% versus 21% and 48% versus 30%, respectively). Children who experienced Endangerment Standard physical abuse received CPS investigation at a marginally higher rate (59% versus 47%).

When agencies reported that they had an excessive investigation workload during the NIS reference period, children with educational neglect were significantly less likely to receive CPS investigation (7% versus 17%), and those with Harm Standard emotional neglect were marginally more likely to have CPS investigate their maltreatment (35% versus 24%).

Alternative response track. An alternative response track is a means by which agencies can refer cases for assessment or services without conducting an investigation.¹¹¹ As Tables 8–4 and 8–5 show, whether or not an agency had an alternative response track related to investigation rates across a wide range of maltreatment categories under both the Harm and Endangerment Standards. In all cases, maltreated children were much less likely to receive an investigation in jurisdictions that had an alternative response track. The investigation rate for educational neglect did not vary with the presence of an alternative response track.¹¹²

¹¹⁰ The survey did not define the phrase “excessive workload,” but left it to the agencies’ interpretation.

¹¹¹ CPS agencies reported whether they could provide a response other than an investigation on two NIS–4 supplementary surveys: both the SPM and the SPS. Generally, different agency staff responded to these surveys and, in some instances, they offered contradictory responses. The analyses here classified an agency as providing an alternative response if any respondent indicated this.

¹¹² The sample included too few sexual abuse cases to support a reliable statistical test for this category.

Table 8–4. CPS Investigation Rates for Harm Standard Maltreatment Related to Whether the Agency Provided an Alternative Response.			
Maltreatment Category	Agency Provided Alternative Response		Significance of Difference
	Yes	No	
ALL MALTREATMENT	23	38	*
ABUSE:			
All Abuse	40	57	m
Physical Abuse	42	63	*
Emotional Abuse	26	43	*
NEGLECT:			
All Neglect	12	25	*
Physical Neglect	14	39	*
Emotional Neglect	20	35	*
* The difference is significant at $p \leq .05$. m The difference is statistically marginal (i.e., $.05 < p \leq .10$).			

Table 8–5. CPS Investigation Rates for Endangerment Standard Maltreatment Related to Whether the Agency Provided an Alternative Response.			
Maltreatment Category	Agency Provided Alternative Response		Significance of Difference
	Yes	No	
ALL MALTREATMENT	29	52	*
ABUSE:			
All Abuse	36	58	*
Physical Abuse	38	62	*
Emotional Abuse	22	51	*
NEGLECT:			
All Neglect	26	50	*
Physical Neglect	26	53	*
Emotional Neglect	32	58	*
* The difference is significant at $p \leq .05$.			

Prioritizing recommended responses to referrals. Children who experienced Harm Standard physical abuse were investigated significantly more often in the jurisdiction of CPS agencies that did not prioritize responses to referrals (75%) than in jurisdictions where CPS did prioritize responses (55%). Educationally neglected children were more likely to receive CPS investigation in jurisdictions of agencies that did not prioritize responses (23%) than in jurisdictions where CPS did prioritize responses (8%), a statistically marginal difference.

Agency characteristics not related to CPS investigation rates. Analyses found no significant relationship between investigation rates and several agency characteristics or practices, including whether or not the agency

- Maintained a record of all calls;
- Had sole responsibility for screening;
- Had a mandated limit on caseload size;
- Covered calls during off-hours (nights and weekends); and
- Had a dedicated investigation unit or investigation workers.¹¹³

8.5 Sentinels' Reporting to CPS

The foregoing sections of this chapter indicated that substantial percentages of maltreated children do not receive CPS investigation and explored how investigation rates relate to CPS agencies' screening policies, structure and practices. This section considers how sentinels' non-reporting may contribute to the sector of maltreated children who did not receive a CPS investigation of their maltreatment.

As Chapter 2 described, sentinels in the main NIS also participated in the *Sentinel Definitions Survey (SDS)* (McPherson and Sedlak, 2010). The first section of the SDS asked sentinels about their training on mandated reporting, their specific agency's policies governing CPS reporting, and their personal experiences in reporting to CPS. The second section of the SDS presented a series of vignettes representing the

¹¹³ This last characteristic marginally related to the rate of investigation of Harm Standard abuse, with the investigation rate higher in jurisdictions with no dedicated investigation unit/workers.

maltreatment situations that NIS classifies as countable and includes in the study estimates. Respondents indicated how they would respond to the circumstance described in each vignette, including whether they would report the situation to CPS.

8.5.1 Sentinels' Training on Child Abuse and Neglect Reporting Requirements

Nearly two-thirds (67%) of sentinels said they had received written information about child abuse and neglect reporting requirements while working in their current agencies. Just over one-half (52%) of sentinels had attended a workshop or training on child abuse and neglect reporting. Taken together, about three-fourths (76%) of the sentinels participating in the SDS reported that they had either received written instructions or attended a workshop about their state's reporting requirements, leaving about one-fourth (24%) who had neither form of training while working in their current agencies.

Training was significantly related to sentinels' reports to CPS, which are described below. Sentinels who indicated they had received training at their current agency (whether written materials or a workshop or other training session) were more likely to say they had reported suspected child maltreatment (67% versus 53%) while working at their current agency.

Of those who had received written information, more than one-fourth (27%) reported that it had been more than two years since they last received it. Of those who said they had attended a workshop or other training session while working at their current agency, more than one-third (36%) said this had been more than two years earlier.

8.5.2 Agencies' Policies on Child Abuse and Neglect Reporting and Sentinels' Reporting Histories

In order to better understand sentinels' actual reporting of child maltreatment, the SDS also obtained information about the sentinels' reporting histories and their agencies' policies on whether they permitted employees to make direct reports to CPS. Overall, 86% of the sentinels said their agencies allowed them to report child

maltreatment directly to CPS. Among the sentinels whose agencies permitted direct reporting, 62% said they had personally reported suspected child abuse or neglect directly to CPS.

Similar to the approach earlier (cf. Figure 7–3), the SDS analyses also subdivided sentinels into four broad groups, according to their agency category: health (hospitals and public health), law enforcement (sheriff, police, juvenile probation), school, and other (day care, social services, shelters, public housing). Figure 8–17 shows the percentage of sentinels in each group who worked at agencies that allowed them to report directly to CPS and, of those who were allowed to do so, the percentage who had actually reported a case of suspected child maltreatment to CPS while working for their current agencies.

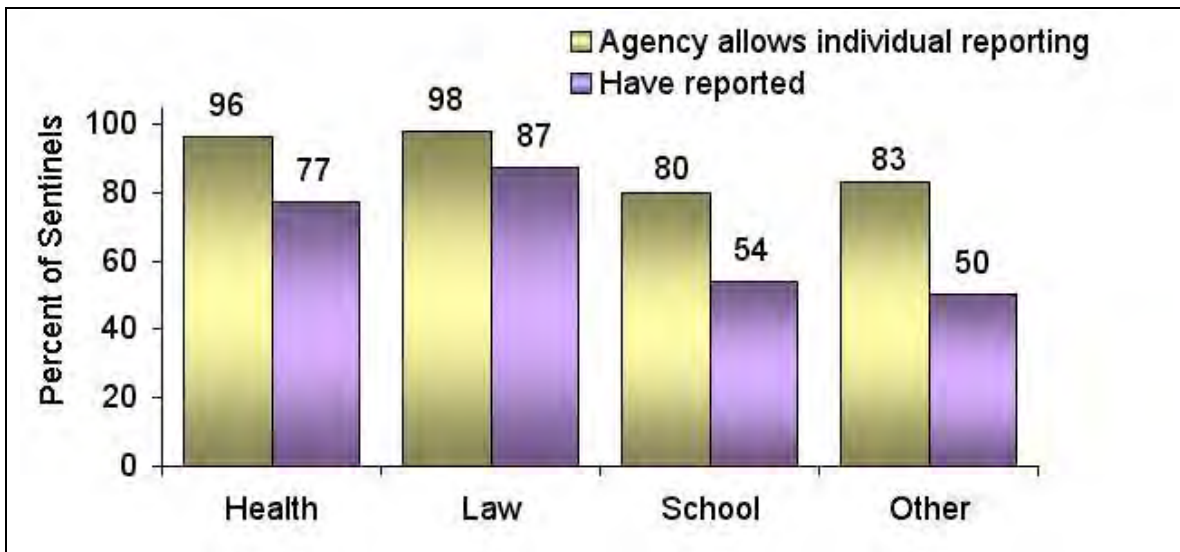


Figure 8–17. Percentages of Sentinels Whose Agency's Policy Permits Individuals to Report to CPS and Who Have Personally Reported a Case.

More sentinels from health (96%) and law enforcement (98%) said their agencies allowed direct reporting than did those from “other” agencies (83%) and schools (80%). Compared to sentinels in health agencies and law enforcement, fewer sentinels from both schools and the “other” agencies said that they were allowed to report suspected child maltreatment directly to CPS. More importantly, however, when sentinels *were* allowed to report directly to CPS, fewer school and “other” sentinels said they had ever reported a case (54% and 50%, respectively, compared to 87% among law enforcement sentinels and 77% among those in health agencies).

8.5.3 Sentinels' Expectations About Their Reporting to CPS

The SDS questioned sentinels about their expected reactions to the kinds of maltreatment covered in the NIS, presenting vignettes that represented Harm Standard maltreatment situations and asking whether the sentinels would report these situations to CPS. The last column in Table 8–6 presents the average percentages of SDS respondents who said they would not report the category vignettes to CPS.¹¹⁴ For comparison, the center column provides the percentages of uninvestigated children with Harm Standard maltreatment in the NIS–4 who were recognized by sentinels. (These exclude children who entered the NIS–4 through CPS-only sources, as discussed earlier in relation to Figure 8–6.)

The two columns derive from independent studies and reflect very different units and measures; therefore, they are not directly comparable.¹¹⁵ However, one important contrast is of interest, as are some notable similarities.

The percentages in the two columns are starkly different. Whereas the NIS–4 found that majorities of countable children were not investigated, only minorities of sentinels say they would not report the countable situations in the vignettes to CPS. The contrast is strong across all maltreatment categories. The sheer magnitude of these differences suggests that sentinels' failures to report to CPS (as they describe in their SDS responses) are not sufficient to explain the large percentages of uninvestigated children in the NIS–4.

Despite the important difference in overall percentages, the two columns share some similar patterns. In both columns, the percentages for neglect are higher than those for abuse. Thus, more neglected children are uninvestigated (85% versus 57% of abused children) and more sentinels say they would not report neglect situations to CPS (an average of 28% versus 15% who would not report the abuse situations). Also, in both

¹¹⁴ The SDS questionnaire asked sentinels to select all applicable responses from a list of alternatives, which included reporting the situation to CPS. Table 8–6 provides the percentages of sentinels who did *not* choose the “report to CPS” option.

¹¹⁵ The “Limitations” discussion in Chapter 7 (§7.2) is relevant here as well.

columns, the educational neglect percentage is highest, while the sexual abuse percentage is lowest. Educationally neglected children are least likely to receive CPS investigation (93% versus 80% or less of children with other maltreatment) and more sentinels say they would not report educational neglect to CPS (35% versus 28% or less who would not report other maltreatment). Among sexually abused children in the NIS–4, 53% do not receive CPS investigation (which is equivalent to the uninvestigated percentage of children with Harm Standard physical abuse but notably below the 70% or more who are not investigated in other specific maltreatment categories). Similarly sexual abuse was the category where the smallest percentage of sentinels (6%) predicted they would not report the vignette situations to CPS.

Table 8–6. Percentages of Uninvestigated Children with Harm Standard Maltreatment Recognized by Sentinels in NIS–4 and Percentages of SDS Sentinels Who Would Not Report the Vignette Situations to CPS.		
Maltreatment Category	Percentage of Uninvestigated Children Recognized by Sentinels in NIS–4*	Percentage of SDS Sentinels Who Would Not Report to CPS†
ALL MALTREATMENT	74	23
ABUSE:		
All Abuse	57	15
Physical Abuse	53	19
Sexual Abuse	53	6
Emotional Abuse	70	22
NEGLECT:		
All Neglect	85	28
Physical Neglect	80	20
Emotional Neglect	76	28
Educational Neglect	93	35
* Excluding children identified to NIS–4 by CPS-only sources.		
† Average percentage of sentinels across all vignettes representing the category and across all sentinel groups.		

Finally, the fact that an overall average of nearly one-fourth (23%) of sentinels predicted they would not report Harm Standard maltreatment cases to CPS indicates that sentinels recognize a substantial number of maltreated children whom they do not report to CPS. Sentinels in all agency categories contribute to this reservoir of unreported children, but (according to their SDS responses) school sentinels contribute disproportionately. Whereas an average of 23% of all sentinels said they would not report the countable maltreatment cases to CPS, 29% of school sentinels did so. The school sentinels differ most from other sentinel groups in what they say about reporting neglect to CPS. An average of 33% of school sentinels say they would not report situations described in neglect vignettes compared to 21%–26% of sentinels in the other three agency groups (health, law enforcement, and other). By contrast, an average of only 18% of school sentinels said they would not report abuse situations, compared to 12%–15% of sentinels in the other groups.

9. CONCLUSIONS AND IMPLICATIONS

The NIS–4 revealed several important changes in the incidence of maltreatment since the time of the NIS–3. Are the observed changes in the incidence of child abuse and neglect real changes in the scope of the problem, or do they instead reflect changes in how sentinels and other reporters to CPS respond to the maltreated children they encounter? Before drawing fully informed conclusions on this question, further analyses of the NIS–4 data will be needed to see whether observed changes are localized to specific subtypes, to less severe forms of the maltreatment, or to certain recognition sources. However, the current information suggests that both of these dynamics contributed to the observed changes, each dynamic affecting a different sector of the abused and neglected population.

The NIS–4 documented declines in rates of all categories of abuse across both definitional standards. The declines in sexual abuse and physical abuse are consistent with trends in CPS data gathered by the National Child Abuse and Neglect Data System (NCANDS, U.S. Department of Health and Human Services, Administration on Children, Youth and Families, 2007). As Finkelhor (2008) noted, several indicators suggest that these declines are real, including parallel declines in victim self-reports and the fact that the declines occurred broadly across abuse subtypes and sources in CPS data. This implies that the declines in NIS estimates of physical and sexual abuse are also real. However, since no independent information is currently available that bears on the incidence of emotional abuse, it is not clear whether the NIS decline in this category reflects a real decrease in its occurrence.

The increase in the rate of emotional neglect since 1993 could, in part, signify a real increase in the occurrence of maltreatment, but it is fairly clear that it also reflects some change in policy and focus. Whereas the incidence of emotionally neglected who received CPS investigation rose significantly since the NIS–3, the incidence of emotionally neglected children who did not receive CPS investigation showed no statistical change from the NIS–3 level. Since the NIS–3, a number of CPS systems have undertaken initiatives to increase collaboration between CPS and agencies that serve domestic violence and alcohol and drug problems (U.S. Department of Health and Human Services, Administration for Children and Families/Children's Bureau and Office of the Assistant Secretary for Planning and Evaluation, 2001, 2003). The increased

emotional neglect incidence may predominantly reflect the heightened CPS attention to these problems, which are involved in certain types of emotional neglect. Further analyses will clarify whether the increases in emotional neglect primarily occurred in specific types of emotional neglect or for children recognized at specific types of agencies.

Another area where further analyses can illuminate the implications of the NIS–4 findings is in the interrelationships among the different factors associated with the incidence of maltreatment. Factors such as parents’ labor force participation, household socioeconomic status, family size, and family structure and living arrangement are not only associated with the incidence of maltreatment but are also correlated with each other. Further analyses could determine their independent relationships to maltreatment, such as whether households with more children have higher incidence rates even when household socioeconomic status is taken into account. Moreover, for the first time in NIS, the NIS–4 found race differences in the incidence of maltreatment, with higher incidence rates for Black children. Similar to the approach used in exploring the NIS–3 data (Sedlak & Schultz, 2005), future analyses should examine whether these race differences in maltreatment rates remain when the disadvantaging effects of these family circumstances are taken into account.

The NIS–4 findings on the strong correlations between socioeconomic status and all categories of maltreatment are consistent with earlier NIS findings on household income. As with the previous results, the recent observations cannot be plausibly explained by the claim that lower socioeconomic families are simply more visible to the community professionals who provide most of the data. The NIS sentinels observe substantial numbers of children and families at the middle- and upper-income levels. The people who recognize the large majority of maltreated children are likely to encounter maltreatment in all income levels, since they include sentinels in hospitals, schools, day care centers, mental health agencies, voluntary social service agencies, as well as professionals not represented by NIS sentinel categories and the general public. Sentinels in schools alone recognized the majority of the maltreated children. Although the NIS design includes only public schools, approximately 90% of school-age children attend public schools (Shin, 2005), so they represent a broad spectrum of socioeconomic status levels. Moreover, since the majority (more than 80%) of children in private schools (those not reflected in the NIS) are in religiously affiliated schools (Provasnik, KewalRamani, Coleman, Gilbertson, Herring, & Xie, 2007), which frequently have

sliding scales for the poorer children, they are not necessarily from better economic circumstances than children enrolled in public schools.

Moreover, if the higher maltreatment rates for children in families of low socioeconomic status were to be simply an artifact of selective observation, then it would mean there have to be enough undetected abused and neglected children in the higher socioeconomic status category to equalize the incidence rates across the upper and lower status groups. That would require a large number of still-undetected children in the nation who experience countable maltreatment. Specifically, it would mean that *an additional 975,300 children* suffered maltreatment according to the Harm Standard yet remained hidden to the NIS. Similarly, it would mean there were *an additional 2,457,200 children* in 2005–2006 who experienced Endangerment Standard maltreatment but who escaped observation by community professionals. This would require an 85% higher overall estimate of the incidence of Endangerment Standard maltreatment, an estimated total of 5,363,000 children. That number is more than 7% of the total U.S. child population or more than 1 in every 14 children. Considering these implications, it appears more plausible to assume that the observed socioeconomic status differences in the incidence of maltreatment reflect real differences in the extent to which children in different socioeconomic conditions are being abused or neglected.

Despite some increases in CPS investigation of maltreated children, the NIS–4 shows that investigation rates still remain fairly low. Similar to previous NIS findings, the NIS–4 again determined that the majority of maltreated children do not receive CPS investigation. The NIS–4 obtained information that shed additional light on this issue:

- The NIS–4 determined that the finding is not an artifact of the relatively short (3-month) NIS reference period, since adding a full month of CPS data to increase the opportunity for more maltreated children to enter CPS investigations made essentially no difference to the percentages of children investigated.
- Certain features of CPS structure and practice were associated with percentages of maltreated children who received investigation. Children were less likely to receive CPS investigation if they were in the jurisdiction of CPS agencies that received their referrals about suspected maltreatment through a centralized regional or state hotline, that combined a new report into an ongoing open investigation on the child or family, or that could offer an alternative response (other than an investigation) to the children and families referred to them for

suspected maltreatment. Also, children who experienced physical neglect were less likely to receive investigation if their CPS agency had sole responsibility for investigating non-severe physical neglect.

- The *CPS Screening Policies Study* found that if all maltreated children were reported to CPS and CPS agencies followed their current screening policies, then a large majority of the maltreated children (80% or more) would receive CPS investigation.
- In the *Sentinel Definitions Survey*, sentinels responded to descriptions of maltreated children, indicating that they would not report some of these to CPS. About one-fourth of sentinels (24%) had not received either written instructions nor attended a training on their state's reporting requirements while working in their current agency. More of those who had received information or training had reported suspected child maltreatment.

Schools predominated as a source of recognition for maltreated children, recognizing the maltreatment of 52% of the children with Harm Standard maltreatment and 39% of those with Endangerment Standard maltreatment. At the same time, however, 20% or less of the maltreated children recognized at schools received CPS investigation. As a result, schools recognized the majority of uninvestigated children under both definitional standards (64% under the Harm Standard and 55% under the Endangerment Standard). One factor that may contribute to the low investigation rate for school-recognized children is school policy barring staff from making direct reports to CPS. In the *Sentinel Definitions Survey*, 20% of school sentinels indicated that their schools do not permit them to report directly to CPS. However, other factors also contribute to low investigation rates for the school-recognized children, because even when agencies permitted direct reports, fewer sentinels in schools said they had reported a case (54%) compared to staff in health agencies (77%) or law enforcement (87%). Similar patterns emerged in the previous NIS cycles. To repeat the earlier recommendation: better working relationships should be forged between CPS agencies and schools, capitalizing on the unique role of school professionals as front-line observers.

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Appendix A

Design and Methods Summary

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OVERVIEW

The fourth National Incidence Study of Child Abuse and Neglect (NIS-4) is a congressionally mandated study designed to measure the total number of children who are abused or neglected in the United States. It was also designed to indicate the degree to which this number has changed since the earlier cycles collected similar data (the NIS-1 in 1979, the NIS-2 in 1986, and the NIS-3 in 1993). In 2001, DHHS contracted with Westat to plan the NIS-4. With input from a large Technical Advisory Group, that effort identified, prioritized, and pilot-tested a number of enhancements to the NIS design. The NIS-4 incorporates these improvements.

NIS-4 main study design. The NIS-4 main study provides the basis for estimating the overall incidence of maltreated children and for assessing changes in incidence from the earlier studies. In contrast to the National Child Abuse and Neglect Data System (NCANDS), which captures annual statistics on cases of child maltreatment that come to the attention of the child protective services (CPS) system, the NIS measures the scope of child maltreatment in a way that goes beyond these official statistics. To do so, NIS gathers and integrates data from multiple sources, using standardized definitions.

The NIS-4 used a national sample of 122 counties. In each county, NIS collected data on all children investigated by child protective service (CPS) agencies as well as on maltreated children who were identified in 1,094 community agencies by professionals (“sentinels”) who regularly come into contact with children and families. Participants included the 126 local CPS agencies that serve the NIS-4 counties, as well as sentinels in the county sheriff’s office, the county departments of juvenile probation, health, and public housing, municipal police departments, hospitals, public schools, day care centers, shelters, and voluntary social services and mental health agencies. Data collection focused on maltreatment that took place during specific 3-month reference periods—either in the fall of 2005 (for two-thirds of the counties) or in the spring of 2006 (for the remaining one-third of counties). CPS submitted data on children they investigated during the reference period and sentinels submitted data on children they suspected to be maltreated during the reference period. The NIS-4 study team unduplicated the data (so the study estimates represent each maltreated child only once), evaluated the case details against standardized definitions of abuse and neglect (so estimates are based only on “countable” children, whose maltreatment meets the study standards), and

weighted the records (so the sample data can provide national estimates of the numbers of maltreated children).

NIS-4 enhancements. The NIS-4 sample design improved on that used in the NIS-3 by tripling the number of counties (122 vs. 42) as well as increasing the number of sentinel agencies (nearly 1,100 vs. 800). The NIS-4 also expanded sentinel coverage through two new categories of sentinel agencies—public housing authorities and shelters for victims of domestic violence and for runaway or homeless youth. In evaluating the data, the NIS-4 evaluative coders applied a refined typology of abuse and neglect definitions, using 60 separate forms of maltreatment. They also provided a more detailed coding of serious injury or harm resulting from maltreatment. Finally, the NIS-4 team designed and applied a number of new computer systems to manage, implement, track, and apply quality checks during recruitment, data collection, evaluative coding, and unduplication. These included a NIS website for the public and participants, a Sample Tracking and Recruitment System (STARS) for recruiters, an FTP website for file transfers from CPS agencies, an online sentinel data form to facilitate sentinels' submissions, several sampling and receipt control systems to support various study components, a Collection Activity Tracking System (CATS) for managing and monitoring field operations, a data form viewing system that offered quick and simultaneous access to electronic images of detailed data forms to authorized users as needed while maintaining data security on password-protected drives, a Computer-Assisted Evaluative Decision System (CAEDS) to facilitate the evaluative coding operations and record the detailed codes, and an unduplication system that supported coders in identifying candidate record pairs and documenting their decisions about true duplicates.

Supplementary studies. In addition to the main study, the NIS-4 project included several supplementary studies that were designed to enhance the quality and/or interpretability of the NIS findings (as discussed in the *Final Report*). Two were surveys of CPS agencies—one on their overall policies, procedures and practices and the second on their screening standards, to determine how they would treat referrals concerning the uninvestigated cases identified to the study by sentinels. The third supplementary study was a survey of sentinels on their backgrounds and definitions of child abuse and neglect and concerning their standards for reporting suspected maltreatment to CPS or submitting data on maltreated children to the NIS.

SAMPLES

The NIS target population is the set of children under 18 years of age who are maltreated during the study period, including all who are reported to child protective services (CPS) agencies and accepted for investigation by those agencies and any others who come to the attention of community professionals working in specific categories of agencies (such as police, teachers, social workers, nurses, and child care providers).

The three-stage sample design involves: (1) a first-stage, nationwide sample of primary sampling units (PSUs) that are single counties or clusters of contiguous counties, (2) a second-stage selection of all CPS agencies and samples of sentinel (non-CPS) agencies within the selected PSUs, and (3) case-level samples of abused and neglected children in CPS agencies and samples of sentinels (professionals who have direct contact with children) in sentinel agencies. The sampled sentinels are asked to report on all abused and neglected children that they encounter in the course of their work during the study reference period.

The NIS-4 used two reference periods, one of which conformed to that used in the NIS-2 and NIS-3: a 3-month period from the first week in September 2005 through the first week in December 2005. The second reference period occurred the following spring, from the first week in February 2006 through the first week in May 2006. The CPS case samples were selected retrospectively from records on all cases reported during the study reference period that the agency accepted for investigation. Sentinel data collection was prospective, with sampled sentinels asked to be on the lookout for maltreated children during the study reference period and to submit detailed data forms describing any such children they encounter.

Compared with earlier NIS cycles, the NIS-4 substantially increased sample sizes and broadened sentinel agency coverage. Relative to the NIS-3, the NIS-4 essentially tripled the samples of counties (from 42 to 122), CPS agencies (from 42 to 126), and CPS cases (from 3,368 to 11,930) and nearly doubled the samples of sentinel agencies (from 981 to 1,679) and sentinels (from 5,889 to 11,321).

Counties. The NIS-4 Primary Sampling Units (PSUs) were constructed from the list of 3,141 counties in the 2000 Census. This list was updated to reflect county definitions and boundaries at the time of NIS-4 sampling in 2004. The NIS-4 selected a sample of 110 PSUs (122 counties) using a probability-proportional-to-size (PPS) sampling method and a stratified

design. The measure of size was the population of children under 18 years old in Census 2000. Large counties with a child population over 400,000 were selected with certainty. Undersized counties (those with fewer than 4,000 children) were combined with contiguous counties to form geographically compact PSUs with sufficiently large populations to justify data collection efforts. Constructing multi-county PSUs considered local CPS agency jurisdictions (which usually, but not always, follow county boundaries) and limited the number of counties in a PSU to no more than six.

Under this scheme, the 14 largest counties were selected with certainty, leaving a listing of 2,282 noncertainty PSUs nationwide, 1,685 of which were single-county and rest multiple-county PSUs. Statisticians allocated these noncertainty PSUs to 48 strata, based on Census region, metro status, the NCANDS child victim substantiation rate, FBI crime rate, and percentage of households headed by single females with children. (Choice of these factors derived from prior analyses on predictors of child maltreatment rates.) Two PSUs were selected from each stratum, using probability-proportionate-to-size (PPS) of the Census 2000 population of children, which identified 96 noncertainty PSUs: 88 single-county PSUs, 6 two-county PSUs, 1 three-county PSU and 1 five-county PSU. Thus, the final NIS-4 sample consisted of 110 PSUs (14 certainty and 96 noncertainty), which included 122 counties—14 certainty and 108 noncertainty counties.

CPS agencies and cases. The CPS agency sample comprised all 126 CPS agencies serving all or part of a sampled county. Most were county-level agencies serving individual counties. Eligible CPS cases were those reported to these CPS agencies during the 13-week study reference period and assigned for investigation. CPS case sampling followed the approach used in the NIS-3. Fatality cases were included with certainty. An approximately equal-probability sample was randomly selected from the remaining eligible cases. Sampled cases were assigned to receive CPS Maltreatment data forms, while CPS Summary data forms were assigned to the remaining eligible cases for use during unduplication and weighting, as described in those sections. (The *Data Collection* section describes the different data forms.) These procedures resulted in listings of 140,206 CPS case investigations during the study reference periods, and identified a sample of 11,930 of these for CPS Maltreatment data forms. To support special analyses examining whether any of the children not investigated during the study period were reported to CPS and investigated later, the NIS-4 also obtained Summary data forms on all cases reported and assigned for investigation during the month following the reference period. The NIS-4 gathered an additional 38,398 Summary data forms for this component.

Sentinel agencies. Sentinel agency categories in the NIS–4 included:

- Law enforcement agencies—sheriff and county police departments, municipal police agencies, and juvenile probation departments;
- Health services—children’s hospitals, short-stay general hospitals, and public health departments;
- Schools and day care centers—public K-12 schools and licensed day care centers; and
- Housing, shelters and others—public housing departments, shelters for battered women and runaway and homeless youth, social service and mental health agencies.

Agencies in these categories that were physically located in NIS–4 counties were eligible for the study (with one exception—the study also included children’s hospitals within 25 miles of a NIS–4 county that had none of its own). The above list broadens sentinel coverage by including two new agency categories: Public housing and shelters for battered women and for runaway and homeless youth. Both of these new categories were introduced based on the results of explorations in several counties during the NIS–3. Whereas public housing was entirely new, shelters were previously included in NIS but only as part of the varied group of social service and mental health agencies.

The NIS–4 sentinel agency samples were structured according to local CPS agency/county clusters. For the most part, a cluster reflected a single county. However, small counties that were served by the same local CPS agency were handled as a single cluster. There were 115 local CPS agency county clusters in the NIS–4.

The NIS–4 aimed to approximately double the NIS–3 sentinel agency sample. However, rather than simply doubling the sample in every category, statisticians computed an optimum allocation of the doubled-sample across the sentinel agency categories. The optimum allocation first took into account both the within-category precision of estimates of uninvestigated maltreated children and the relative costs of recruiting and collecting data from an agency in the category. The resulting allocation was then modified to attempt to provide each agency category with at least one representative in each CPS agency-county cluster—with the exception of the law enforcement agencies. Because these computations determined that the

optimal sample sizes from law enforcement agencies were relatively small (with little gain to be had in the precision of national estimates by adding more of these agencies), they were included in a sample of 62 PSUs (the 14 certainty PSUs and one-half, or 48, of the noncertainty PSUs).

With two exceptions, the final allocation plan targeted a sample of one agency for each category in every CPS agency-county cluster. The allocation plan dictated that more agencies be sampled to represent day care centers (2 per cluster) and schools (5 per cluster). In actually implementing this plan, statisticians selected the sentinel agencies in five categories with certainty—sheriff departments, juvenile probation departments, public health departments, children’s hospitals, and public housing agencies—because there is typically only one such agency per county. Agencies in the other categories are generally more numerous, so they were sampled for the study. Because size measures were available for schools, general hospitals, and municipal police departments, agencies in those categories were sampled by the PPS method. Simple random sampling was applied in the other sampled agency categories (day care centers, shelters, and social service/mental health agencies).

On average, 14.6 sentinel agencies were sampled in a given CPS-county cluster, but this varied, ranging from 5 in a very small site to more than 40 in the largest county. Despite the broad range, however, the distribution was fairly tight: only 6 clusters had fewer than 10 sentinel agencies sampled, and only 6 had more than 18.

The numbers of sentinel agencies selected for the NIS–4 in the different agency categories are listed in the Sentinel Recruitment discussion.

Sentinels. Within each sentinel agency, staff who were eligible to serve as sentinels were identified and sampled. This process required identifying eligible units within the agency, listing (and sometimes sampling) those units, enumerating the eligible staff, and sampling staff to be recruited as sentinels. Sampling from the staff roster used a probability-based method. First, sentinels in certainty selection units (as defined by the particular job category, such as school counselors and truancy officers) were all included in the sample. The remaining sentinels were sampled from the roster of eligible staff using a predetermined sampling rate for the agency or following standards for targeted minimum sample sizes (e.g., at least one sentinel per functional unit and no fewer than two sentinels per agency). For each agency category, Table A–1 identifies the eligible units and eligible staff positions and gives the numbers of eligible staff that were listed on rosters and sampled as sentinels in each category.

Table A-1. Definitions of Eligible Units and Staff Within Each Agency Type; Total Eligible Staff in Participating Sentinel Agencies and Numbers of Staff Sampled to Serve as Sentinels				
Agency Category	Eligible Units	Eligible Staff	Number of Eligible Staff	Sentinel Sample
County Sheriff and/or State Police Departments	Criminal Investigation, Homicide, Sex Crimes, Juvenile, Child/Family Crimes, Domestic Violence	Officers assigned to investigate child crimes, usually detectives.	1,614	321
Juvenile Probation Departments	Supervision, Investigation, Intake, Other	Juvenile Probation Officers	2,790	373
Municipal Police Departments	Criminal Investigation, Homicide, Sex Crimes, Juvenile, Child/Family Crimes, Domestic Violence	Officers assigned to investigate child crimes, usually detectives	1,626	521
Short-Stay General and Children's Hospitals	Emergency Room, Pediatric or Acute Care	Head Nurses, Acute Care/Pediatric Social Workers.	1,602	912
Public Health Departments	Units where staff has sufficient interaction with children and families to learn about maltreatment events, effects, outcomes, and perpetrators.	Public Health Nurses, Social Workers.	1,670	372
Voluntary Social Service/ Mental Health Agencies	Units where staff has sufficient interaction with children and families to learn about maltreatment events, effects, outcomes, and perpetrators.	Professional Staff working with children and families.	907	276
Shelters for Runaway and Homeless Youth Shelters or Domestic Violence Victims	Shelter, Other	Counselors/ Caseworkers	330	127
Licensed Day Care Centers	Classrooms/ Service units	Day Care Teachers/ Aides	685	681
Elementary and Secondary Public Schools	Non-rotating/Rotating Classrooms, Units with targeted professionals	Teachers, Counselors, Nurses, Truancy Officers.	10,793	7,684
Public Housing Authorities	Units where staff has sufficient interaction with children and families to learn about maltreatment events, effects, outcomes, and perpetrators.	Public Housing Social Workers/ Caseworkers	100	54
Total			22,117	11,321

CPS RECRUITMENT

In order to develop child-level estimates and to quantify the number of abused and neglected children in the U.S. beyond those that come to the attention of CPS, it is critical to unduplicate data from sentinels against data on children in CPS investigations. Because of this, the NIS design requires 100 percent participation by CPS agencies, at least to the extent needed to accomplish this unduplication. The NIS-4 met this goal by achieving 100 percent participation for CPS agency Summary Data (N=126 agencies). This ensured the usability of sentinel data in all sampled counties. However, state offices (in 3 states) declined to permit 6 local CPS agencies to complete the CPS Maltreatment data form. Data forms are described in the *Data Collection* section. The *Weighting* section explains how CPS Maltreatment data forms from participating agencies were weighted to correct for the loss of these nonrespondent agencies.

Attaining this high participation rate required time, persistence in negotiating and renegotiating, and the addition of a second reference period.¹ CPS recruiters were senior staff both from Westat and Walter R. McDonald and Associates (WRMA). These staff had expertise in child welfare programs; most specifically in CPS. During the height of recruitment, 14 senior staff (10 at Westat and 4 at WRMA) actively recruited CPS agencies for participation. Recruiters attended a 2-day training session in September 2004 and received additional training as recruitment proceeded and negotiations with agencies progressed to more advanced stages. Recruitment meetings were held weekly during the first 5 months, and biweekly after that. In these meetings, staff discussed common problems, identified emerging issues, and determined modified NIS participation arrangements the study could accommodate without compromising the core integrity of the study design and estimates.

It took about as much time to gain approval from agencies requiring state approval as from county-administered agencies that did not need state clearance. For the former agencies, it took an average of 245 days (median=204 days) to obtain the needed state-level approval and an additional 95 days on average (median=30 days) to get local-level approval. For agencies that did not require state approval, approval took a 276 days on average (median=288 days).

¹ Primary Sampling Units were assigned to one of two reference periods (Sept.4—Dec.3, 2005 or Feb.4—May 3, 2006).

From September 2004 through September 2005 (slightly after the start of the first reference period), 107 agencies had approved participation (85%). The remaining CPS agencies took an additional 12 months to recruit. The last agency agreed to participate September 2006. This extended recruitment period was possible because CPS data were retrospective, as explained in the *Data Collection* section.

Some of these delays were caused by the need to submit applications for IRB reviews (n=26), research committee reviews (n=27), court orders (n=4), and to establish workable data transfers. However, refusal conversion efforts also explain much of these delays. Reasons agencies gave for refusing included the burden associated with the CFSR or the state's resulting Performance Improvement Plan, their participation in another study, staff shortages, court-ordered improvement efforts underway, scheduling conflicts, changes in directors, and level of burden. There were five initial state-level refusals (affecting 18 agencies) that took an average of more than 17 months (514 days) from their first contact to final approval. There were initial refusals by four local agencies that took an average of more than 14 months (431 days). The project director personally visited all five initially refusing state agencies and two of the initially refusing local agencies to further explain the study and explore the possibilities of accommodations that might allow them to participate. These visits were successful in negotiating some degree of participation from all the agencies.

SENTINEL AGENCY RECRUITMENT

The sentinel agency sample in the NIS–4 was twice as large as that in the NIS–3. The project team developed the NIS–4 Sample Tracking and Recruitment System (STARS) to manage and support this large-scale effort. Recruiters used STARS to receive their assignments, maintain and update agency contact information, record all communications and any special requirements or arrangements, document progress in finalizing participation agreements, and identify or sample the individual staff who would serve as sentinels within the agency.

The NIS–4 used professional-level hourly staff to recruit sentinel agencies, a proven cost effective strategy in previous Westat studies. Recruiters were male and female with strong interviewing skills and work experience in many of the sentinel categories—police, teachers, day care providers, and juvenile probation officers. The work team ranged from 10 to 20 recruiters over the course of recruitment. Recruiters were hired in waves, in response to variations in workload and recruiter attrition over time. New recruiters were trained over an intensive 2-week period. Training sessions first provided an overview of the study, administrative procedures, recruitment goals and objectives, and the use of the computerized tracking system. Next, training focused on strengthening their interviewing skills and recruitment strategies, understanding the different agency structures, and detailed procedures for sampling agency units and individual sentinels. Finally, new trainees were carefully observed to ensure their competency in all aspects of the recruitment process.

The first set of columns in Table A–2 show the number of NIS–4 agencies originally sampled, number of agencies in-scope in the original sample, the number of replacements for refusals, and the number of agencies agreeing to participate. Out-of-scope agencies were those who did not qualify as representatives of their category for various reasons (e.g., they no longer existed, were not located in the sampled county or PSU, or had no staff with direct contact with children or families). Note that some in-scope replacement agencies also refused, which is why column C plus column D does not equal column E.

The last series of columns in Table A–2 give unweighted and weighted participation rates. The different participation rate computations correspond to different response rate formulas (see the table footnotes). The weighted response rates are higher than the unweighted response rates for all agency types except social service/mental health agencies and shelters, indicating that sample agencies with larger weights were more willing to participate. Agencies

with larger weights are those in smaller PSUs or are themselves smaller in size; they represent more others like themselves in the national estimates. The participation rate for all sentinel agencies was 71.8% unweighted (76.9% weighted).

Table A–3 shows the final participation rates achieved for all four NIS cycles. NIS–4 rates were lower than those attained in earlier NIS cycles. The lower rates were largely attributable to increased concerns with privacy and resulting changes in policies, procedures, and state and Federal laws since the NIS–3. New laws, such as the Health Insurance Portability and Accountability Act (HIPAA), seriously limited access to data for any “voluntary” study.

Recruitment staff developed 35 IRB applications and 23 school district research committee reviews (affecting 73 schools). Figure A–1 summarizes the number of days from initial contact to approval, final refusal and out-of-scope classification, by agency type and overall. Public health took the longest to win approval (an average of 306 days, ranging from 39 to 546 days). County law enforcement followed (averaging 273 days to gain approval); hospitals were next (averaging 254 days). School recruitment was a lengthy process, in part because of the need to go to three levels of authority for approval (state, district, and individual school). State level recruitment took an average of 38 days (all states agreed to participate). Districts took 82 days and schools took 129 days.

Recruiters always attempted to convert an initial refusal, so refusals occupied considerable time as well. Refusal conversion work ranged from minor adjustments to the protocol to intervention by senior staff and site visits. Refusing hospitals averaged 322 days until final disposition. County law enforcement averaged 340 days. Refusing school districts were pursued for an average of 173 days and individual refusing schools took an average of 113 days. The number of contacts involved also varied. Contacts for approvals ranged from 13 for juvenile probation agencies to 40 for hospitals. Contacts for refusals ranged from 15 for juvenile probation to 44 for hospitals. The average number of contacts for all agencies and levels was 16 for approvals and 22 for refusals.

Table A–2. NIS–4 Agency Participation, Numbers and Rates										
Agency category	Agencies					Rates				
	Sample size	In-scope original agencies	Participating original agencies	In-scope replacements for refusals	Total participating agencies ¹	Unweighted Cooperation Rate ²	Unweighted participation rate before replacement ³	Weighted participation rate before replacement	Unweighted participation rate after replacement ⁴	Weighted participation rate after replacement ⁴
	A	B	C	D	E	$F=E/(B+D)$	$G=C/B$	G (wtd)	$H=E/B$	H(wtd)
County Sheriff/State Police	71	58	44	0	44	76	76	88	76	88
Juvenile Probation	65	65	54	0	54	83	83	88	83	88
Municipal Police	83	81	55	17	63	64	68	76	78	88
Hospitals	159	152	104	1	105	69	68	81	69	81
Public Health	117	106	82	0	82	77	77	82	77	82
Social Service/Mental Hlth	106	88	60	0	60	68	68	64	68	64
Shelters	95	83	69	2	71	84	83	76	86	78
Day Care	240	217	170	11	176	77	78	78	81	81
Schools	670	657	336	190	423	50	51	54	64	70
Public Housing	73	17	16	0	16	94	94	100	94	100
Total	1,679	1,524	990	221	1,094	63	65	68	72	78

¹This column includes all in-scope agencies (both from the original sample or replacement sample) that participated for all or part of the reference period.

²The formula used for this column computes the percentage of all participating agencies of all eligible agencies targeted for recruitment, including replacements in both the numerator and denominator. This is defined by the American Association for Public Opinion Research (AAPOR) as formula COOP4. See AAPOR's *Standard Definitions* (2006). Available online at http://www.aapor.org/uploads/standarddefs_4.pdf, p.34.

³The formula used for this column is based solely on the eligible agencies in the original sample, disregarding replacements. Also known as the “effective participation rate,” it is equivalent to AAPOR formula RR6 (*Ibid.*, p33).

⁴This is equivalent to the “after replacement” participation rate measure used in the National Assessment of Educational Progress (NAEP), an example of which can be seen at http://nationsreportcard.gov/science_2005/s0117.asp?printver=

**Table A-3. Sentinel Agency Participation Rates NIS-1 through NIS-4
(Unweighted, After Replacement)**

Agency Category	NIS-4 Participation Rate (%)	NIS-3 Participation Rate (%)	NIS-2 Participation Rate (%)	NIS-1 Participation Rate(%)
County Sheriff/State Police	76	97	92	92 ^a
Juvenile Probation	83	93	94	
Municipal Police	78	96	93	82
Hospitals	69	100	96	76
Public Health	77	100	100	
Social Service/Mental Health	68	91 ^b	88 ^b	91 ^c
Shelters	86			
Day Care Centers	81	100	89	
Schools	64	75	82	89
Public Housing	94	NA	NA	NA
Total	72	82	88	87

^aIn the NIS-1 these agency categories were combined with the county medical examiner in a single “Other Law Enforcement” category .

^bThese categories were combined with the “Social Service/Mental Health” category in the NIS-2 and NIS-3.

^cThese agency categories were combined in a single “Other Agencies” category in the NIS-1.

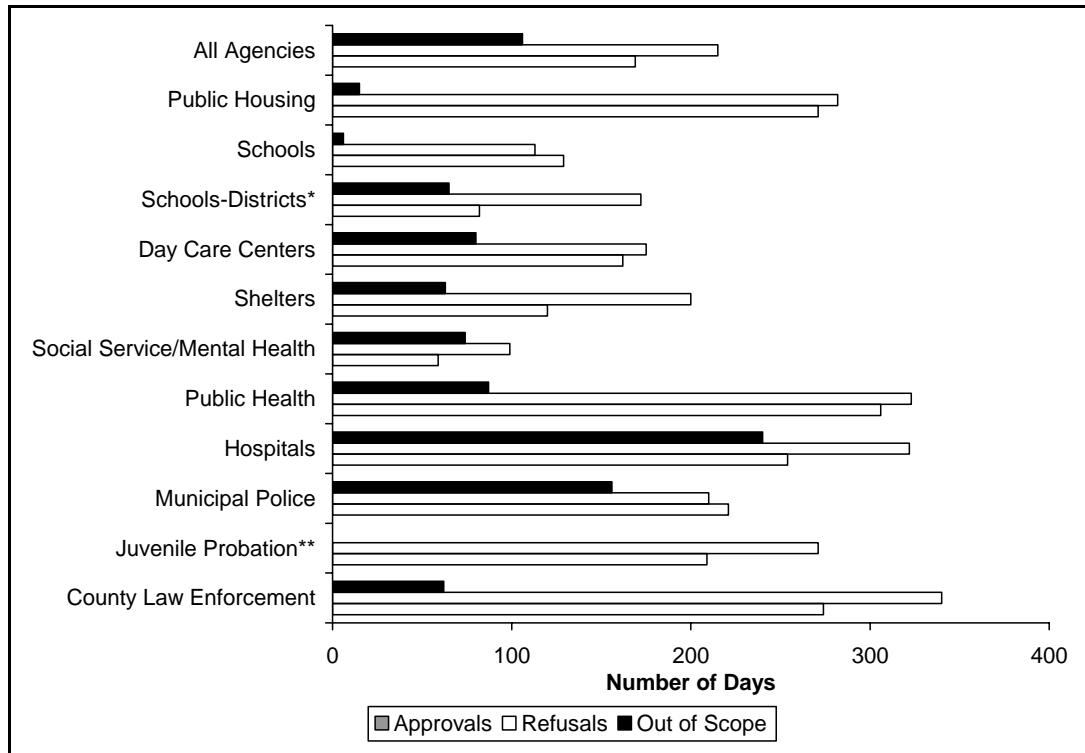


Figure A-1. Average Days from First to Last Contact for Approvals, Refusals, and Out-of-Scopes

*One hundred and ninety-four schools were lost due to district-level refusals. No contact was made with these schools.

**Three county probation offices were associated with state refusals. No contact was made with these agencies.

DATA COLLECTION

The goals of the NIS–4 data collection were to maximize agency and sentinel participation and to collect complete and accurate data forms on every maltreated child whom sentinels identified or whom CPS agencies accepted for investigation during the NIS–4 reference periods. The NIS–4 used two 3-month reference periods (9/4/05–12/3/05 and 2/4/06–5/3/06). Table A–4 shows the distribution of the NIS–4 sample across these reference periods.

Table A–4. Distribution of PSUs, Counties, and Agencies by Reference Period				
Reference Period	PSUs	Counties	CPS Agencies	Sentinel Agencies
Fall 2005	72	83	85	754
Spring 2006	38	39	41	340
Total	110	122	126	1,094

CPS agencies provided data on all cases they accepted for investigation that were reported during their assigned reference period, whereas sentinels described all maltreated children they encountered whose maltreatment occurred during their assigned reference period. CPS agencies also provided summary level data about cases they accepted during the month following their reference period for special analyses to explore the effects of allowing more time for reports to CPS, especially on children sentinels observed late in their reference period.

The fall and spring reference periods required two cohorts of field managers in the home office and local coordinators in the field. Local coordinators lived in or near the NIS–4 counties. They trained sentinels, motivated them throughout the data collection period, collected sentinel data forms, trained CPS agency staff (as needed), and coordinated CPS data collection tasks (as needed). Subsets of local coordinators were actively working over a 22-month period from September 2005 through June 2007. Most sentinel data collection activity coincided with the two 13-week reference periods, but CPS data collection extended for more than a year beyond the end of the second reference period due to agencies’ schedule, budget, or staffing constraints and the challenges of negotiating data extracts from agencies’ electronic information systems.

The NIS–4 used three primary data collection instruments: the CPS Maltreatment data form, the CPS Summary data form, and the Sentinel data form. CPS agencies used the CPS Maltreatment data form to provide details concerning the children and maltreatment events for a sample of cases reported to the agency during the study reference period that they accepted for investigation. They used the CPS Summary data form to capture primarily demographic information on the remaining, unsampled cases, for use in unduplication. Sentinels used the Sentinel data form for all children they suspected were maltreated during the reference period. The CPS Maltreatment and Sentinel data forms collected many of the same details, but differed in format: the Sentinel data form described a single child, whereas the CPS data form described all children in the household, since CPS agencies typically organize records around household-level investigations rather than around individual children.

During training, sentinels and CPS agency staff were given booklets with general instructions, definitions, and item-by-item specifications for completing their data forms. Local coordinators reinforced the sentinels’ role in the study through regular agency visits. Local coordinators visited 70% of the agencies biweekly and 18% of the agencies every three weeks or monthly. Four percent of the agencies permitted the local coordinator fewer than three visits during the reference period or did not allow the local coordinator on site. (For 8%, records on frequency of visits were incomplete.)

Both CPS agencies and sentinels had multiple options for submitting data to the NIS–4. Almost all CPS agencies submitted their summary data via electronic file uploads and about one-half also submitted a portion or all of the case maltreatment details electronically. The NIS–4 collected completed Maltreatment data forms on 10,667 sampled cases and Summary data on all 140,206 listed cases.² Sentinels could submit hardcopy data forms or complete data forms online. They provided almost one-half of Sentinel data forms online. Table A–5 shows the 1,094 participating agencies, 10,791 sentinels, and 6,208 completed data forms submitted by sentinel agency type.

² These covered the 3-month reference periods. The NIS–4 collected an additional 38,398 CPS Summary Data Forms for cases reported to CPS during the extra month.

Table A-5. Participating Sentinel Agencies, Sentinels, and Data Forms by Agency Type			
Agency Type	Agencies	Sentinels	Data Forms
County Sheriff/State Police	44	313	574
Juvenile Probation	54	364	251
Municipal Police	63	499	606
Hospitals	105	853	1,986
Public Health	82	340	268
Social Service/Mental Health	60	254	198
Shelters	71	123	403
Day Care	176	624	59
Schools	423	7,372	1,845
Public Housing	16	49	18
Total	1,094	10,791	6,208

At the end of data collection, local coordinators contacted each sentinel one final time to collect any outstanding data forms; they also completed an exit evaluation form assessing the sentinel's level of commitment and enthusiasm for the study. Local coordinators rated 35% of sentinels as "enthusiastic and supportive" or "cooperated with interest" and 46% as "cooperative." They classified 13% as begrudging or unresponsive. The sentinel agency did not permit local coordinators direct contact with 3% of sentinels, and 2% of sentinels had no ratings information. Statisticians examined these ratings and determined that, except for classifying 3 sentinels as nonrespondents, no additional adjustments to sentinel weights were needed.

EVALUATIVE CODING

The purpose of evaluative coding is to judge the details of each case of suspected maltreatment reported to the NIS–4 against the required elements of the countability criteria defined for the study. The NIS definitions specify all of the elements that must be met for the child to be countable. Separate evaluations are made as to whether the case fits each of these elements and only children who fit the standardized definitions are classified as countable and used as the basis for the study estimates of the number of children maltreated in the nation.

Evaluative coding procedures. The CPS Maltreatment Data form and the Sentinel Data form gathered details on maltreatment. These data forms required respondents to answer pre-coded questions about the maltreatment and to briefly describe certain details about the maltreatment event(s). Evaluative coders used these narratives and the respondent-assigned codes to classify the form(s) of maltreatment according to the NIS–4 60-form typology shown in Table A–6. In doing so, they also evaluated the circumstances against definitional criteria, and judged the child’s overall countability under the study standards. As in past NIS cycles, two definitional standards were used in parallel—the Harm Standard and the Endangerment Standard. The Harm Standard has been used since the NIS–1 and is the more stringent. For the most part, it requires that the child have experienced observable harm from maltreatment in order to be deemed countable. The Endangerment Standard has been in use since the NIS–2. It is more lenient, requiring that source of the study report (CPS or the sentinel) consider the perpetrator’s actions or omissions to have placed the child at serious risk of harm. The key decisions elements included:

- The age of the child (the NIS includes all maltreatment events that occurred to children from birth to their 18th birthday);
- The custody status of the child (NIS includes only abuse and neglect in the purview of CPS, that is, maltreatment of children living in household settings);
- Child victim status (applies on CPS forms only)—whether an alleged victim (child was an alleged victim or the CPS investigation record described his or her countable maltreatment), substantiated/indicated victim, or not a victim of maltreatment;
- The relevant form(s) of maltreatment;
- The certainty with which the events met the study’s time-period eligibility;

- The nature of harm (injuries to the child);
- The severity of harm to the child and whether it met the required harm for the form of maltreatment according to the standard under consideration—Harm or Endangerment;
- The person(s) responsible for the maltreatment, their role in the maltreatment (maltreated, permitted), and whether they met the requirement for who the perpetrator has to be according to the definitional standard under consideration (Harm Standard or Endangerment Standard);
- Degree of evidence for holding alleged perpetrator(s) responsible for maltreatment event(s);
- Whether alcohol, drugs, or mental illness were factors in the maltreatment events;
- Countability of each form of maltreatment according to the Harm Standard and the Endangerment Standard; and
- Overall countability of the child according to the Harm and Endangerment Standards.

Table A–6. NIS–4 60-form Typology for Classifying Maltreatment

Sexual Abuse (10 codes) Intrusion sex without force Intrusion sex involving use of force Child’s prostitution or involvement in pornography with intrusion Molestation with genital contact Exposure/Voyeurism Providing sexually explicit materials Child’s involvement in pornography without intrusion Failure to supervise child’s voluntary sexual activity Attempted/threatened sexual abuse with physical contact Other/unknown sexual abuse	Physical Neglect (12 codes) Refusal to allow or provide needed care for diagnosed condition or impairment Unwarranted delay or failure to seek needed care Refusal of custody/abandonment Other refusal of custody Illegal transfers of custody Other or unspecified custody-related maltreatment -- unstable custody arrangements Inadequate supervision Inadequate nutrition Inadequate personal hygiene Inadequate clothing Inadequate shelter Other/unspecified disregard of child’s physical needs and physical safety
Physical Abuse (6 codes) Shake, throw, purposefully drop Hit with hand Hit with object Push, grab, drag, pull Punch, kick Other physical abuse	Educational Neglect (4 codes) Permitted chronic truancy Other truancy Failure to register or enroll Other refusal to allow or provide needed attention to diagnosed educational need
Emotional Abuse (8 codes) Close confinement: tying/binding Close confinement: other Verbal assaults and emotional abuse Threats of sexual abuse (without contact) Threats of other maltreatment Terrorizing the child Administering unprescribed substances Other/unknown abuse	Emotional Neglect (11 codes) Inadequate nurturance/affection Domestic violence Knowingly permitting drug/alcohol abuse Knowingly permitting other maladaptive behavior Refusal to allow or provide needed care for diagnosed emotional or behavioral impairment/problem Failure to seek needed care for emotional or behavioral impairment/problem Overprotectiveness Inadequate structure Inappropriately advanced expectations Exposure to maladaptive behaviors and environments Other inattention to development/emotional needs
Other Maltreatment (6 codes) Lack of preventive health care General neglect -- other/unspecified neglect allegations Custody/child support problems Behavior control/family conflict issues Parent problem General maltreatment -- unspecified/other (not coded above)	Not Countable by any NIS Standard (3 codes) Involuntary neglect Chemically dependent newborns Non-maltreatment cases

The evaluative coders recorded these key decision elements using a specially designed Computer Assisted Evaluative Decision System (CAEDS). CAEDS offered several advantages over the paper transmittal forms that were used to record evaluative coding decisions in previous NIS cycles: it offered automated reminders and consistency-checks as the coder entered the key decision elements for each maltreatment form; it allowed simultaneous and efficient electronic access to a particular scanned data form by anyone who needed it at the time (the primary evaluative coder, the reliability coder, the unduplication team); it served as the management system for allocating coding assignments and monitoring reliability; and it provided a secure paperless process in which all confidential details on data forms were stored electronically on a secure password-protected network, eliminating the need for transport of confidential paper forms.

Reliability coding procedures. After the initial evaluative coding was completed for a child, the case could be sampled for assignment to another evaluative coder for reliability coding. The reliability coder completed the case without knowledge of the initial coder's decisions. Inter-coder reliability was assessed throughout the evaluative coding operation.

Two measures of inter-coder reliability were applied. The first was the simple percentage rate of agreement between the initial evaluative coders and the reliability coders on each decision element. The second was a computation of the Kappa coefficient for each decision, which took account of the level of agreement expected by chance, based on the distribution of codes on the item. The Kappa also helped identify coders who were performing below the average level relative to other coders.

The evaluative coding task leader and all evaluative coders participated in bi-weekly "Committee Review" meetings. The primary purpose of these meetings was to resolve the discrepancies found through reliability coding, review the difficult-to-code cases, and to clarify any questions concerning coding procedures or instructions. These ongoing assessment procedures only tracked important information about the overall reliability of the evaluative coding decisions, but the team meetings also alerted the coders to any slippages or discrepancies in their standards, ensuring that they applied the criteria evenhandedly across all forms of maltreatment and all children.

Evaluative coding statistics. The evaluative coding began with the first training session on August 28, 2006 and ended with the final resolution of discrepant cases on October 10, 2007. The tables below present the number of cases coded and the overall agreement rates and Kappa. Although 12,334 children were reliability coded, not all these children met the pre-evaluative eligibility requirements for full evaluative coding. Of these children, 6,950 met the pre-evaluative coding eligibility requirements and moved on to full evaluative coding of their maltreatment(s). Table A–8 provides the number of children who were reliability coded by their pre-evaluative coding status.

Table A–7. Numbers of Child-level Records Completed During Each Phase of Evaluative Coding.				
	Initial Evaluative Coding (EC)	Blind Reliability Coding (RC1)	Blind Reliability Coding Rate	Committee Review (CR)
Cases Completed	30,543	12,334	40%	3,874

Table A–8. Number of Children Reliability Coded by Pre-Evaluative Coding Status	
Pre-Evaluative Coding Status	Child Cases Completed
Reliability Coded – Pre-Evaluative Coding of Child’s Eligibility	12,334
Reliability Coded – Child <u>not</u> eligible for full Evaluative Coding	5,384
Reliability Coded – Child eligible for full Evaluative Coding	6,950

Table A–9. Agreement Rates for Overall Countability of Child-level Records			
Measure	Cases in Agreement	Total Cases	Agreement Rate
Pre-Evaluative Coding Decision	12,202	12,334	0.989
Countability of Child:			
Countability under the Harm Standard	6,765	6,950	0.973
Countability under the Endangerment Standard	6,783	6,950	0.976

Table A–10. Kappa Scores for Countability of Maltreatment Forms and Child-level Records	
Measure	Kappa Score
Child Case:	
Countability Harm Standard agreement	0.95
Countability Endangerment Standard agreement	0.91
Forms of Maltreatment:	
Countability Harm Standard agreement	0.96
Countability Endangerment Standard agreement	0.95

UNDUPLICATION

NIS provides estimates of the numbers of maltreated children, so it is critical for the study to avoid counting the same child more than once. The purpose of unduplication is to identify children who enter the study data on multiple data forms and reduce their information to a single record for analysis. Unduplicating NIS–4 data consisted of three main steps:

- Identifying child-level records that may be duplicates (candidate pairs)
- Deciding whether the candidate pair records were true duplicates
- Unifying duplicate records

Candidate pairs. Matches on subsets of 8 key data items helped to identify candidate pairs:

First name	Age
Last name initial	Ethnicity/race
Gender	City of residence
Date of birth	Number of children in household

Candidate pairs for child-level records from CPS Maltreatment and Sentinel data forms were identified 3 ways:

- Manually using a computerized sorting system
- Using the NIS–3 rule-based algorithm that identified 2 of 3 matching patterns
- Using a probability-based matching software designed to identify matches

During the first stage, all data forms in 9 small counties were examined manually. This entailed unduplication staff sorting all the child-level records in each county by various key data items and flagging pairs of records that appeared to be potential duplicates. Statisticians used the data in these counties and these initial candidate-duplicate decisions to guide the settings of parameters on the probability-based matching software so that it would, as closely as possible, identify the same candidate pairs. In addition, the unduplication task leader adjusted the NIS–3 rule-based algorithm so that it would not generate numerous false-positive candidates. Once these preparations were completed, the adjusted NIS–3 rule-based algorithm and the

probability-based matching software were applied to the remaining counties to generate the candidate duplicate pairs in those locales.

True duplicates. Staff examined details on the records in candidate pairs and decided whether they were true duplicates. During this process, they accessed the scanned data forms electronically, using the form viewer system that also supported the evaluative coding operation. As discussed there, this offered simultaneous and efficient electronic access to a particular scanned data form by anyone who needed it at the time (the primary evaluative coder, the unduplication coder, or reliability coders); and the paperless process it supported secured all confidential details on data forms on a password-protected network.

Table A–10 shows that the unduplication team processed 3,236 candidate pairs, deciding that 40% of these pairs were true duplicates.

Table A–10. Unduplication Decisions on Candidate Pairs	
True duplicates	1,280
Not duplicates	1,956
Total Number of candidate pairs	3,236

Reliability. Reliability of unduplication decisions was tested by obtaining a second blind decision on all candidate duplicate pairs in the nine manual sites and on a 10 percent sample for the remaining sites. The reliability rate for manual unduplication was 100 percent and 99.9 percent for the remaining sites.

CPS Summary data form duplicates. CPS Summary data forms had no information beyond the key demographic data items, so a different method was used to decide candidate pairs and resolve duplicates among them and between them and the more detailed data forms. Statisticians used the information about the true duplicate decisions on the detailed data forms to adjust the parameters of the probability-based matching software so that it could generate, as closely as possible, the same final decisions about true duplicate status. They then applied the software, with these parameters, to generate true duplicate pairs involving CPS Summary data form records. Table A–11 gives the results of this fully-automated unduplication process with the CPS Summary data forms.

Table A–11. Unduplication Results for CPS Summary Data Forms	
CPS maltreatment and CPS summary form true duplicates	1,520
Sentinel and CPS summary form true duplicate	1,534
Total Number of true duplicates	3,054

Unifying duplicates. In order to resolve records classified as true duplicates, analysts selected one record to represent the child in the final database and “credited” the child’s recognition to a particular source, while statisticians assigned the record a unified weight.

Selecting a single record to represent an unduplicated child followed similar decision rules to those used in previous NIS cycles, giving preference to records with countable maltreatment under the Harm and/or Endangerment standards, to those with more complete demographic information, to records from sources higher in the traditional NIS hierarchy of recognition sources, and to those describing more forms of maltreatment. Statisticians assigned the unified child record a weight that adjusted for the multiple probabilities of sampling the child from the sources represented in the duplicate grouping.

The NIS–4 unduplication team processed 30,543 child records. After identifying and unifying duplicate records, the final database contained 29,488 records on individual children.

Improved methodology. The NIS–4 unduplication process mimicked methods used in prior NIS cycles, but also introduced innovations to identify potential duplicate pairs and determine duplicates more efficiently. Substantive differences from earlier NIS cycles included using probability-based matching software both to identify candidate pairs and decide true duplicate status of CPS Summary data records, and adjusting the rules of the NIS–3 algorithm. These improvements were tested to verify their comparability with previous NIS studies.

Extended CPS unduplication. As an enhancement to earlier NIS methods, the NIS–4 collected CPS Summary forms for an additional month after the study reference period. Statisticians, using the probability-based matching software, unduplicated the uninvestigated Sentinel cases against this added month of CPS data to identify any additional duplicates. This special analysis ensured that the study would not underestimate the percentage of countable children investigated by CPS.

WEIGHTING

Sampling weights were developed so the NIS–4 data can provide national estimates of the incidence of child abuse and neglect in the U.S. in 2005-2006. The weights:

- account for the differential selection probabilities for the sample units at each successive sampling stage,
- compensate for unit nonresponse from sentinel agencies, and for incomplete or partial response from sentinels and CPS agencies,
- adjust for multiple probabilities of identifying the same maltreated child through multiple reports to CPS or through multiple sentinel sources, and
- provide an annualization adjustment to transform reference-period data to represent a full-year and account for seasonality differences between the two study reference periods (fall 2005, spring 2006).

Base weights. For each sample unit, the base weight is the reciprocal of the probability of including the unit in the sample. In the NIS–4, the first-stage primary sampling units (counties or county clusters) were selected with probability proportional to the Census 2000 population of children under age 18 in the PSU. The PSU base weight is the reciprocal of the probability of selection of the PSU. Within PSUs, the agency weight is a function of the sample design used to select agencies in the PSU. The agency base weight is a product of the PSU weight and the reciprocal of the conditional selection probability of the agency given the sample PSU. Likewise, the base weight for sentinels, maltreatment case reports and children are derived in the same manner, taking into consideration the sample design used to select the sample units in each successive sampling stage.

Special weighting adjustments. There were two adjustments to the PSU base weight. First, the PSU sample was divided into two subsamples. A subsample of 62 PSUs (69 counties) was selected for a full-scale survey involving all 11 sentinel agency categories in the NIS–4. The remainder sample of 48 PSUs (53 counties) was allocated for a reduced-load survey to include 8 sentinel agency categories only and exclude the three law enforcement agency types—juvenile probation, sheriff/county police, and municipal police. As a result, a PSU subsample weight was computed for estimation involving law enforcement agencies.

Second, population adjustment factors were applied to the PSU base weights to ensure that study estimates would be accurate relative to the size and distribution of the child population at the time of the NIS–4 reference periods. The NIS–4 survey was conducted in the fall 2005 and the spring 2006. The U.S. child population was larger at this time than it was at the time of the 2000 census (when sampling probabilities were set). Moreover, Hurricanes Katrina and Rita caused relatively large population mobility within the U.S. just prior to the NIS–4 reference periods. To estimate incidence rates, the NIS–4 uses the average of the Census child population estimates for July 2005 and July 2006 as the reference population. To simplify analyses relative to this population, population adjustment factors were used to update the PSU base weights. To address the effects of the hurricanes on the distribution of the child population, PSU base weights were also adjusted to reflect the proportion of the national child population in the NIS–4 counties in July 2006 (i.e., after the hurricanes).

Nonresponse adjustments. The objective of adjusting base weights for nonresponse is to reduce bias by compensating for lost data. The NIS–4 had three types of nonresponse: nonparticipating sentinel agencies, refusals or incomplete participation by sentinels, and missing CPS Maltreatment data forms on sampled cases.

Nonresponse adjustments were developed within homogeneous weighting classes. Statisticians defined adjustment factors by using a sample-based method to distribute the base weights of the nonresponding units to the responding sample units. With this adjustment, the sum of the adjusted weights divided by the sum of the responding units equals the sum of the base weights for the entire sample.

Multiplicity adjustments. All duplicate records were identified and, where appropriate, linked together in a “duplicate grouping” in order to adjust for multiplicity of sampling. The multiplicity adjustments used the same modified single-frame approach developed in the NIS–3, correcting for a duplicated child’s multiple chances of coming into the study through all the sources that submitted records on the child. In each PSU, duplicate groupings predominantly included duplicates among CPS data forms and between CPS and sentinel data forms. This reflects a dual-frame design, where frame *A* was the frame of maltreated children investigated by CPS and frame *B* was the list of maltreated children reported by sentinels, with the large majority of duplicates involving overlap between these frames. Based on the special *Hidden Duplication* substudy in the NIS–3, children duplicated on records from multiple sentinel sources but never reported to CPS are rare. This finding is consistent with the dynamics of recognizing and reporting maltreated children: when more community professionals recognize a child as maltreated, it is more likely that one or more of them will

report the child to CPS, which in turn makes it more likely that CPS will investigate the child's maltreatment.

Annualization adjustments. Statisticians developed annualization adjustment factors using a calendar year of maltreatment child data from the National Child Abuse and Neglect Data System (NCANDS). Walter R. McDonald and Associates prepared a calendar year file from the FY2005 and FY2006 NCANDS child files, including child records where the (1) county of report was in the NIS-4 (2) date of report was in calendar year 2005, and (3) report disposition was substantiated or indicated. Four adjustment factors were derived, distinguished by season (fall versus spring) and by source of report (school versus other sources). In each case, the multiplier was the unduplicated total number of substantiated/indicated children reported during the full calendar year divided by the unduplicated total reported during the 2005 months that corresponded to the months of the NIS-4 reference periods (i.e., September 4—December 3 or February 4—May 3).³

³ At the time of the annualization work, the NCANDS FY2006 file was not yet finalized, but it was deemed sufficiently complete and accurate to cover the full calendar year and these reference periods in 2005. Comparing multipliers derived from this file to multipliers computed from the NCANDS 2004 data showed only small differences (school multipliers were 3.50 in the NCANDS FY2005 data and 3.64 in the 2004 NCANDS data; multipliers for all other sources were 3.99 in the NCANDS FY2005 data and 3.90 in the 2004 data). This indicated that the multipliers change only slightly from one year to the next, implying that little would be gained by delaying the analyses to integrate multipliers from the finalized NCANDS FY2006 file. The forthcoming Analysis Report provides further details.

CPS STRUCTURE AND PRACTICES MAIL SURVEY (SPM)

The CPS Structure and Practices Mail Survey (SPM) is a NIS–4 supplementary study, designed to assist in interpreting the main study findings. The SPM was modeled after the Local Agency Survey (LAS) in the National Study of Child Protective Service and Reform Efforts, which was conducted in 2002 with CPS agencies in 375 counties in the United States. The SPM used a slightly modified version of the LAS questionnaire.

The principal purposes of the SPM are to provide a basis for understanding the findings of the NIS–4 main study by identifying differences in local CPS agency structures and practices that relate to

- local differences in CPS investigation coverage, and
- differences in rates of abuse and neglect the agencies' jurisdictions.

The SPM questionnaire included 4 modules, each focused on a specific CPS function: Administration, Screening/Intake, Investigation, and Alternative CPS Response. Table A–12 lists the topics covered in each module. Survey instructions were to describe the agency's organization and practices as they were during the NIS–4 reference period. The instructions also specified that the person(s) most knowledgeable about the topics covered in a given module should complete the survey questions. Respondents were told that, if they encountered any question beyond the scope of their knowledge, they should consult with persons who could provide the most informed response.

The SPM surveys were mailed to CPS agencies only after firm agreements to participate were in place and the agency had determined who on their staff would complete or coordinate their agency's responses to the SPM survey modules. Because the SPM schedule followed CPS recruitment for the main NIS–4 study and that recruitment occurred over an extended period, the SPM data collection period was also lengthy. The first set of SPM mailings occurred in February 2006 and the last completed survey was returned in May 2007.

After the initial mailing, there were a number of follow-up contacts, depending on the agency's responses and circumstances: to verify that they received the survey, to provide them another copy, to ask about its status and about when they would return the completed modules. To facilitate progress in some agencies, the survey was administered via telephone.

Table A–12. Topics Covered in the 4 SPM Modules

Module 1: Administration/ organization
<p>number of staff, their education and years of experience budget for CPS activities whether any CPS staff were located in satellite offices or in other agencies whether a citizen review panel or community board reviewed local agency practice whether the agency contracted with other agencies to provide any CPS functions whether the agency collaborated with other agencies in providing CPS services</p>
Module 2: Screening/Intake
<p>whether the agency had specialized screening/intake workers the number of staff who handled the screening/intake functions during the NIS–4 reference period whether the agency experienced an excessive screening/intake workload during the NIS–4 reference period the relative rank of referral sources according to the volume of referrals they provided to the agency whether any referrals came from a state hotline and if so what percent of referrals the hotline provided mechanism(s) for handling calls during non-business hours and from non-English speakers whether the agency maintained records on all calls received whether the agency shared responsibility for screening referrals with any other agency what the available response options were for different types of referrals whether the agency prioritized responses to referrals whether the agency had any mandated limit on caseload size when responding to referrals what response options were available for screened-out referrals whether the agency automatically accepted referrals from certain types of reporters</p>
Module 3: Investigation
<p>whether the agency had specialized investigation workers whether different workers conducted screening/intake and investigations the number of staff who handled the investigation functions during the NIS–4 reference period preferences for assigning workers with different experiences depending on the referred child or household whether the agency experienced an excessive investigative workload during the NIS–4 reference period the agency’s role in investigating different types of maltreatment and different kinds of perpetrators standard activities of workers who investigate referrals standard activities during investigation for different types of cases the agency’s use of structured instruments or tools during the investigation process factors considered in determining whether maltreatment had occurred or the child was at risk of maltreatment factors that present problems for the agency in completing investigations in a timely and accurate manner actions taken after a determination that maltreatment had occurred treatment of investigations that are not completed within the time frame specified by agency policy provision of short term services after an investigation is completed</p>
Module 4: Alternative CPS Response (<i>if applicable</i>)
<p>objective of the alternative response as it operated during the NIS–4 reference period differences between the agency’s investigation response and the alternative response numbers of alternative response cases and children handled during the NIS–4 reference period whether the children receiving alternative response were alleged victims of maltreatment in the referral whether the agency had specialized alternative response workers whether workers conducting alternative response are different from those conducting other CPS functions the number of staff who handled the alternative response function during the NIS–4 reference period whether the agency experienced an excessive alternative response workload during the NIS–4 reference period the agency’s methods for managing excessive workload demands the agency’s role in providing the alternative response to referrals involving different types of maltreatment criteria used to assign cases to alternative response standard activities of workers who conduct the alternative response the agency’s use of structured instruments or tools during the alternative response factors that present problems for the agency in conducting the alternative response services provided as part of the alternative response</p>

The survey achieved a 98 percent response rate, receiving 118 completed responses (94%) and 5 partially completed responses (4%). Only 3 agencies (2%) refused to participate in the survey.

Statisticians weighted the survey data to permit national estimates concerning local CPS structure and practices. An agency's final weight was the product of its PSU weight (the reciprocal of the conditional selection probability of the agency's PSU from the stratified list as described in the section on *Samples*), and a nonresponse adjustment within weighting classes to compensate for the lost data from the nonresponding agencies. The final analysis file contained 123 records, one for each responding agency.

The SPM data will be analyzed in conjunction with the main study findings, determining whether features of CPS organization and practice relate to the percentage of maltreated children that CPS investigates or to the overall rates of different categories of maltreatment in the local jurisdiction.

CPS SCREENING POLICIES STUDY (SPS)

The CPS Screening Policies Study (SPS) is a NIS–4 supplementary study, designed to aid in interpreting the main study findings. The NIS–4 main study provides estimates of the numbers and percentages of maltreated children who were investigated by CPS. However, children who were not investigated represent an enigma to the NIS because it is not possible to say whether they were not reported to CPS or whether they were reported to CPS but not investigated because they did not fit the agency’s screening criteria. The policy implications of these alternative situations are quite different. This supplementary study obtained detailed information about CPS screening criteria to illuminate the main study findings.

The NIS–3 included a limited precursor to SPS: a brief questionnaire that examined general CPS agency policies and practices. Analyses that examined relationships between responses on this survey and patterns in the NIS–3 main study data suggested the value of further developing this strategy for the NIS–4. Two pilot studies during the *NIS–4 Planning Project* helped to shape the final SPS design and content.

The SPS included two phases. Phase I entailed conducting the survey itself, as an independent study to characterize CPS screening criteria in the United States at the time of the NIS–4. This involved telephone interviews with intake/screening supervisors (or their delegates) in participating NIS–4 CPS agencies and analyzing those data to provide national estimates of the percentages of local CPS agencies that apply different screening criteria to specific allegations of abuse or neglect. In Phase II, coders applied the SPS screening criteria to the uninvestigated children in the NIS–4 main study to decide whether the criteria in their jurisdiction would have screened these children in for CPS investigation during the NIS–4 study period.

Phase I. The interview instrument used for Phase I data collection consists of 60 vignettes, each reflecting one of the forms of maltreatment in the refined NIS–4 maltreatment typology. All of the vignettes described the child’s parent as the alleged perpetrator and described circumstances of maltreatment and outcomes to the child that would qualify the scenario as countable under the NIS–4 Harm Standard. After each vignette was a series of questions asking whether the agency would

- accept the case described for CPS investigation,

- assign the case for agency assessment or services but not investigation,
- screen the case out with no further agency action, or
- take other action (if so, specify what other action the agency would take).

If the respondent said the agency would need additional information in order to decide how to respond, they were asked what additional information the agency would need and what activities staff would undertake to gather that additional information. A series of follow-up questions then asked how changes in key features of the base vignette would affect the agency's response; specifically, would the agency's response be different depending on who the perpetrator was alleged to be (not a parent but another adult left in charge of the child, or an adolescent left in charge, or another person not responsible for the child's care) or depending on the child's age, the harm or injury that resulted, whether there was a history of similar events, or the duration or frequency of the event.

The SPS was viewed and presented as an in-depth follow-up to the SPM *Screening/Intake* module, so SPS data collection began in a CPS agency only after that SPM module was complete. In some cases, SPS interviewers facilitated completing that SPM module by administering it via telephone. SPS data collection occurred began in February 2006 and ended in August 2007.

Trained interviewers conducted the telephone interviews with the CPS agency's screening supervisor or other expert on screening decisions. They first administered a background screener to determine whether the jurisdiction screened referrals at the local CPS agency level, the state hotline level or both. Interviews proceeded at all levels where screening occurred in order to gather information about all screening decision making that affected which children received investigation in the jurisdiction.

The interviewers obtained the SPS data on the screening policies in 123 (98%) of the local CPS agencies in the NIS-4 sample; the remaining 3 NIS-4 CPS agencies refused to participate in the SPS. However, because a number of agencies relied solely on centralized screening at the state hotline, while several others applied the same state-wide screening policies, the interviewers were able to achieve this coverage through only 81 individual interviews, as follows:

- for 50 agencies SPS data were gathered via 13 state hotline interviews,
- for 11 agencies SPS data were obtained by 2 local agency proxies,

- 52 agencies provided their own SPS data through direct interviews, and
- for 10 agencies SPS screening data were obtained through two interviews at different levels—through a direct interview with the local intake/screening supervisor and through an interview with their state hotline (this entailed 4 state hotline interviews)

NIS–4 analysts designed a detailed coding system to identify the specific factors that affected decisions about whether to screen a referral in for investigation and whether to assign a referral to the agency’s alternative response track. The SPS data analysis used the same weights that were developed for the SPM and described in that section. These weights allow the SPS agency-level data to provide estimates that characterize the screening policies in all local CPS agencies in the United States.

Phase II. In Phase II of the SPS, coders applied each agency’s screening criteria to the NIS–4 countable uninvestigated maltreated children in the agency’s jurisdiction to identify those who (if they had been reported to their local CPS) would have been screened in for an investigation. If the agency consistently applied the screening criteria described in the SPS interview, then one can assume that these children were never reported to CPS. CPS may or may not have received a report on the remaining children.

SPS coders had been NIS–4 evaluative coders, so they were thoroughly familiar with the data forms and the complexity of information in the records. For the SPS, they revisited data forms from the NIS–4 main study on all children who were countable by NIS standards but not investigated by CPS. From November 2007 to February 2008, they reviewed all specific forms of maltreatment described on these data forms, whether or not they were countable in the NIS–4 classifications. This was done to be certain to identify any reason the agency would have screened the child in for investigation, regardless of whether this agreed with the reason the child was considered countable in the NIS. Coders were assisted in this task by a computerized system where they could view complete images of the data forms (see CAEDS in the *Evaluative Coding* section) and could directly enter their decisions about whether the agency’s policies would have screened the case in for investigation of the alleged maltreatment.

Cases were coded in relation to all screening policies that could apply to them. That meant that records on 721 uninvestigated countable children were coded at both the local agency and state hotline levels. Including these, coders assessed 3,962 uninvestigated child records, which entailed 6,683 separate assessments of how agency policy would have responded to the specific forms of maltreatment described in these records. For reliability purposes, a second

coder independently processed 429 child records (including 726 forms of maltreatment). The kappa statistic, used to index inter-coder reliability on these decisions, was .61, indicating a moderate level of inter-coder agreement on this complex task.

Tabulations based on the SPM Phase II codes will be analyzed to help in understanding the NIS–4 main study findings on the percentages of uninvestigated maltreated children. These results will indicate the degree to which sentinel nonreporting contributes to the set of uninvestigated countable children as well as the extent to which these uninvestigated children may be referred elsewhere or would qualify for services under alternative response tracks at agencies that have this option.

SENTINEL DEFINITIONS SURVEY (SDS)

The NIS goes beyond maltreated children who come to the attention of CPS agencies by relying on community professionals (sentinels) who encounter child maltreatment in the course of their work in various agency sectors, including health, law enforcement, schools, and other agencies such as social services and mental health agencies, day care centers, and shelters. In most states, the sectors of professionals represented by NIS sentinels are mandated to report maltreated children they identify to CPS. However, except for a supplementary survey of school sentinels in the NIS–3, previous NIS cycles have not directly asked sentinels about their training on mandated reporting or the standards they apply in deciding whether to report suspected maltreatment to CPS. Also, although NIS has always trained the sentinels to be on the lookout for the full scope of maltreatment situations that are, or could be, countable under the study definitions, NIS has never examined sentinels’ own definitions of maltreatment, or asked about their standards for submitting children to the study. This has hampered interpreting changes in the size of the maltreated child population from one NIS cycle to the next, since the study has had no means of determining whether or to what extent the changes reflected true changes in the occurrence of child maltreatment as opposed to shifts in sentinels’ definitions or in their standards for submitting data to the study. The purpose of the *Sentinel Definitions Survey* (SDS) was to fill these important gaps.

Instrument. The SDS used multiple versions of a questionnaire. Each version began with an introductory section that asked the sentinels about their characteristics and background—including their sex, age, ethnicity, race, level of education, job title and tenure, their agency’s setting (rural, suburb, city, etc.), whether they had received any written information or training on reporting child abuse and neglect while working at their agency, their agency’s policy on reporting to CPS, and whether they had made any reports while working at their agency.

The rest of each questionnaire included vignettes (selected, as described below, from the 60 vignettes used in the SPS—see the *CPS Screening Policies* section). Every vignette described a situation where a parent abused or neglected a child in a way that corresponded to a specific maltreatment form in the NIS typology and each vignette included features that qualified the child as countable under the Harm Standard. After each vignette, follow-up questions asked the respondent whether they considered the case to be maltreatment, whether they would report it to the local CPS agency, whether they would submit it to a national study on child abuse and neglect, or whether they would not respond in any of these ways. Then, paralleling the SPS

strategy, additional follow-up questions asked how changes in key features of the base vignette would affect the sentinel's response; specifically, would their answers be different depending on who the perpetrator was (not a parent but another adult left in charge of the child, or an adolescent left in charge, or another person not responsible for the child's care) or would their answers differ depending on features such as the child's age, the harm or injury that resulted, whether there was a history of similar events, the duration or frequency of the maltreatment event, or the family's financial resources.

Samples and method. The SDS included all 60 SPS vignettes. However, in order to reduce respondent burden, the SDS used a factorial design in which each questionnaire included only a subset of 10 of the 60 vignettes. Thus, the 60 vignettes were divided into 6 groups of 10 vignettes each. The allocation of vignettes across these subsets attempted to distribute examples of the major categories of maltreatment (physical, sexual and emotional abuse, and physical, educational, and emotional neglect). Also, in order to minimize any influence that unique combinations of vignettes might have, 4 different divisions of the 60 vignettes were constructed. Thus, there were 24 unique versions of the questionnaire (4 divisions of the set of 60 vignettes, with 6 groups of 10 vignettes in each division).

Respondents for the SDS were actual sentinels who had participated in the NIS-4. They were eligible for the SDS if they had participated during the last two weeks of the NIS-4 reference period and the sentinel sampling system included their name and address information. Survey questionnaires were mailed to all eligible sentinels in all agencies except schools. Because there were many more school sentinels (see the *Samples* section) and because the second reference period in spring 2006 ended just before the start of summer break, school sentinels were sampled from those eligible in the first reference period (fall 2005). Sentinels were classified into the four main groups listed in Table A-13, which also gives the sample size of each group.

To avoid any potential influence on sentinels' submissions during the NIS-4 main study, SDS questionnaires were mailed after the end of the sentinels' reference period. The mailings ensured that the 24 questionnaire versions were evenly distributed across the 4 sentinel groups. The instructions assured sentinels that, after they returned their completed questionnaire, their names and addresses would be destroyed, so their survey responses would be anonymous. Until then, their contact information was used to send follow-up mailings to those who had not yet responded. The initial mailing was followed by a series of follow-ups (a postcard reminder, another full mailing containing a paid Fed-Ex return envelope, and a final postcard reminder).

The first surveys were mailed in March 2006 and nearly all returns were receipted by September 2006, with only a few late arrivals.

As shown in Table A–13, 41% of the sentinels responded, for a total of 2,455 completed questionnaires. Response rates were similar across the four sentinel groups.

Analyses will examine variations in responses to different types of maltreatment and will identify differences across the sentinel groups. In addition, the data will be examined to determine whether changing the perpetrator makes a difference and which factors, such as age and harm, are most important to sentinels in deciding what to do about cases of suspected child maltreatment.

Table A–13. SDS Samples and Response Rates			
Sentinel Group	SDS Sample	Completed Surveys	Response Rate
Health (children’s hospitals, general hospitals, public health agencies)	929	405	44%
Law Enforcement (sheriffs, county police, municipal police, juvenile probation agencies)	939	395	42%
School (teachers, administrators, counselors)	3,499	1389	40%
Other (day care centers, shelters, public housing, social services, mental health services)	682	266	39%
Total	6,049	2,455	41%

Appendix B

Harm Standard Estimates

TABLE B-1.

CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE
UNDER THE HARM STANDARD; INCIDENCE RATES (Per 1,000 Children)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.065	1.732
ALL ABUSED	7.514	0.616
PHYSICALLY ABUSED	4.387	0.370
SEXUALLY ABUSED	1.838	0.167
EMOTIONALLY ABUSED	2.016	0.230
ALL NEGLECTED	10.481	1.449
PHYSICALLY NEGLECTED	4.011	0.588
EMOTIONALLY NEGLECTED	2.627	0.273
EDUCATIONALLY NEGLECTED	4.896	1.089
SEVERITY, FATAL	0.033	0.006
SEVERITY, SERIOUS	6.635	0.654
SEVERITY, MODERATE	9.426	1.151
SEVERITY, INFERRED	0.971	0.111

TABLE B-2.

PROPORTION OF HARM STANDARD CHILDREN WHOSE MALTREATMENT
WAS INVESTIGATED BY CPS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED PROPORTION	STANDARD ERROR
ALL MALTREATED	0.318	0.028
ALL ABUSED	0.498	0.040
PHYSICALLY ABUSED	0.534	0.045
SEXUALLY ABUSED	0.551	0.056
EMOTIONALLY ABUSED	0.358	0.035
ALL NEGLECTED	0.200	0.023
PHYSICALLY NEGLECTED	0.273	0.038
EMOTIONALLY NEGLECTED	0.297	0.032
EDUCATIONALLY NEGLECTED	0.089	0.018
SEVERITY, FATAL	0.805	0.137
SEVERITY, SERIOUS	0.302	0.029
SEVERITY, MODERATE	0.289	0.031
SEVERITY, INFERRED	0.691	0.073

TABLE B-3.

SEX BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN
COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES (Per 1,000 Children)

SEX = MALE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	16.033	1.566
ALL ABUSED	6.462	0.625
PHYSICALLY ABUSED	4.553	0.477
SEXUALLY ABUSED	0.647	0.102
EMOTIONALLY ABUSED	1.855	0.246
ALL NEGLECTED	10.411	1.226
PHYSICALLY NEGLECTED	3.704	0.567
EMOTIONALLY NEGLECTED	2.703	0.334
EDUCATIONALLY NEGLECTED	4.995	0.945
SEVERITY, FATAL	0.034	0.012
SEVERITY, SERIOUS	6.266	0.580
SEVERITY, MODERATE	9.172	1.102
SEVERITY, INFERRED	0.561	0.085
SEX = FEMALE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.522	2.015
ALL ABUSED	8.454	0.662
PHYSICALLY ABUSED	4.134	0.304
SEXUALLY ABUSED	3.043	0.337
EMOTIONALLY ABUSED	2.105	0.273
ALL NEGLECTED	10.079	1.767
PHYSICALLY NEGLECTED	4.059	0.636
EMOTIONALLY NEGLECTED	2.438	0.309
EDUCATIONALLY NEGLECTED	4.692	1.329
SEVERITY, FATAL	0.018	0.006
SEVERITY, SERIOUS	6.619	0.779
SEVERITY, MODERATE	9.524	1.368
SEVERITY, INFERRED	1.361	0.189

TABLE B-4.

AGE BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN
COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES (Per 1,000 Children)

AGE CLASS = 0-2		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	8.510	1.947
ALL ABUSED	3.691	0.797
PHYSICALLY ABUSED	2.494	0.42
SEXUALLY ABUSED	0.997	0.437
EMOTIONALLY ABUSED	0.305	0.1
ALL NEGLECTED	5.124	1.224
PHYSICALLY NEGLECTED	4.701	1.232
EMOTIONALLY NEGLECTED	0.620	0.112
EDUCATIONALLY NEGLECTED	0.090	0.079
SEVERITY, FATAL	0.100	0.027
SEVERITY, SERIOUS	5.872	1.601
SEVERITY, MODERATE	1.830	0.412
SEVERITY, INFERRED	0.709	0.188
AGE CLASS = 3-5		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	12.120	1.548
ALL ABUSED	6.080	0.749
PHYSICALLY ABUSED	3.638	0.502
SEXUALLY ABUSED	1.755	0.381
EMOTIONALLY ABUSED	0.980	0.229
ALL NEGLECTED	6.433	1.334
PHYSICALLY NEGLECTED	3.043	0.991
EMOTIONALLY NEGLECTED	1.276	0.43
EDUCATIONALLY NEGLECTED	2.308	0.637
SEVERITY, FATAL	0.007	0.004
SEVERITY, SERIOUS	4.209	0.76
SEVERITY, MODERATE	6.985	0.961
SEVERITY, INFERRED	0.919	0.169

TABLE B-4. (Continued)

AGE CLASS = 6-8		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.560	2.027
ALL ABUSED	8.745	0.986
PHYSICALLY ABUSED	5.463	0.727
SEXUALLY ABUSED	1.576	0.337
EMOTIONALLY ABUSED	2.650	0.559
ALL NEGLECTED	9.924	1.76
PHYSICALLY NEGLECTED	4.014	0.766
EMOTIONALLY NEGLECTED	2.141	0.442
EDUCATIONALLY NEGLECTED	4.889	1.045
SEVERITY, FATAL	0.003	0
SEVERITY, SERIOUS	5.564	0.814
SEVERITY, MODERATE	11.476	1.558
SEVERITY, INFERRED	0.516	0.083

AGE CLASS = 9-11		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	19.501	4.431
ALL ABUSED	7.708	0.782
PHYSICALLY ABUSED	4.644	0.499
SEXUALLY ABUSED	1.417	0.161
EMOTIONALLY ABUSED	2.676	0.595
ALL NEGLECTED	12.653	4.255
PHYSICALLY NEGLECTED	3.957	1.108
EMOTIONALLY NEGLECTED	2.961	0.565
EDUCATIONALLY NEGLECTED	7.519	3.535
SEVERITY, FATAL	0.000	0
SEVERITY, SERIOUS	6.735	1.542
SEVERITY, MODERATE	12.242	2.987
SEVERITY, INFERRED	0.524	0.109

TABLE B-4. (Continued)

AGE CLASS = 12-14		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	21.267	3.068
ALL ABUSED	9.106	1.066
PHYSICALLY ABUSED	5.006	0.645
SEXUALLY ABUSED	2.403	0.474
EMOTIONALLY ABUSED	2.687	0.413
ALL NEGLECTED	13.671	2.802
PHYSICALLY NEGLECTED	3.977	2.127
EMOTIONALLY NEGLECTED	3.690	0.475
EDUCATIONALLY NEGLECTED	7.314	1.573
SEVERITY, FATAL	0.009	0.007
SEVERITY, SERIOUS	7.062	0.687
SEVERITY, MODERATE	12.557	2.601
SEVERITY, INFERRED	1.639	0.494
AGE CLASS = 15-17		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	18.485	1.95
ALL ABUSED	7.471	0.702
PHYSICALLY ABUSED	4.305	0.544
SEXUALLY ABUSED	1.567	0.16
EMOTIONALLY ABUSED	2.389	0.47
ALL NEGLECTED	12.255	1.766
PHYSICALLY NEGLECTED	3.178	0.448
EMOTIONALLY NEGLECTED	4.083	0.759
EDUCATIONALLY NEGLECTED	6.399	1.515
SEVERITY, FATAL	0.037	0.028
SEVERITY, SERIOUS	7.649	1.006
SEVERITY, MODERATE	9.831	1.424
SEVERITY, INFERRED	0.968	0.159

TABLE B-5.

RACE/ETHNICITY BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR
CHILDREN COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES (Per
1,000 Children)

RACE/ETHNICITY = WHITE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	12.597	1.121
ALL ABUSED	5.993	0.454
PHYSICALLY ABUSED	3.241	0.291
SEXUALLY ABUSED	1.357	0.139
EMOTIONALLY ABUSED	1.951	0.221
ALL NEGLECTED	7.451	0.922
PHYSICALLY NEGLECTED	2.779	0.38
EMOTIONALLY NEGLECTED	2.197	0.324
EDUCATIONALLY NEGLECTED	3.264	0.5
SEVERITY, FATAL	0.019	0.01
SEVERITY, SERIOUS	4.639	0.422
SEVERITY, MODERATE	7.219	0.854
SEVERITY, INFERRED	0.72	0.089
RACE/ETHNICITY = BLACK		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	23.967	3.372
ALL ABUSED	10.408	1.035
PHYSICALLY ABUSED	6.626	0.608
SEXUALLY ABUSED	2.606	0.538
EMOTIONALLY ABUSED	2.235	0.485
ALL NEGLECTED	14.654	3.101
PHYSICALLY NEGLECTED	4.83	0.892
EMOTIONALLY NEGLECTED	3.77	0.728
EDUCATIONALLY NEGLECTED	7.423	2.471
SEVERITY, FATAL	0.021	0.005
SEVERITY, SERIOUS	8.782	1.115
SEVERITY, MODERATE	13.695	2.425
SEVERITY, INFERRED	1.469	0.325

TABLE B-5. (Continued)

RACE/ETHNICITY = HISPANIC		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	14.162	1.447
ALL ABUSED	6.713	0.768
PHYSICALLY ABUSED	4.411	0.573
SEXUALLY ABUSED	1.82	0.318
EMOTIONALLY ABUSED	1.321	0.245
ALL NEGLECTED	8.255	1.056
PHYSICALLY NEGLECTED	2.714	0.58
EMOTIONALLY NEGLECTED	2.144	0.397
EDUCATIONALLY NEGLECTED	4.001	0.734
SEVERITY, FATAL	0.05	0.017
SEVERITY, SERIOUS	5.247	0.763
SEVERITY, MODERATE	8.082	1.075
SEVERITY, INFERRED	0.782	0.1

TABLE B-6.

NUMBER OF CHILDREN BY CATEGORIES OF MALTREATMENT AND SEVERITY
FOR CHILDREN COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES
(Per 1,000 Children)

NCHILDR = 1CHILD		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.894	2.042
ALL ABUSED	7.56	0.631
PHYSICALLY ABUSED	4.869	0.556
SEXUALLY ABUSED	1.813	0.158
EMOTIONALLY ABUSED	1.519	0.244
ALL NEGLECTED	11.134	1.753
PHYSICALLY NEGLECTED	4.165	0.845
EMOTIONALLY NEGLECTED	3.24	0.471
EDUCATIONALLY NEGLECTED	5.085	0.984
SEVERITY, FATAL	0.027	0.02
SEVERITY, SERIOUS	7.379	1.38
SEVERITY, MODERATE	9.384	1.011
SEVERITY, INFERRED	1.104	0.148

TABLE B-6. (Continued)

NCHILDR = 2 CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	11.92	1.099
ALL ABUSED	6.368	0.734
PHYSICALLY ABUSED	3.419	0.391
SEXUALLY ABUSED	1.867	0.346
EMOTIONALLY ABUSED	1.72	0.228
ALL NEGLECTED	6.416	0.792
PHYSICALLY NEGLECTED	2.948	0.407
EMOTIONALLY NEGLECTED	1.912	0.334
EDUCATIONALLY NEGLECTED	2.443	0.544
SEVERITY, FATAL	0.03	0.011
SEVERITY, SERIOUS	4.781	0.482
SEVERITY, MODERATE	6.232	0.694
SEVERITY, INFERRED	0.878	0.189
NCHILDR = 3 CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	15.691	1.779
ALL ABUSED	7.474	0.833
PHYSICALLY ABUSED	4.062	0.469
SEXUALLY ABUSED	1.729	0.341
EMOTIONALLY ABUSED	2.446	0.518
ALL NEGLECTED	9.177	1.411
PHYSICALLY NEGLECTED	2.565	0.471
EMOTIONALLY NEGLECTED	2.717	0.391
EDUCATIONALLY NEGLECTED	4.67	1.065
SEVERITY, FATAL	0.038	0.016
SEVERITY, SERIOUS	6.011	0.603
SEVERITY, MODERATE	8.909	1.369
SEVERITY, INFERRED	0.733	0.142

TABLE B-6. (Continued)

NCHILDR = 4 OR MORE CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	21.168	2.719
ALL ABUSED	8.507	0.851
PHYSICALLY ABUSED	4.969	0.482
SEXUALLY ABUSED	1.766	0.298
EMOTIONALLY ABUSED	2.533	0.556
ALL NEGLECTED	13.836	2.427
PHYSICALLY NEGLECTED	5.927	1.269
EMOTIONALLY NEGLECTED	3.021	0.629
EDUCATIONALLY NEGLECTED	6.041	1.861
SEVERITY, FATAL	0.028	0.016
SEVERITY, SERIOUS	8.362	1.343
SEVERITY, MODERATE	11.702	2.001
SEVERITY, INFERRED	1.076	0.248

TABLE B-7.

METROPOLITAN STATUS OF COUNTY BY CATEGORIES OF MALTREATMENT AND
SEVERITY FOR CASES COUNTABLE UNDER THE ENDANGERMENT STANDARD;
INCIDENCE RATES (Per 1,000 Children)

METROSTATUS = MAJOR URBAN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	13.593	1.987
ALL ABUSED	6.375	0.942
PHYSICALLY ABUSED	3.826	0.565
SEXUALLY ABUSED	1.762	0.295
EMOTIONALLY ABUSED	1.333	0.221
ALL NEGLECTED	7.856	1.37
PHYSICALLY NEGLECTED	3.301	0.889
EMOTIONALLY NEGLECTED	1.835	0.232
EDUCATIONALLY NEGLECTED	3.348	0.833
SEVERITY, FATAL	0.038	0.008
SEVERITY, SERIOUS	5.31	0.846
SEVERITY, MODERATE	7.339	1.252
SEVERITY, INFERRED	0.905	0.161

TABLE B-7. (Continued)

METROSTATUS = URBAN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	15.984	2.757
ALL ABUSED	7.832	1.201
PHYSICALLY ABUSED	4.678	0.71
SEXUALLY ABUSED	1.447	0.24
EMOTIONALLY ABUSED	2.537	0.576
ALL NEGLECTED	9.156	1.831
PHYSICALLY NEGLECTED	3.166	0.645
EMOTIONALLY NEGLECTED	2.985	0.656
EDUCATIONALLY NEGLECTED	3.872	1.01
SEVERITY, FATAL	0.037	0.014
SEVERITY, SERIOUS	6.441	1.204
SEVERITY, MODERATE	8.599	1.573
SEVERITY, INFERRED	0.907	0.162

METROSTATUS = RURAL		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	30.988	8.117
ALL ABUSED	10.83	1.538
PHYSICALLY ABUSED	5.769	0.89
SEXUALLY ABUSED	2.828	0.384
EMOTIONALLY ABUSED	3.391	0.803
ALL NEGLECTED	21.949	7.627
PHYSICALLY NEGLECTED	8.015	2.243
EMOTIONALLY NEGLECTED	4.679	1.152
EDUCATIONALLY NEGLECTED	12.107	6.048
SEVERITY, FATAL	0.006	0.006
SEVERITY, SERIOUS	11.488	2.458
SEVERITY, MODERATE	18.178	5.753
SEVERITY, INFERRED	1.315	0.309

TABLE B-8.

CHILDREN COUNTABLE UNDER THE HARM STANDARD--RECOGNIZED OVERALL,
 INVESTIGATED BY CPS, AND NOT INVESTIGATED BY CPS, BY RECOGNITION
 SOURCE; INCIDENCE RATES (Per 1,000 children)

CLASS = ALL RECOGNIZED		
RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	0.482	0.096
POLICE/SHERIFF	2.067	0.202
PUBLIC HEALTH	0.323	0.100
INVESTIGATORY AGENCY SUBTOTAL:	2.871	0.257
HOSPITALS	1.823	0.693
SCHOOLS	8.811	1.368
DAY CARE CENTERS	0.890	0.255
MENTAL HEALTH	0.801	0.172
SOCIAL SERVICES	0.244	0.039
SHELTERS	0.174	0.037
PUBLIC HOUSING	0.021	0.014
OTHER SENTINEL AGENCY SUBTOTAL	12.763	1.651
ALL SENTINEL SOURCES TOTAL	15.635	1.712
DSS/WELFARE DEPT.	0.251	0.037
OTHER PROFESSIONAL OR AGENCY	0.153	0.027
ALL OTHER SOURCES	1.026	0.075
OTHER (CPS ONLY) SUBTOTAL	1.430	0.089
TOTAL, ALL SOURCES	17.065	1.732

TABLE B-8. (Continued)

CLASS = INVESTIGATED BY CPS		
RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	0.202	0.041
POLICE/SHERIFF	1.092	0.085
PUBLIC HEALTH	0.084	0.023
INVESTIGATORY AGENCY SUBTOTAL:	1.379	0.120
HOSPITALS	0.496	0.051
SCHOOLS	1.428	0.102
DAY CARE CENTERS	0.092	0.016
MENTAL HEALTH	0.344	0.035
SOCIAL SERVICES	0.222	0.038
SHELTERS	0.024	0.008
PUBLIC HOUSING	0.014	0.013
OTHER SENTINEL AGENCY SUBTOTAL	2.621	0.164
ALL SENTINEL SOURCES TOTAL	3.999	0.237
DSS/WELFARE DEPT.	0.251	0.037
OTHER PROFESSIONAL OR AGENCY	0.153	0.027
ALL OTHER SOURCES	1.026	0.075
OTHER (CPS ONLY) SUBTOTAL	1.430	0.089
TOTAL, ALL SOURCES	5.430	0.284

TABLE B-8. (Continued)

CLASS = NOT INVESTIGATED BY CPS		
RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	0.279	0.078
POLICE/SHERIFF	0.975	0.214
PUBLIC HEALTH	0.239	0.095
INVESTIGATORY AGENCY SUBTOTAL:	1.493	0.256
HOSPITALS	1.327	0.687
SCHOOLS	7.383	1.323
DAY CARE CENTERS	0.798	0.256
MENTAL HEALTH	0.457	0.166
SOCIAL SERVICES	0.022	0.015
SHELTERS	0.149	0.036
PUBLIC HOUSING	0.007	0.005
OTHER SENTINEL AGENCY SUBTOTAL	10.142	1.600
ALL SENTINEL SOURCES TOTAL	11.635	1.602
DSS/WELFARE DEPT.	0.000	0.000
OTHER PROFESSIONAL OR AGENCY	0.000	0.000
ALL OTHER SOURCES	0.000	0.000
OTHER (CPS ONLY) SUBTOTAL	0.000	0.000
TOTAL, ALL SOURCES	11.635	1.602

TABLE B-9.

PROPORTION OF HARM STANDARD CHILDREN WHOSE MALTREATMENT
WAS INVESTIGATED BY CPS, BY RECOGNITION SOURCE

RECOGNITION SOURCE	ESTIMATED PROPORTION	STANDARD ERROR
PROBATION/COURTS	0.420	0.070
POLICE/SHERIFF	0.528	0.065
PUBLIC HEALTH	0.261	0.097
INVESTIGATORY AGENCY SUBTOTAL:	0.480	0.052
HOSPITALS	0.272	0.135
SCHOOLS	0.162	0.021
DAY CARE CENTERS	0.103	0.036
MENTAL HEALTH	0.430	0.087
SOCIAL SERVICES	0.911	0.058
SHELTERS	0.139	0.048
PUBLIC HOUSING	0.683	0.336
OTHER SENTINEL AGENCY SUBTOTAL	0.205	0.025
ALL SENTINEL SOURCES TOTAL	0.256	0.024
DSS/WELFARE DEPT.	1.000	0.000
OTHER PROFESSIONAL OR AGENCY	1.000	0.000
ALL OTHER SOURCES	1.000	0.000
OTHER (CPS ONLY) SUBTOTAL	1.000	0.000
TOTAL, ALL SOURCES	0.318	0.028

TABLE B-10.

FAMILY STRUCTURE AND PARENTS' LIVING ARRANGEMENT BY CATEGORIES OF
MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE UNDER THE
HARM STANDARD; INCIDENCE RATES (Per 1,000 Children)

FAMILY STRUCTURE/LIVING ARRANGEMENT = MARRIED PARENTS,
BOTH BIOLOGICAL

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	6.759	0.867
ALL ABUSED	2.901	0.392
PHYSICALLY ABUSED	1.865	0.279
SEXUALLY ABUSED	0.504	0.094
EMOTIONALLY ABUSED	0.840	0.152
ALL NEGLECTED	4.216	0.702
PHYSICALLY NEGLECTED	1.803	0.382
EMOTIONALLY NEGLECTED	0.854	0.156
EDUCATIONALLY NEGLECTED	1.927	0.530
SEVERITY, FATAL	0.021	0.010
SEVERITY, SERIOUS	2.642	0.427
SEVERITY, MODERATE	3.951	0.654
SEVERITY, INFERRED	0.146	0.033

FAMILY STRUCTURE/LIVING ARRANGEMENT = OTHER MARRIED PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	24.443	2.519
ALL ABUSED	17.427	1.759
PHYSICALLY ABUSED	9.776	1.117
SEXUALLY ABUSED	4.265	0.573
EMOTIONALLY ABUSED	4.985	0.998
ALL NEGLECTED	9.281	1.635
PHYSICALLY NEGLECTED	3.230	0.834
EMOTIONALLY NEGLECTED	3.923	0.789
EDUCATIONALLY NEGLECTED	3.567	1.082
SEVERITY, FATAL	0.056	0.036
SEVERITY, SERIOUS	9.148	1.122
SEVERITY, MODERATE	13.617	1.901
SEVERITY, INFERRED	1.622	0.273

TABLE B-10. (Continued)

FAMILY STRUCTURE/LIVING ARRANGEMENT = UNMARRIED PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	23.456	3.531
ALL ABUSED	12.147	2.182
PHYSICALLY ABUSED	8.245	1.314
SEXUALLY ABUSED	2.371	1.220
EMOTIONALLY ABUSED	2.497	0.816
ALL NEGLECTED	12.637	2.695
PHYSICALLY NEGLECTED	6.301	1.343
EMOTIONALLY NEGLECTED	4.105	1.460
EDUCATIONALLY NEGLECTED	4.067	2.179
SEVERITY, FATAL	0.152	0.082
SEVERITY, SERIOUS	10.765	2.127
SEVERITY, MODERATE	11.141	2.504
SEVERITY, INFERRED	1.398	0.485

FAMILY STRUCTURE/LIVING ARRANGEMENT = SINGLE PARENT WITH PARTNER

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	57.166	8.504
ALL ABUSED	33.602	5.292
PHYSICALLY ABUSED	19.453	2.828
SEXUALLY ABUSED	9.919	2.570
EMOTIONALLY ABUSED	8.234	2.277
ALL NEGLECTED	26.970	5.981
PHYSICALLY NEGLECTED	8.649	2.152
EMOTIONALLY NEGLECTED	10.857	3.045
EDUCATIONALLY NEGLECTED	11.853	4.363
SEVERITY, FATAL	0.036	0.015
SEVERITY, SERIOUS	20.796	3.983
SEVERITY, MODERATE	33.006	5.840
SEVERITY, INFERRED	3.327	0.882

TABLE B-10. (Continued)

FAMILY STRUCTURE/LIVING ARRANGEMENT = SINGLE PARENT, NO PARTNER

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	28.419	3.551
ALL ABUSED	10.160	1.249
PHYSICALLY ABUSED	5.893	0.701
SEXUALLY ABUSED	2.390	0.332
EMOTIONALLY ABUSED	2.906	0.542
ALL NEGLECTED	19.585	2.938
PHYSICALLY NEGLECTED	6.515	0.965
EMOTIONALLY NEGLECTED	4.945	0.641
EDUCATIONALLY NEGLECTED	9.977	2.341
SEVERITY, FATAL	0.034	0.014
SEVERITY, SERIOUS	11.899	1.455
SEVERITY, MODERATE	14.786	2.236
SEVERITY, INFERRED	1.699	0.224

FAMILY STRUCTURE/LIVING ARRANGEMENT = NEITHER PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	33.175	6.210
ALL ABUSED	15.339	2.493
PHYSICALLY ABUSED	6.810	0.996
SEXUALLY ABUSED	5.280	1.002
EMOTIONALLY ABUSED	4.034	1.653
ALL NEGLECTED	20.419	5.570
PHYSICALLY NEGLECTED	9.075	2.254
EMOTIONALLY NEGLECTED	4.782	1.690
EDUCATIONALLY NEGLECTED	8.493	2.868
SEVERITY, FATAL	0.009	0.001
SEVERITY, SERIOUS	11.435	2.697
SEVERITY, MODERATE	18.516	3.562
SEVERITY, INFERRED	3.215	0.760

TABLE B-11.

FAMILY STRUCTURE BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR
CHILDREN COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES (Per
1,000 Children)

FAMILY STRUCTURE= SINGLE PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	35.635	3.991
ALL ABUSED	13.802	1.607
PHYSICALLY ABUSED	7.831	0.848
SEXUALLY ABUSED	3.750	0.589
EMOTIONALLY ABUSED	3.636	0.536
ALL NEGLECTED	23.458	3.150
PHYSICALLY NEGLECTED	8.257	1.272
EMOTIONALLY NEGLECTED	5.981	0.678
EDUCATIONALLY NEGLECTED	11.576	2.383
SEVERITY, FATAL	0.035	0.013
SEVERITY, SERIOUS	14.058	1.528
SEVERITY, MODERATE	19.203	2.494
SEVERITY, INFERRED	2.339	0.378

FAMILY STRUCTURE= BOTH PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	9.515	1.030
ALL ABUSED	4.841	0.444
PHYSICALLY ABUSED	3.007	0.290
SEXUALLY ABUSED	0.978	0.119
EMOTIONALLY ABUSED	1.330	0.200
ALL NEGLECTED	5.271	0.863
PHYSICALLY NEGLECTED	2.219	0.402
EMOTIONALLY NEGLECTED	1.301	0.187
EDUCATIONALLY NEGLECTED	2.287	0.681
SEVERITY, FATAL	0.033	0.008
SEVERITY, SERIOUS	3.678	0.409
SEVERITY, MODERATE	5.438	0.811
SEVERITY, INFERRED	0.366	0.041

TABLE B-11. (Continued)

FAMILY STRUCTURE= NEITHER PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	33.175	6.210
ALL ABUSED	15.339	2.493
PHYSICALLY ABUSED	6.810	0.996
SEXUALLY ABUSED	5.280	1.002
EMOTIONALLY ABUSED	4.034	1.653
ALL NEGLECTED	20.419	5.570
PHYSICALLY NEGLECTED	9.075	2.254
EMOTIONALLY NEGLECTED	4.782	1.690
EDUCATIONALLY NEGLECTED	8.493	2.868
SEVERITY, FATAL	0.009	0.001
SEVERITY, SERIOUS	11.435	2.697
SEVERITY, MODERATE	18.516	3.562
SEVERITY, INFERRED	3.215	0.760

TABLE B-12.

SOCIOECONOMIC STATUS (SES) BY CATEGORIES OF MALTREATMENT AND
SEVERITY FOR CHILDREN COUNTABLE UNDER THE HARM STANDARD;
INCIDENCE RATES (Per 1,000 Children)

SOCIOECONOMIC STATUS= NOT LOW SOCIOECONOMIC STATUS (SES)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	4.402	0.379
ALL ABUSED	2.472	0.21
PHYSICALLY ABUSED	1.504	0.166
SEXUALLY ABUSED	0.587	0.085
EMOTIONALLY ABUSED	0.537	0.063
ALL NEGLECTED	2.222	0.323
PHYSICALLY NEGLECTED	0.829	0.133
EMOTIONALLY NEGLECTED	0.778	0.138
EDUCATIONALLY NEGLECTED	1	0.257
SEVERITY, FATAL	0.003	0.001
SEVERITY, SERIOUS	1.746	0.192
SEVERITY, MODERATE	2.414	0.284
SEVERITY, INFERRED	0.239	0.041

TABLE B-12. (Continued)

SOCIOECONOMIC STATUS= LOW SOCIOECONOMIC STATUS (SES)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	22.524	3
ALL ABUSED	7.725	0.655
PHYSICALLY ABUSED	4.401	0.481
SEXUALLY ABUSED	1.687	0.2
EMOTIONALLY ABUSED	2.634	0.427
ALL NEGLECTED	16.101	2.784
PHYSICALLY NEGLECTED	6.917	1.066
EMOTIONALLY NEGLECTED	3.819	0.549
EDUCATIONALLY NEGLECTED	7.092	2.446
SEVERITY, FATAL	0.042	0.014
SEVERITY, SERIOUS	9.884	1.15
SEVERITY, MODERATE	11.661	2.135
SEVERITY, INFERRED	0.937	0.179

TABLE B-13.

PARENTS' EMPLOYMENT BY CATEGORIES OF MALTREATMENT AND SEVERITY
FOR CHILDREN COUNTABLE UNDER THE HARM STANDARD; INCIDENCE RATES
(Per 1,000 Children)

PARENTS' EMPLOYMENT = UNEMPLOYED

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	15.855	2.743
ALL ABUSED	4.774	0.775
PHYSICALLY ABUSED	2.286	0.542
SEXUALLY ABUSED	0.774	0.198
EMOTIONALLY ABUSED	2.252	0.609
ALL NEGLECTED	12.12	2.499
PHYSICALLY NEGLECTED	5.585	1.159
EMOTIONALLY NEGLECTED	2.717	0.546
EDUCATIONALLY NEGLECTED	5.835	2.04
SEVERITY, FATAL	0.008	0.003
SEVERITY, SERIOUS	6.913	1.027
SEVERITY, MODERATE	8.204	2.045
SEVERITY, INFERRED	0.731	0.26

TABLE B-13. (Continued)

PARENTS' EMPLOYMENT = NOT IN THE LABOR FORCE

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	22.627	3.658
ALL ABUSED	9.61	2.128
PHYSICALLY ABUSED	5.366	1.414
SEXUALLY ABUSED	2.963	1.11
EMOTIONALLY ABUSED	2.858	0.715
ALL NEGLECTED	14.78	2.151
PHYSICALLY NEGLECTED	6.127	1.63
EMOTIONALLY NEGLECTED	4.918	1.364
EDUCATIONALLY NEGLECTED	4.833	0.91
SEVERITY, FATAL	0.041	0.039
SEVERITY, SERIOUS	11.042	1.967
SEVERITY, MODERATE	9.325	1.918
SEVERITY, INFERRED	2.219	0.798

PARENTS' EMPLOYMENT = EMPLOYED

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	7.572	0.739
ALL ABUSED	3.871	0.387
PHYSICALLY ABUSED	2.307	0.243
SEXUALLY ABUSED	0.795	0.105
EMOTIONALLY ABUSED	1.172	0.188
ALL NEGLECTED	4.139	0.602
PHYSICALLY NEGLECTED	1.442	0.281
EMOTIONALLY NEGLECTED	1.418	0.167
EDUCATIONALLY NEGLECTED	1.76	0.493
SEVERITY, FATAL	0.015	0.007
SEVERITY, SERIOUS	3.047	0.335
SEVERITY, MODERATE	4.244	0.542
SEVERITY, INFERRED	0.265	0.039

TABLE B-14.

GRANDPARENTS AS CAREGIVERS BY CATEGORIES OF MALTREATMENT AND
SEVERITY FOR CHILDREN COUNTABLE UNDER THE HARM STANDARD;
INCIDENCE RATES (Per 1,000 Children)

GRANDPARENTS AS CAREGIVERS = GRANDPARENT PRESENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	15.859	2.878
ALL ABUSED	6.072	0.847
PHYSICALLY ABUSED	3.022	0.35
SEXUALLY ABUSED	1.592	0.311
EMOTIONALLY ABUSED	1.856	0.576
ALL NEGLECTED	11.167	2.695
PHYSICALLY NEGLECTED	5.278	1.287
EMOTIONALLY NEGLECTED	3.722	1.179
EDUCATIONALLY NEGLECTED	4.537	1.784
SEVERITY, FATAL	0.056	0.032
SEVERITY, SERIOUS	7.038	1.58
SEVERITY, MODERATE	7.555	1.893
SEVERITY, INFERRED	1.21	0.303

GRANDPARENTS AS CAREGIVERS = GRANDPARENT NOT PRESENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.127	1.704
ALL ABUSED	7.632	0.648
PHYSICALLY ABUSED	4.499	0.397
SEXUALLY ABUSED	1.859	0.175
EMOTIONALLY ABUSED	2.03	0.229
ALL NEGLECTED	10.385	1.4
PHYSICALLY NEGLECTED	3.898	0.584
EMOTIONALLY NEGLECTED	2.532	0.276
EDUCATIONALLY NEGLECTED	4.893	1.059
SEVERITY, FATAL	0.031	0.006
SEVERITY, SERIOUS	6.584	0.644
SEVERITY, MODERATE	9.562	1.148
SEVERITY, INFERRED	0.95	0.114

Appendix C

Endangerment Standard Estimates

TABLE C-1.

CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE UNDER
THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	39.463	3.526
ALL ABUSED	11.340	0.876
PHYSICALLY ABUSED	6.472	0.484
SEXUALLY ABUSED	2.452	0.191
EMOTIONALLY ABUSED	4.109	0.426
ALL NEGLECTED	30.578	2.778
PHYSICALLY NEGLECTED	16.190	1.605
EMOTIONALLY NEGLECTED	15.941	1.299
EDUCATIONALLY NEGLECTED	4.896	1.089
SEVERITY, FATAL	0.033	0.006
SEVERITY, SERIOUS	6.925	0.666
SEVERITY, MODERATE	13.861	1.480
SEVERITY, INFERRED	3.086	0.346
SEVERITY, ENDANGERED	15.557	1.506

TABLE C-2.

PROPORTION OF ENDANGERMENT STANDARD CHILDREN WHOSE MALTREATMENT WAS
INVESTIGATED BY CPS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED PROPORTION	STANDARD ERROR
ALL MALTREATED	0.434	0.035
ALL ABUSED	0.494	0.038
PHYSICALLY ABUSED	0.523	0.039
SEXUALLY ABUSED	0.564	0.050
EMOTIONALLY ABUSED	0.396	0.039
ALL NEGLECTED	0.415	0.034
PHYSICALLY NEGLECTED	0.414	0.042
EMOTIONALLY NEGLECTED	0.498	0.044
EDUCATIONALLY NEGLECTED	0.089	0.018
SEVERITY, FATAL	0.807	0.136
SEVERITY, SERIOUS	0.311	0.029
SEVERITY, MODERATE	0.288	0.029
SEVERITY, INFERRED	0.527	0.070
SEVERITY, ENDANGERED	0.601	0.056

TABLE C-3.

SEX BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE UNDER
THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

SEX = MALE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	36.6063	3.147
ALL ABUSED	9.9654	0.949
PHYSICALLY ABUSED	6.6566	0.613
SEXUALLY ABUSED	1.0483	0.121
EMOTIONALLY ABUSED	3.8567	0.528
ALL NEGLECTED	29.0468	2.61
PHYSICALLY NEGLECTED	15.1481	1.508
EMOTIONALLY NEGLECTED	15.0183	1.266
EDUCATIONALLY NEGLECTED	4.9948	0.945
SEVERITY, FATAL	0.0344	0.012
SEVERITY, SERIOUS	6.5425	0.593
SEVERITY, MODERATE	13.825	1.501
SEVERITY, INFERRED	2.4649	0.269
SEVERITY, ENDANGERED	13.7395	1.192
SEX = FEMALE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	37.946	3.453
ALL ABUSED	12.0063	0.864
PHYSICALLY ABUSED	5.9264	0.428
SEXUALLY ABUSED	3.844	0.38
EMOTIONALLY ABUSED	3.9778	0.429
ALL NEGLECTED	28.6172	2.708
PHYSICALLY NEGLECTED	15.1902	1.621
EMOTIONALLY NEGLECTED	14.6864	1.043
EDUCATIONALLY NEGLECTED	4.6924	1.329
SEVERITY, FATAL	0.0184	0.006
SEVERITY, SERIOUS	6.8921	0.796
SEVERITY, MODERATE	13.6431	1.682
SEVERITY, INFERRED	3.4418	0.348
SEVERITY, ENDANGERED	13.9507	1.461

TABLE C-4.

AGE BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE UNDER
THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

AGE CLASS = 0-2		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	33.4318	5.186
ALL ABUSED	6.0665	0.929
PHYSICALLY ABUSED	3.7016	0.481
SEXUALLY ABUSED	1.2784	0.451
EMOTIONALLY ABUSED	1.5885	0.303
ALL NEGLECTED	27.2705	4.081
PHYSICALLY NEGLECTED	17.5535	3.334
EMOTIONALLY NEGLECTED	13.1745	1.072
EDUCATIONALLY NEGLECTED	0.0902	0.079
SEVERITY, FATAL	0.1017	0.027
SEVERITY, SERIOUS	6.1834	1.625
SEVERITY, MODERATE	4.4774	0.847
SEVERITY, INFERRED	2.007	0.385
SEVERITY, ENDANGERED	20.6623	2.657

AGE CLASS = 3-5		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	34.9032	3.155
ALL ABUSED	9.9188	1.015
PHYSICALLY ABUSED	5.8457	0.688
SEXUALLY ABUSED	2.483	0.408
EMOTIONALLY ABUSED	2.9542	0.606
ALL NEGLECTED	26.8042	2.791
PHYSICALLY NEGLECTED	15.3445	1.791
EMOTIONALLY NEGLECTED	13.4301	1.62
EDUCATIONALLY NEGLECTED	2.3082	0.637
SEVERITY, FATAL	0.007	0.004
SEVERITY, SERIOUS	4.3458	0.761
SEVERITY, MODERATE	11.2208	1.559
SEVERITY, INFERRED	3.3423	0.75
SEVERITY, ENDANGERED	15.9873	1.065

TABLE C-4. (Continued)

AGE CLASS = 6-8

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	42.3939	3.701
ALL ABUSED	13.1373	1.273
PHYSICALLY ABUSED	7.7157	0.812
SEXUALLY ABUSED	2.3835	0.387
EMOTIONALLY ABUSED	5.1623	0.82
ALL NEGLECTED	33.1135	3.406
PHYSICALLY NEGLECTED	18.9427	2.285
EMOTIONALLY NEGLECTED	16.998	1.317
EDUCATIONALLY NEGLECTED	4.8888	1.045
SEVERITY, FATAL	0.003	0
SEVERITY, SERIOUS	5.9192	0.832
SEVERITY, MODERATE	19.3279	2.816
SEVERITY, INFERRED	3.4363	0.554
SEVERITY, ENDANGERED	13.7075	0.948

AGE CLASS = 9-11

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	38.3065	4.943
ALL ABUSED	10.92	0.723
PHYSICALLY ABUSED	6.1881	0.572
SEXUALLY ABUSED	1.9493	0.223
EMOTIONALLY ABUSED	4.4954	0.578
ALL NEGLECTED	30.3687	4.763
PHYSICALLY NEGLECTED	15.7395	2.235
EMOTIONALLY NEGLECTED	15.2092	1.279
EDUCATIONALLY NEGLECTED	7.5185	3.535
SEVERITY, FATAL	0.0003	0
SEVERITY, SERIOUS	7.0847	1.541
SEVERITY, MODERATE	16.703	3.372
SEVERITY, INFERRED	2.5303	0.425
SEVERITY, ENDANGERED	11.9881	1.041

TABLE C-4. (Continued)

AGE CLASS = 12-14		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	37.5518	4.402
ALL ABUSED	12.5598	1.463
PHYSICALLY ABUSED	7.0735	0.726
SEXUALLY ABUSED	2.9742	0.511
EMOTIONALLY ABUSED	4.7134	0.663
ALL NEGLECTED	28.6471	3.936
PHYSICALLY NEGLECTED	13.0198	2.692
EMOTIONALLY NEGLECTED	15.0853	1.74
EDUCATIONALLY NEGLECTED	7.3143	1.573
SEVERITY, FATAL	0.0085	0.007
SEVERITY, SERIOUS	7.369	0.719
SEVERITY, MODERATE	16.8301	3.056
SEVERITY, INFERRED	3.1333	0.595
SEVERITY, ENDANGERED	10.2108	1.231
AGE CLASS = 15-17		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	28.9514	2.346
ALL ABUSED	10.0249	0.873
PHYSICALLY ABUSED	5.876	0.648
SEXUALLY ABUSED	1.8789	0.188
EMOTIONALLY ABUSED	4.1017	0.559
ALL NEGLECTED	21.5627	1.901
PHYSICALLY NEGLECTED	8.7185	0.777
EMOTIONALLY NEGLECTED	11.3908	1.2
EDUCATIONALLY NEGLECTED	6.3989	1.515
SEVERITY, FATAL	0.0369	0.028
SEVERITY, SERIOUS	7.8405	1.005
SEVERITY, MODERATE	12.5287	1.435
SEVERITY, INFERRED	2.3359	0.284
SEVERITY, ENDANGERED	6.2095	0.634

TABLE C-5.

RACE/ETHNICITY BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN
COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

RACE/ETHNICITY = WHITE		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	28.582	2.086
ALL ABUSED	8.73	0.582
PHYSICALLY ABUSED	4.632	0.379
SEXUALLY ABUSED	1.859	0.163
EMOTIONALLY ABUSED	3.51	0.301
ALL NEGLECTED	22.418	1.895
PHYSICALLY NEGLECTED	12.202	1.234
EMOTIONALLY NEGLECTED	12.134	1.025
EDUCATIONALLY NEGLECTED	3.264	0.5
SEVERITY, FATAL	0.019	0.01
SEVERITY, SERIOUS	4.837	0.441
SEVERITY, MODERATE	10.97	1.226
SEVERITY, INFERRED	2.569	0.261
SEVERITY, ENDANGERED	10.187	0.707
RACE/ETHNICITY = BLACK		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	49.553	5.178
ALL ABUSED	14.905	1.312
PHYSICALLY ABUSED	9.664	0.818
SEXUALLY ABUSED	3.125	0.583
EMOTIONALLY ABUSED	4.49	0.729
ALL NEGLECTED	36.828	4.387
PHYSICALLY NEGLECTED	17.867	2.101
EMOTIONALLY NEGLECTED	18.161	1.703
EDUCATIONALLY NEGLECTED	7.423	2.471
SEVERITY, FATAL	0.023	0.005
SEVERITY, SERIOUS	9.102	1.129
SEVERITY, MODERATE	18.648	3.231
SEVERITY, INFERRED	3.727	0.551
SEVERITY, ENDANGERED	18.054	1.623

TABLE C-5. (Continued)

RACE/ETHNICITY = HISPANIC		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	30.245	3.035
ALL ABUSED	9.38	1.292
PHYSICALLY ABUSED	5.852	0.776
SEXUALLY ABUSED	2.488	0.442
EMOTIONALLY ABUSED	2.419	0.321
ALL NEGLECTED	22.972	2.311
PHYSICALLY NEGLECTED	9.938	1.233
EMOTIONALLY NEGLECTED	13.246	1.639
EDUCATIONALLY NEGLECTED	4.001	0.734
SEVERITY, FATAL	0.051	0.017
SEVERITY, SERIOUS	5.665	0.78
SEVERITY, MODERATE	11.197	1.367
SEVERITY, INFERRED	2.123	0.259
SEVERITY, ENDANGERED	11.209	1.409

TABLE C-6.

NUMBER OF CHILDREN BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILDREN
COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

NCHILDR = 1CHILD		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	36.634	5.446
ALL ABUSED	10.598	0.797
PHYSICALLY ABUSED	6.594	0.604
SEXUALLY ABUSED	2.474	0.185
EMOTIONALLY ABUSED	2.797	0.336
ALL NEGLECTED	27.341	4.369
PHYSICALLY NEGLECTED	13.28	2.3
EMOTIONALLY NEGLECTED	13.902	2.271
EDUCATIONALLY NEGLECTED	5.085	0.984
SEVERITY, FATAL	0.027	0.02
SEVERITY, SERIOUS	7.612	1.387
SEVERITY, MODERATE	13.782	1.451
SEVERITY, INFERRED	3.253	0.822
SEVERITY, ENDANGERED	11.96	2.463

TABLE C-6. (Continued)

NCHILDR = 2 CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	27.156	2.26
ALL ABUSED	9.368	0.951
PHYSICALLY ABUSED	5.024	0.576
SEXUALLY ABUSED	2.478	0.367
EMOTIONALLY ABUSED	3.46	0.376
ALL NEGLECTED	19.599	1.485
PHYSICALLY NEGLECTED	10.009	0.826
EMOTIONALLY NEGLECTED	10.85	0.952
EDUCATIONALLY NEGLECTED	2.443	0.544
SEVERITY, FATAL	0.03	0.011
SEVERITY, SERIOUS	4.991	0.498
SEVERITY, MODERATE	9.332	0.869
SEVERITY, INFERRED	2.283	0.256
SEVERITY, ENDANGERED	10.52	1.11
NCHILDR = 3 CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	38.176	3.411
ALL ABUSED	12.151	1.205
PHYSICALLY ABUSED	6.681	0.537
SEXUALLY ABUSED	2.137	0.375
EMOTIONALLY ABUSED	5.072	0.97
ALL NEGLECTED	30.107	3.115
PHYSICALLY NEGLECTED	15.197	1.927
EMOTIONALLY NEGLECTED	17.691	1.692
EDUCATIONALLY NEGLECTED	4.67	1.065
SEVERITY, FATAL	0.038	0.016
SEVERITY, SERIOUS	6.261	0.607
SEVERITY, MODERATE	13.089	1.886
SEVERITY, INFERRED	2.692	0.289
SEVERITY, ENDANGERED	16.096	1.384

TABLE C-6. (Continued)

NCHILDR = 4 OR MORE CHILDREN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	62.904	5.628
ALL ABUSED	13.862	1.38
PHYSICALLY ABUSED	7.813	0.832
SEXUALLY ABUSED	2.502	0.318
EMOTIONALLY ABUSED	5.763	1.026
ALL NEGLECTED	52.181	5.107
PHYSICALLY NEGLECTED	31.127	3.088
EMOTIONALLY NEGLECTED	27.442	3.268
EDUCATIONALLY NEGLECTED	6.041	1.861
SEVERITY, FATAL	0.028	0.016
SEVERITY, SERIOUS	8.799	1.356
SEVERITY, MODERATE	17.894	2.714
SEVERITY, INFERRED	4.659	0.794
SEVERITY, ENDANGERED	31.523	3.436

TABLE C-7.

METROPOLITAN STATUS OF COUNTY BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR
CASES COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000
Children)

METROSTATUS = MAJOR URBAN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	31.285	5.315
ALL ABUSED	9.527	1.36
PHYSICALLY ABUSED	5.606	0.745
SEXUALLY ABUSED	2.235	0.331
EMOTIONALLY ABUSED	2.963	0.551
ALL NEGLECTED	23.087	3.756
PHYSICALLY NEGLECTED	11.919	2.324
EMOTIONALLY NEGLECTED	11.939	1.886
EDUCATIONALLY NEGLECTED	3.348	0.833
SEVERITY, FATAL	0.039	0.008
SEVERITY, SERIOUS	5.592	0.853
SEVERITY, MODERATE	10.353	1.823
SEVERITY, INFERRED	2.441	0.566
SEVERITY, ENDANGERED	12.859	2.536

TABLE C-7. (Continued)

METROSTATUS = URBAN		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	39.135	5.502
ALL ABUSED	11.891	1.694
PHYSICALLY ABUSED	6.969	1.04
SEXUALLY ABUSED	2.268	0.343
EMOTIONALLY ABUSED	4.715	0.789
ALL NEGLECTED	29.958	4.4
PHYSICALLY NEGLECTED	15.005	2.389
EMOTIONALLY NEGLECTED	16.878	2.37
EDUCATIONALLY NEGLECTED	3.872	1.01
SEVERITY, FATAL	0.037	0.014
SEVERITY, SERIOUS	6.753	1.254
SEVERITY, MODERATE	12.799	2.256
SEVERITY, INFERRED	3.423	0.501
SEVERITY, ENDANGERED	16.123	1.886
METROSTATUS = RURAL		
CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	68.128	11.257
ALL ABUSED	16.535	2.101
PHYSICALLY ABUSED	8.522	1.027
SEXUALLY ABUSED	3.537	0.454
EMOTIONALLY ABUSED	6.917	1.447
ALL NEGLECTED	57.434	11.024
PHYSICALLY NEGLECTED	33.05	6.011
EMOTIONALLY NEGLECTED	27.925	4.576
EDUCATIONALLY NEGLECTED	12.107	6.048
SEVERITY, FATAL	0.006	0.006
SEVERITY, SERIOUS	11.763	2.521
SEVERITY, MODERATE	27.929	6.614
SEVERITY, INFERRED	4.674	0.515
SEVERITY, ENDANGERED	23.757	3.564

TABLE C-8.

CHILDREN COUNTABLE UNDER THE ENDANGERMENT STANDARD--RECOGNIZED OVERALL,
 INVESTIGATED BY CPS, AND NOT INVESTIGATED BY CPS, BY RECOGNITION SOURCE; INCIDENCE
 RATES (Per 1,000 children)

CLASS = ALL RECOGNIZED

RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	1.235	0.167
POLICE/SHERIFF	7.522	0.803
PUBLIC HEALTH	0.943	0.218
INVESTIGATORY AGENCY SUBTOTAL:	9.700	0.852
HOSPITALS	5.033	2.409
SCHOOLS	15.113	1.851
DAY CARE CENTERS	1.729	0.365
MENTAL HEALTH	1.419	0.250
SOCIAL SERVICES	0.763	0.085
SHELTERS	0.453	0.097
PUBLIC HOUSING	0.078	0.026
OTHER SENTINEL AGENCY SUBTOTAL	24.589	3.313
ALL SENTINEL SOURCES TOTAL	34.289	3.479
DSS/WELFARE DEPT.	0.748	0.098
OTHER PROFESSIONAL OR AGENCY	0.347	0.046
ALL OTHER SOURCES	4.079	0.253
OTHER (CPS ONLY) SUBTOTAL	5.174	0.281
TOTAL, ALL SOURCES	39.463	3.526

TABLE C-8. (Continued)

CLASS = INVESTIGATED BY CPS		
RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	0.775	0.116
POLICE/SHERIFF	4.834	0.366
PUBLIC HEALTH	0.315	0.066
INVESTIGATORY AGENCY SUBTOTAL:	5.925	0.471
HOSPITALS	1.269	0.115
SCHOOLS	2.955	0.195
DAY CARE CENTERS	0.216	0.033
MENTAL HEALTH	0.750	0.077
SOCIAL SERVICES	0.719	0.075
SHELTERS	0.085	0.028
PUBLIC HOUSING	0.052	0.022
OTHER SENTINEL AGENCY SUBTOTAL	6.045	0.355
ALL SENTINEL SOURCES TOTAL	11.970	0.724
DSS/WELFARE DEPT.	0.748	0.098
OTHER PROFESSIONAL OR AGENCY	0.347	0.046
ALL OTHER SOURCES	4.079	0.253
OTHER (CPS ONLY) SUBTOTAL	5.174	0.281
TOTAL, ALL SOURCES	17.144	0.856

TABLE C-8. (Continued)

CLASS = NOT INVESTIGATED BY CPS		
RECOGNITION SOURCE	ESTIMATED INCIDENCE RATE	STANDARD ERROR
PROBATION/COURTS	0.459	0.118
POLICE/SHERIFF	2.688	0.839
PUBLIC HEALTH	0.628	0.207
INVESTIGATORY AGENCY SUBTOTAL:	3.775	0.871
HOSPITALS	3.765	2.386
SCHOOLS	12.158	1.759
DAY CARE CENTERS	1.514	0.367
MENTAL HEALTH	0.668	0.242
SOCIAL SERVICES	0.044	0.031
SHELTERS	0.368	0.091
PUBLIC HOUSING	0.026	0.015
OTHER SENTINEL AGENCY SUBTOTAL	18.544	3.208
ALL SENTINEL SOURCES TOTAL	22.319	3.254
DSS/WELFARE DEPT.	0.000	0.000
OTHER PROFESSIONAL OR AGENCY	0.000	0.000
ALL OTHER SOURCES	0.000	0.000
OTHER (CPS ONLY) SUBTOTAL	0.000	0.000
TOTAL, ALL SOURCES	22.319	3.254

TABLE C-9.

PROPORTION OF ENDANGERMENT STANDARD CHILDREN WHOSE MALTREATMENT WAS
INVESTIGATED BY CPS, BY RECOGNITION SOURCE

RECOGNITION SOURCE	ESTIMATED PROPORTION	STANDARD ERROR
PROBATION/COURTS	0.628	0.066
POLICE/SHERIFF	0.643	0.083
PUBLIC HEALTH	0.334	0.091
INVESTIGATORY AGENCY SUBTOTAL:	0.611	0.065
HOSPITALS	0.252	0.172
SCHOOLS	0.196	0.020
DAY CARE CENTERS	0.125	0.033
MENTAL HEALTH	0.529	0.091
SOCIAL SERVICES	0.942	0.039
SHELTERS	0.187	0.060
PUBLIC HOUSING	0.671	0.161
OTHER SENTINEL AGENCY SUBTOTAL	0.246	0.033
ALL SENTINEL SOURCES TOTAL	0.349	0.034
DSS/WELFARE DEPT.	1.000	0.000
OTHER PROFESSIONAL OR AGENCY	1.000	0.000
ALL OTHER SOURCES	1.000	0.000
OTHER (CPS ONLY) SUBTOTAL	1.000	0.000
TOTAL, ALL SOURCES	0.434	0.036

TABLE C-10.

FAMILY STRUCTURE AND PARENTS' LIVING ARRANGEMENT BY CATEGORIES OF
MALTREATMENT AND SEVERITY FOR CHILDREN COUNTABLE UNDER THE ENDANGERMENT
STANDARD; INCIDENCE RATES (Per 1,000 Children)

FAMILY STRUCTURE/LIVING ARRANGEMENT = MARRIED PARENTS, BOTH BIOLOGICAL

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	15.760	1.520
ALL ABUSED	4.322	0.500
PHYSICALLY ABUSED	2.488	0.293
SEXUALLY ABUSED	0.685	0.123
EMOTIONALLY ABUSED	1.800	0.241
ALL NEGLECTED	12.844	1.272
PHYSICALLY NEGLECTED	6.472	0.811
EMOTIONALLY NEGLECTED	6.736	0.695
EDUCATIONALLY NEGLECTED	1.927	0.530
SEVERITY, FATAL	0.021	0.010
SEVERITY, SERIOUS	2.760	0.429
SEVERITY, MODERATE	5.961	0.782
SEVERITY, INFERRED	0.879	0.123
SEVERITY, ENDANGERED	6.140	0.648

FAMILY STRUCTURE/LIVING ARRANGEMENT = OTHER MARRIED PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	51.459	5.165
ALL ABUSED	25.299	2.172
PHYSICALLY ABUSED	15.374	1.570
SEXUALLY ABUSED	5.547	0.662
EMOTIONALLY ABUSED	8.605	1.608
ALL NEGLECTED	33.964	4.901
PHYSICALLY NEGLECTED	15.068	2.281
EMOTIONALLY NEGLECTED	21.559	3.448
EDUCATIONALLY NEGLECTED	3.567	1.082
SEVERITY, FATAL	0.056	0.036
SEVERITY, SERIOUS	9.477	1.139
SEVERITY, MODERATE	17.042	2.054
SEVERITY, INFERRED	5.282	0.728
SEVERITY, ENDANGERED	19.602	3.198

TABLE C-10. (Continued)

FAMILY STRUCTURE/LIVING ARRANGEMENT = UNMARRIED PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	88.924	8.717
ALL ABUSED	21.962	3.538
PHYSICALLY ABUSED	13.507	2.018
SEXUALLY ABUSED	3.234	1.315
EMOTIONALLY ABUSED	8.774	2.546
ALL NEGLECTED	74.439	8.074
PHYSICALLY NEGLECTED	37.173	5.300
EMOTIONALLY NEGLECTED	46.904	5.292
EDUCATIONALLY NEGLECTED	4.067	2.179
SEVERITY, FATAL	0.152	0.082
SEVERITY, SERIOUS	11.359	2.149
SEVERITY, MODERATE	17.766	2.897
SEVERITY, INFERRED	7.813	2.348
SEVERITY, ENDANGERED	51.833	5.601

FAMILY STRUCTURE/LIVING ARRANGEMENT = SINGLE PARENT WITH PARTNER

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	136.065	17.193
ALL ABUSED	45.753	5.507
PHYSICALLY ABUSED	26.220	2.989
SEXUALLY ABUSED	12.140	2.570
EMOTIONALLY ABUSED	15.049	2.725
ALL NEGLECTED	100.815	13.359
PHYSICALLY NEGLECTED	47.388	7.771
EMOTIONALLY NEGLECTED	68.241	9.328
EDUCATIONALLY NEGLECTED	11.853	4.363
SEVERITY, FATAL	0.036	0.015
SEVERITY, SERIOUS	21.543	3.946
SEVERITY, MODERATE	49.307	9.012
SEVERITY, INFERRED	10.156	1.365
SEVERITY, ENDANGERED	55.023	7.028

TABLE C-10. (Continued)

FAMILY STRUCTURE/LIVING ARRANGEMENT = SINGLE PARENT, NO PARTNER

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	66.319	7.553
ALL ABUSED	15.850	1.816
PHYSICALLY ABUSED	8.974	0.830
SEXUALLY ABUSED	3.413	0.369
EMOTIONALLY ABUSED	5.867	0.996
ALL NEGLECTED	51.720	5.668
PHYSICALLY NEGLECTED	29.401	3.473
EMOTIONALLY NEGLECTED	24.485	2.870
EDUCATIONALLY NEGLECTED	9.977	2.341
SEVERITY, FATAL	0.035	0.014
SEVERITY, SERIOUS	12.352	1.478
SEVERITY, MODERATE	22.360	3.034
SEVERITY, INFERRED	5.226	0.770
SEVERITY, ENDANGERED	26.346	3.483

FAMILY STRUCTURE/LIVING ARRANGEMENT = NEITHER PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	65.958	7.360
ALL ABUSED	22.905	3.143
PHYSICALLY ABUSED	10.647	1.312
SEXUALLY ABUSED	6.327	1.146
EMOTIONALLY ABUSED	8.364	2.343
ALL NEGLECTED	48.695	6.942
PHYSICALLY NEGLECTED	28.566	4.432
EMOTIONALLY NEGLECTED	20.340	3.341
EDUCATIONALLY NEGLECTED	8.493	2.868
SEVERITY, FATAL	0.009	0.001
SEVERITY, SERIOUS	11.778	2.808
SEVERITY, MODERATE	31.180	4.574
SEVERITY, INFERRED	5.502	0.801
SEVERITY, ENDANGERED	17.489	1.824

TABLE C-11.

FAMILY STRUCTURE BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR
CHILDREN COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per
1,000 Children)

FAMILY STRUCTURE= SINGLE PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	81.157	8.539
ALL ABUSED	20.865	2.134
PHYSICALLY ABUSED	11.764	0.995
SEXUALLY ABUSED	5.078	0.587
EMOTIONALLY ABUSED	7.141	0.961
ALL NEGLECTED	62.664	6.093
PHYSICALLY NEGLECTED	34.555	3.453
EMOTIONALLY NEGLECTED	31.446	3.175
EDUCATIONALLY NEGLECTED	11.576	2.383
SEVERITY, FATAL	0.036	0.013
SEVERITY, SERIOUS	14.700	1.568
SEVERITY, MODERATE	28.297	3.384
SEVERITY, INFERRED	6.692	1.063
SEVERITY, ENDANGERED	31.432	3.698

FAMILY STRUCTURE= BOTH PARENTS

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	22.941	2.009
ALL ABUSED	7.309	0.611
PHYSICALLY ABUSED	4.335	0.350
SEXUALLY ABUSED	1.311	0.146
EMOTIONALLY ABUSED	2.802	0.357
ALL NEGLECTED	17.962	1.743
PHYSICALLY NEGLECTED	8.855	1.048
EMOTIONALLY NEGLECTED	10.071	0.925
EDUCATIONALLY NEGLECTED	2.287	0.681
SEVERITY, FATAL	0.033	0.008
SEVERITY, SERIOUS	3.837	0.411
SEVERITY, MODERATE	7.786	0.923
SEVERITY, INFERRED	1.655	0.172
SEVERITY, ENDANGERED	9.631	0.940

TABLE C-11. (Continued)

FAMILY STRUCTURE= NEITHER PARENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	65.958	7.360
ALL ABUSED	22.905	3.143
PHYSICALLY ABUSED	10.647	1.312
SEXUALLY ABUSED	6.327	1.146
EMOTIONALLY ABUSED	8.364	2.343
ALL NEGLECTED	48.695	6.942
PHYSICALLY NEGLECTED	28.566	4.432
EMOTIONALLY NEGLECTED	20.340	3.341
EDUCATIONALLY NEGLECTED	8.493	2.868
SEVERITY, FATAL	0.009	0.001
SEVERITY, SERIOUS	11.778	2.808
SEVERITY, MODERATE	31.180	4.574
SEVERITY, INFERRED	5.502	0.801
SEVERITY, ENDANGERED	17.489	1.824

TABLE C-12.

SOCIOECONOMIC STATUS (SES) BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR CHILD
COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per 1,000 Children)

SOCIOECONOMIC STATUS= NOT LOW SOCIOECONOMIC STATUS (SES)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	9.476	0.562
ALL ABUSED	3.585	0.238
PHYSICALLY ABUSED	2.235	0.2
SEXUALLY ABUSED	0.743	0.093
EMOTIONALLY ABUSED	1.009	0.104
ALL NEGLECTED	6.668	0.483
PHYSICALLY NEGLECTED	3.056	0.218
EMOTIONALLY NEGLECTED	3.959	0.312
EDUCATIONALLY NEGLECTED	1	0.257
SEVERITY, FATAL	0.003	0.001
SEVERITY, SERIOUS	1.795	0.194
SEVERITY, MODERATE	3.474	0.39
SEVERITY, INFERRED	0.719	0.102
SEVERITY, ENDANGERED	3.486	0.235

TABLE C-12. (Continued)

SOCIOECONOMIC STATUS= LOW SOCIOECONOMIC STATUS (SES)

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	55.087	4.689
ALL ABUSED	12.116	1.063
PHYSICALLY ABUSED	6.451	0.637
SEXUALLY ABUSED	2.355	0.265
EMOTIONALLY ABUSED	5.467	0.663
ALL NEGLECTED	46.525	4.247
PHYSICALLY NEGLECTED	26.981	2.839
EMOTIONALLY NEGLECTED	23.489	2.241
EDUCATIONALLY NEGLECTED	7.092	2.446
SEVERITY, FATAL	0.042	0.014
SEVERITY, SERIOUS	10.321	1.185
SEVERITY, MODERATE	18.716	2.232
SEVERITY, INFERRED	3.439	0.442
SEVERITY, ENDANGERED	22.569	2.316

TABLE C-13.

PARENTS' EMPLOYMENT BY CATEGORIES OF MALTREATMENT AND SEVERITY FOR
CHILDREN COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES (Per
1,000 Children)

PARENTS' EMPLOYMENT = UNEMPLOYED

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	39.896	5.111
ALL ABUSED	7.452	1.312
PHYSICALLY ABUSED	3.544	0.684
SEXUALLY ABUSED	0.904	0.21
EMOTIONALLY ABUSED	4.075	0.884
ALL NEGLECTED	35	4.573
PHYSICALLY NEGLECTED	23.028	3.767
EMOTIONALLY NEGLECTED	19.105	3.233
EDUCATIONALLY NEGLECTED	5.835	2.04
SEVERITY, FATAL	0.008	0.003
SEVERITY, SERIOUS	7.289	1.058
SEVERITY, MODERATE	12.061	2.2
SEVERITY, INFERRED	2.994	1.018
SEVERITY, ENDANGERED	17.544	3.386

TABLE C-13. (Continued)

PARENTS' EMPLOYMENT = NOT IN THE LABOR FORCE

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	57.741	6.091
ALL ABUSED	15.193	2.434
PHYSICALLY ABUSED	7.334	1.523
SEXUALLY ABUSED	3.709	1.124
EMOTIONALLY ABUSED	7.089	1.432
ALL NEGLECTED	46.448	4.599
PHYSICALLY NEGLECTED	25.478	3.432
EMOTIONALLY NEGLECTED	25.267	2.967
EDUCATIONALLY NEGLECTED	4.833	0.91
SEVERITY, FATAL	0.041	0.039
SEVERITY, SERIOUS	11.281	1.97
SEVERITY, MODERATE	15.702	2.31
SEVERITY, INFERRED	5.962	1.307
SEVERITY, ENDANGERED	24.755	2.726

PARENTS' EMPLOYMENT = EMPLOYED

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	17.099	1.452
ALL ABUSED	5.802	0.597
PHYSICALLY ABUSED	3.424	0.327
SEXUALLY ABUSED	1.066	0.122
EMOTIONALLY ABUSED	2.255	0.392
ALL NEGLECTED	12.784	1.189
PHYSICALLY NEGLECTED	6.05	0.586
EMOTIONALLY NEGLECTED	7.351	0.722
EDUCATIONALLY NEGLECTED	1.76	0.493
SEVERITY, FATAL	0.016	0.007
SEVERITY, SERIOUS	3.176	0.337
SEVERITY, MODERATE	6.318	0.724
SEVERITY, INFERRED	1.113	0.129
SEVERITY, ENDANGERED	6.477	0.593

TABLE C-14.

GRANDPARENTS AS CAREGIVERS BY CATEGORIES OF MALTREATMENT AND SEVERITY
FOR CHILDREN COUNTABLE UNDER THE ENDANGERMENT STANDARD; INCIDENCE RATES
(Per 1,000 Children)

GRANDPARENTS AS CAREGIVERS = GRANDPARENT PRESENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	35.338	3.57
ALL ABUSED	10.358	1.413
PHYSICALLY ABUSED	5.165	0.787
SEXUALLY ABUSED	2.287	0.325
EMOTIONALLY ABUSED	4.545	1.043
ALL NEGLECTED	27.849	3.416
PHYSICALLY NEGLECTED	17.381	2.158
EMOTIONALLY NEGLECTED	14.935	1.967
EDUCATIONALLY NEGLECTED	4.537	1.784
SEVERITY, FATAL	0.056	0.032
SEVERITY, SERIOUS	7.184	1.593
SEVERITY, MODERATE	13.625	2.199
SEVERITY, INFERRED	2.283	0.467
SEVERITY, ENDANGERED	12.189	1.024

GRANDPARENTS AS CAREGIVERS = GRANDPARENT NOT PRESENT

CATEGORY OF MALTREATMENT OR SEVERITY	ESTIMATED INCIDENCE RATE	STANDARD ERROR
ALL MALTREATED	39.747	3.683
ALL ABUSED	11.418	0.923
PHYSICALLY ABUSED	6.579	0.515
SEXUALLY ABUSED	2.466	0.199
EMOTIONALLY ABUSED	4.071	0.445
ALL NEGLECTED	30.745	2.86
PHYSICALLY NEGLECTED	16.051	1.646
EMOTIONALLY NEGLECTED	16.027	1.347
EDUCATIONALLY NEGLECTED	4.893	1.059
SEVERITY, FATAL	0.031	0.006
SEVERITY, SERIOUS	6.887	0.656
SEVERITY, MODERATE	13.855	1.517
SEVERITY, INFERRED	3.155	0.375
SEVERITY, ENDANGERED	15.82	1.632

Appendix D

Comparisons of Subgroups Within the NIS-4

APPENDIX D

WITHIN STUDY ANALYSES

This appendix describes the analyses and presents the statistics for the within-study analyses of the NIS–4 results. This introduction discusses the computation and assessment of the t-statistics used to identify subgroup differences within the NIS–4. The tables that follow provide the specific results of all statistical tests that support the findings presented in the *NIS–4 Report to Congress*.

All within-study statistical differences were assessed by the t-statistic on rate measures. To address the fact that the NIS–4 data derive from a complex sample design (stratified and multi-stage), the computations were performed using WesVar (Westat, 2007). This program calculated the estimated rates (r_1 and r_2) and (using the replicate weights in the NIS–4 analysis data file) the standard error of these rates (SE_{r1} and SE_{r2}). The t-statistic was then calculated as follows:

$$t = \sqrt{\frac{r_1 - r_2}{SE_{r1}^2 + SE_{r2}^2}}$$

The analyses examined all subgroup differences in maltreatment rates in each category of maltreatment and for each level of harm or injury resulting from maltreatment. In order to adjust for the higher likelihood of observing significant differences when conducting multiple comparisons in this way, the significance of the resulting t-statistics was assessed using the Bonferroni critical value for t (Sankoh, Huque & Dubey, 1997). The appropriate significance levels with their corresponding alpha levels (i.e., probability of observing the result by chance) are also presented for each series of tables in the next section.

References

- Sankoh, A.J., Huque, M.F., Dubey, S.D. (1997). Some comments on frequently used multiple endpoint adjustment methods in clinical trials. *Statistics in Medicine*, 16, 2529-2542.
- Westat, Inc. (2007). *WesVar 4.3 User's Guide*. Rockville, MD. Available online at http://www.westat.com/westat/statistical_software/WesVar/pdf/WV_4-3_Manual.pdf

Table D-1. T-statistics for sex differences in NIS-4 incidence rates for harm standard maltreatment

	T-Value
All Maltreatment	0.5837
All Abuse	2.1885 c
Physical Abuse	0.7395
Sexual Abuse	6.8038 a
Emotional Abuse	0.6814
All Neglect	0.1547
Physical Neglect	0.4169
Emotional Neglect	0.5828
Educational Neglect	0.1854
Severity, Fatal	1.2000
Severity, Serious	0.3637
Severity, Moderate	0.2004
Severity, Inferred	3.8628 a

Table D-2. T-statistics for sex differences in NIS-4 incidence rates for endangerment standard maltreatment

	T-Value
All Maltreatment	0.2868
All Abuse	1.5902 d
Physical Abuse	0.9767
Sexual Abuse	7.0103 a
Emotional Abuse	0.1780
All Neglect	0.1142
Physical Neglect	0.0190
Emotional Neglect	0.2023
Educational Neglect	0.1854
Severity, Fatal	1.1926
Severity, Serious	0.3522
Severity, Moderate	0.0807
Severity, Inferred	2.2210 c
Severity, Endangered	0.1120

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-3. T-statistics for age differences in NIS-4 incidence rates for harm standard maltreatment

	Age 0-2 vs 3-5	Age 0-2 vs 6-8	Age 0-2 vs 9-11
All Maltreatment	1.4512	3.2199 c	2.2710
All Abuse	2.1842	3.9862 b	3.5977 b
Physical Abuse	1.7478	3.5362 c	3.2959 c
Sexual Abuse	1.3085	1.0494	0.9018
Emotional Abuse	2.7021	4.1296 b	3.9303 b
All Neglect	0.7227	2.2388	1.7004
Physical Neglect	1.0487	0.4737	0.4488
Emotional Neglect	1.4754	3.3340 c	4.0645 b
Educational Neglect	3.4555 c	4.5789 a	2.1008
Severity, Fatal	3.3926 c	3.5778 c	3.6778 b
Severity, Serious	0.9380	0.1713	0.3886
Severity, Moderate	4.9296 a	5.9857 a	3.4531 c
Severity, Inferred	0.8315	0.9352	0.8513

	Age 0-2 vs 12-14	Age 0-2 vs 15-17
All Maltreatment	3.5107 c	3.6198 b
All Abuse	4.0684 b	3.5584 c
Physical Abuse	3.2636 c	2.6351
Sexual Abuse	2.1810	1.2250
Emotional Abuse	5.6060 a	4.3370 a
All Neglect	2.7951	3.3185 c
Physical Neglect	0.2946	1.1621
Emotional Neglect	6.2898 a	4.5133 a
Educational Neglect	4.5868 a	4.1585 b
Severity, Fatal	3.2661 c	1.6119
Severity, Serious	0.6832	0.9397
Severity, Moderate	4.0733 b	5.3975 a
Severity, Inferred	1.7610	1.0527

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-3. Continued

	Age 3-5 vs 6-8	Age 3-5 vs 9-11	Age 3-5 vs 12-14
All Maltreatment	2.1330	1.5728	2.6618
All Abuse	2.1523	1.5036	2.3228
Physical Abuse	2.0657	1.4208	1.6737
Sexual Abuse	0.3529	0.8186	1.0647
Emotional Abuse	2.7643	2.6604	3.6147 b
All Neglect	1.5808	1.3949	2.3323
Physical Neglect	0.7751	0.6152	0.3980
Emotional Neglect	1.4021	2.3739	3.7676 b
Educational Neglect	2.1086	1.4506	2.9498 d
Severity, Fatal	1.0000	1.6750	0.1861
Severity, Serious	1.2164	1.4694	2.7844
Severity, Moderate	2.4539	1.6756	2.0096
Severity, Inferred	2.1372	1.9652	1.3802
	Age 3-5 vs 15-17		
All Maltreatment	2.5565		
All Abuse	1.3544		
Physical Abuse	0.9011		
Sexual Abuse	0.4562		
Emotional Abuse	2.6946		
All Neglect	2.6305		
Physical Neglect	0.1239		
Emotional Neglect	3.2179 c		
Educational Neglect	2.4891		
Severity, Fatal	1.0571		
Severity, Serious	2.7278		
Severity, Moderate	1.6572		
Severity, Inferred	0.2112		

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-3. Continued

	Age 6-8 vs 9-11	Age 6-8 vs 12-14	Age 6-8 vs 15-17
All Maltreatment	0.3985	1.0081	0.3288
All Abuse	0.8239	0.2487	1.0531
Physical Abuse	0.9291	0.4702	1.2753
Sexual Abuse	0.4260	1.4220	0.0241
Emotional Abuse	0.0321	0.0534	0.3575
All Neglect	0.5927	1.1324	0.9349
Physical Neglect	0.0419	0.0163	0.9423
Emotional Neglect	1.1444	2.3880	2.2116
Educational Neglect	0.7134	1.2844	0.8205
Severity, Fatal	-	0.7857	1.2107
Severity, Serious	0.6718	1.4064	1.6109
Severity, Moderate	0.2273	0.3564	0.7794
Severity, Inferred	0.0526	2.2419	2.5167

	Age 9-11 vs 12-14	Age 9-11 vs 15-17
All Maltreatment	0.3275	0.2101
All Abuse	1.0574	0.2263
Physical Abuse	0.4443	0.4588
Sexual Abuse	1.9698	0.6613
Emotional Abuse	0.0150	0.3789
All Neglect	0.1998	0.0864
Physical Neglect	0.0081	0.6525
Emotional Neglect	0.9869	1.1854
Educational Neglect	0.0528	0.2911
Severity, Fatal	1.1714	1.3071
Severity, Serious	0.1935	0.4960
Severity, Moderate	0.0795	0.7285
Severity, Inferred	2.2057	2.3042

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-3. Continued

	<u>Age 12-14 vs 15-17</u>
All Maltreatment	0.7653
All Abuse	1.2816
Physical Abuse	0.8308
Sexual Abuse	1.6711
Emotional Abuse	0.4766
All Neglect	0.4275
Physical Neglect	0.3677
Emotional Neglect	0.4390
Educational Neglect	0.4192
Severity, Fatal	0.9840
Severity, Serious	0.4815
Severity, Moderate	0.9191
Severity, Inferred	1.2941

Table D-4. T-statistics for age differences in NIS-4 incidence rates for endnegement maltreatment

	<u>Age 0-2 vs 3-5</u>	<u>Age 0-2 vs 6-8</u>	<u>Age 0-2 vs 9-11</u>
All Maltreatment	0.2424	1.4067	0.6804
All Abuse	2.7997	4.4867 a	4.1230 b
Physical Abuse	2.5541	4.2533 b	3.3271 c
Sexual Abuse	1.9807	1.8596	1.3335
Emotional Abuse	2.0157	4.0881 b	4.4543 a
All Neglect	0.0943	1.0992	0.4940
Physical Neglect	0.5837	0.3437	0.4519
Emotional Neglect	0.1316	2.2516	1.2192
Educational Neglect	3.4555 c	4.5789 a	2.1008
Severity, Fatal	3.4695 c	3.6556 b	3.7556 b
Severity, Serious	1.0241	0.1447	0.4025
Severity, Moderate	3.8007 b	5.0501 a	3.5164 c
Severity, Inferred	1.5839	2.1186	0.9125
Severity, Endangered	1.6332	2.4653	3.0397 d

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-4. Continued

	Age 0-2 vs 12-14	Age 0-2 vs 15-17	
All Maltreatment	0.6057	0.7871	
All Abuse	3.7468 b	3.1051 c	
Physical Abuse	3.8718 b	2.6944	
Sexual Abuse	2.4881	1.2290	
Emotional Abuse	4.2868 a	3.9526 b	
All Neglect	0.2428	1.2678	
Physical Neglect	1.0580	2.5808	
Emotional Neglect	0.9350	1.1085	
Educational Neglect	4.5868 a	4.1585 b	
Severity, Fatal	3.3414 c	1.6659	
Severity, Serious	0.6672	0.8673	
Severity, Moderate	3.8953 b	4.8318 a	
Severity, Inferred	1.5893	0.6875	
Severity, Endangered	3.5691 c	5.2910 a	
	Age 3-5 vs 6-8	Age 3-5 vs 9-11	Age 3-5 vs 12-14
All Maltreatment	1.5403	0.5804	0.4890
All Abuse	1.9768	0.8034	1.4832
Physical Abuse	1.7571	0.3827	1.2275
Sexual Abuse	0.1769	1.1478	0.7512
Emotional Abuse	2.1656	1.8404	1.9585
All Neglect	1.4328	0.6457	0.3819
Physical Neglect	1.2394	0.1379	0.7190
Emotional Neglect	1.7089	0.8620	0.6962
Educational Neglect	2.1086	1.4506	2.9498 d
Severity, Fatal	1.0000	1.6750	0.1861
Severity, Serious	1.3954	1.5936	2.8877 d
Severity, Moderate	2.5187	1.4757	1.6350
Severity, Inferred	0.1008	0.9419	0.2183
Severity, Endangered	1.5990	2.6854	3.5488 c

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-4. Continued

	<u>Age 3-5 vs 15-17</u>		
All Maltreatment	1.5138		
All Abuse	0.0793		
Physical Abuse	0.0321		
Sexual Abuse	1.3447		
Emotional Abuse	1.3918		
All Neglect	1.5522		
Physical Neglect	3.3940 c		
Emotional Neglect	1.0115		
Educational Neglect	2.4891		
Severity, Fatal	1.0571		
Severity, Serious	2.7722		
Severity, Moderate	0.6173		
Severity, Inferred	1.2549		
Severity, Endangered	7.8890 a		
	<u>Age 6-8 vs 9-11</u>	<u>Age 6-8 vs 12-14</u>	<u>Age 6-8 vs 15-17</u>
All Maltreatment	0.6619	0.8419	3.0677 c
All Abuse	1.5146	0.2978	2.0163
Physical Abuse	1.5380	0.5896	1.7709
Sexual Abuse	0.9721	0.9215	1.1728
Emotional Abuse	0.6647	0.4257	1.0687
All Neglect	0.4688	0.8581	2.9613 d
Physical Neglect	1.0022	1.6774	4.2363 b
Emotional Neglect	0.9744	0.8765	3.1471 c
Educational Neglect	0.7134	1.2844	0.8205
Severity, Fatal	---	0.7857	1.2107
Severity, Serious	0.6655	1.3184	1.4726
Severity, Moderate	0.5975	0.6011	2.1513
Severity, Inferred	1.2975	0.3727	1.7676
Severity, Endangered	1.2212	2.2505	6.5745 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-4 Continued

	Age 9-11 vs 12-14	Age 9-11 vs 15-17
All Maltreatment	0.1140	1.7098
All Abuse	1.0048	0.7897
Physical Abuse	0.9580	0.3611
Sexual Abuse	1.8383	0.2414
Emotional Abuse	0.2478	0.4896
All Neglect	0.2786	1.7171
Physical Neglect	0.7773	2.9672 d
Emotional Neglect	0.0574	2.1772
Educational Neglect	0.0528	0.2911
Severity, Fatal	1.1714	1.3071
Severity, Serious	0.1672	0.4108
Severity, Moderate	0.0279	1.1391
Severity, Inferred	0.8247	0.3803
Severity, Endangered	1.1024	4.7410 a

	Age 12-14 vs 15-17
All Maltreatment	1.7242
All Abuse	1.4879
Physical Abuse	1.2306
Sexual Abuse	2.0116
Emotional Abuse	0.7054
All Neglect	1.6208
Physical Neglect	1.5351
Emotional Neglect	1.7479
Educational Neglect	0.4192
Severity, Fatal	0.9840
Severity, Serious	0.3816
Severity, Moderate	1.2741
Severity, Inferred	1.2095
Severity, Endangered	2.8897 d

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-5. T-statistics for racial/ethnic differences in NIS-4 incidence rates for harm standard maltreatment

	White vs Black	White vs Hispanic
All Maltreatment	3.1997 b	0.8550
All Abuse	3.9064 a	0.8070
Physical Abuse	5.0219 a	1.8206
Sexual Abuse	2.2478 d	1.3341
Emotional Abuse	0.5329	1.9094
All Neglect	2.2265 d	0.5735
Physical Neglect	2.1154	0.0937
Emotional Neglect	1.9740	0.1034
Educational Neglect	1.6497	0.8298
Severity, Fatal	0.1789	1.5718
Severity, Serious	3.4751 b	0.6973
Severity, Moderate	2.5189 c	0.6286
Severity, Inferred	2.2228 d	0.4631

	Black vs Hispanic
All Maltreatment	2.6721 c
All Abuse	2.8670 c
Physical Abuse	2.6512 c
Sexual Abuse	1.2577
Emotional Abuse	1.6821
All Neglect	1.9534
Physical Neglect	1.9887
Emotional Neglect	1.9609
Educational Neglect	1.3275
Severity, Fatal	1.6366
Severity, Serious	2.6164 c
Severity, Moderate	2.1160
Severity, Inferred	2.0204

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-6. T-statistics for racial/ethnic differences in NIS-4 incidence rates for endangerment standard maltreatment

	White vs Black	White vs Hispanic
All Maltreatment	3.7566 b	0.4516
All Abuse	4.3023 a	0.4587
Physical Abuse	5.5816 a	1.4127
Sexual Abuse	2.0913	1.3352
Emotional Abuse	1.2426	2.4793 c
All Neglect	3.0154 c	0.1854
Physical Neglect	2.3250 d	1.2978
Emotional Neglect	3.0322 c	0.5752
Educational Neglect	1.6497	0.8298
Severity, Fatal	0.3578	1.6225
Severity, Serious	3.5188 b	0.9241
Severity, Moderate	2.2218 d	0.1236
Severity, Inferred	1.8993	1.2130
Severity, Endangered	4.4439 a	0.6483

	Black vs Hispanic
All Maltreatment	3.2170 b
All Abuse	3.0005 c
Physical Abuse	3.3809 b
Sexual Abuse	0.8707
Emotional Abuse	2.6000 c
All Neglect	2.7944 c
Physical Neglect	3.2548 b
Emotional Neglect	2.0795
Educational Neglect	1.3275
Severity, Fatal	1.5801
Severity, Serious	2.5047 c
Severity, Moderate	2.1238
Severity, Inferred	2.6345 c
Severity, Endangered	3.1848 b

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-7. T-statistics for parent's employment differences in NIS-4 incidence rates for harm standard maltreatment

	Unemployed vs. Employed	Unemployed vs. Not in Labor Force
All Maltreatment	3.6061 b	0.4124
All Abuse	2.2080 d	0.8537
Physical Abuse	0.9290	1.0698
Sexual Abuse	0.7927	1.5121
Emotional Abuse	2.1761	0.5757
All Neglect	3.5320 b	0.9593
Physical Neglect	3.8066 a	1.0892
Emotional Neglect	2.9245 c	0.3966
Educational Neglect	2.1677	1.3041
Severity, Fatal	0.6202	0.7442
Severity, Serious	4.3437 a	0.0623
Severity, Moderate	2.3859 d	0.9581
Severity, Inferred	2.0169	1.1914
	Employed vs. Not in Labor Force	
All Maltreatment	3.6025 b	
All Abuse	2.2843 d	
Physical Abuse	1.8036	
Sexual Abuse	1.7984	
Emotional Abuse	1.9381	
All Neglect	4.3299 a	
Physical Neglect	2.6437 c	
Emotional Neglect	2.3346 d	
Educational Neglect	2.5135 c	
Severity, Fatal	0.5800	
Severity, Serious	3.6831 b	
Severity, Moderate	2.0967	
Severity, Inferred	2.3783 d	

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-8. T-statistics for parent's employment differences in NIS-4 incidence rates for endnegement standard maltreatment

	Unemployed vs. Employed	Unemployed vs. Not in Labor Force
All Maltreatment	5.1419 a	0.5020
All Abuse	2.1886 d	1.0845
Physical Abuse	1.2894	0.9411
Sexual Abuse	0.4067	1.9515
Emotional Abuse	2.5296 c	0.3375
All Neglect	5.4227 a	1.0127
Physical Neglect	4.8586 a	1.5728
Emotional Neglect	4.1212 a	0.8165
Educational Neglect	2.1677	1.3041
Severity, Fatal	0.6202	0.7442
Severity, Serious	4.4786 a	0.0752
Severity, Moderate	3.1985 b	0.7890
Severity, Inferred	2.0999	0.6038
Severity, Endangered	3.6935 b	0.4785

	Employed vs. Not in Labor Force
All Maltreatment	5.8827 a
All Abuse	3.2502 b
Physical Abuse	2.0576
Sexual Abuse	2.1461
Emotional Abuse	2.9127 c
All Neglect	6.4676 a
Physical Neglect	5.2060 a
Emotional Neglect	5.3284 a
Educational Neglect	2.5135 c
Severity, Fatal	0.5800
Severity, Serious	3.7186 b
Severity, Moderate	3.2986 b
Severity, Inferred	3.5169 b
Severity, Endangered	6.0344 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-9. T-statistics for family socioeconomic status (SES) differences in NIS-4 incidence rates for harm standard maltreatment

	T-Value
All Maltreatment	5.9930 a
All Abuse	7.6369 a
Physical Abuse	5.6934 a
Sexual Abuse	5.0618 a
Emotional Abuse	4.8584 a
All Neglect	4.9521 a
Physical Neglect	5.6671 a
Emotional Neglect	5.3720 a
Educational Neglect	2.4770 b
Severity, Fatal	2.7786 b
Severity, Serious	6.9799 a
Severity, Moderate	4.2933 a
Severity, Inferred	3.8010 a

Table D-10. T-statistics for family socioeconomic status (SES) differences in NIS-4 incidence rates for endangerment standard maltreatment

	T-Value
All Maltreatment	9.6581 a
All Abuse	7.8315 a
Physical Abuse	6.3146 a
Sexual Abuse	5.7398 a
Emotional Abuse	6.6428 a
All Neglect	9.3246 a
Physical Neglect	8.4025 a
Emotional Neglect	8.6316 a
Educational Neglect	2.4770 b
Severity, Fatal	2.7786 b
Severity, Serious	7.1004 a
Severity, Moderate	6.7269 a
Severity, Inferred	5.9963 a
Severity, Endangered	8.1975 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-11. T-statistics for family structure and living arrangement differences in NIS-4 incidence rates for harm standard maltreatment

	Married Parents, Both Biological vs Other Married Parents	Married Parents, Both Biological vs Unmarried Parents	Married Parents, Both Biological vs Single Parent W/Partner
All Maltreatment	6.6381 a	4.5923 a	5.8969 a
All Abuse	8.0604 a	4.1706 b	5.7855 a
Physical Abuse	6.8713 a	4.7495 a	6.1892 a
Sexual Abuse	6.4771 a	1.5258	3.6610 b
Emotional Abuse	4.1060 b	1.9963	3.2400 c
All Neglect	2.8466 d	3.0238 d	3.7784 b
Physical Neglect	1.5556	3.2214 c	3.1323 c
Emotional Neglect	3.8159 b	2.2141	3.2808 c
Educational Neglect	1.3612	1.4022	2.2584
Severity, Fatal	0.9368	1.8568	0.8321
Severity, Serious	5.4194 a	5.7267 a	4.5319 a
Severity, Moderate	4.8081 a	3.0621 c	4.9443 a
Severity, Inferred	5.3675 a	4.3906 a	3.6041 b
	Married Parents, Both Biological vs Single Parent, No Partner	Married Parents, Both Biological vs Neither Parent	
All Maltreatment	5.9256 a	4.2129 b	
All Abuse	5.5452 a	4.9286 a	
Physical Abuse	5.3388 a	4.7808 a	
Sexual Abuse	5.4659 a	4.7456 a	
Emotional Abuse	3.6702 b	1.9241	
All Neglect	5.0879 a	2.8861 d	
Physical Neglect	4.5401 a	3.1809 c	
Emotional Neglect	6.2012 a	2.3144	
Educational Neglect	3.3538 c	2.2513	
Severity, Fatal	0.7556	1.1940	
Severity, Serious	6.1047 a	3.2202 c	
Severity, Moderate	4.6509 a	4.0218 b	
Severity, Inferred	6.8590 a	4.0344 b	

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-11. Continued

	Other Married Parents vs Unmarried Parents	Other Married Parents vs Single Parent W/Partner	Other Married Parents vs Single Parent, No Partner
All Maltreatment	0.2276	3.6895 b	0.9132
All Abuse	1.8839	2.9005 d	3.3685 c
Physical Abuse	0.8877	3.1826 c	2.9445 d
Sexual Abuse	1.4052	2.1473	2.8313 d
Emotional Abuse	1.9300	1.3069	1.8306
All Neglect	1.0647	2.8529 d	3.0646 c
Physical Neglect	1.9426	2.3480	2.5756
Emotional Neglect	0.1097	2.2044	1.0053
Educational Neglect	0.2055	1.8433	2.4855
Severity, Fatal	1.0720	0.5128	0.5696
Severity, Serious	0.6724	2.8149 d	1.4973
Severity, Moderate	0.7876	3.1570 c	0.3983
Severity, Inferred	0.4025	1.8467	0.2180

	Other Married Parents vs Neither Parent
All Maltreatment	1.3030
All Abuse	0.6843
Physical Abuse	1.9819
Sexual Abuse	0.8793
Emotional Abuse	0.4925
All Neglect	1.9187
Physical Neglect	2.4320
Emotional Neglect	0.4606
Educational Neglect	1.6070
Severity, Fatal	1.3051
Severity, Serious	0.7829
Severity, Moderate	1.2134
Severity, Inferred	1.9726

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-11. Continued

	Unmarried Parents vs Single Parent W/Partner	Unmarried Parents vs Single Parent, No Partner	Unmarried Parents vs Neither Parent
All Maltreatment	3.6610 b	0.9911	1.3605
All Abuse	3.7481 b	0.7903	0.9635
Physical Abuse	3.5942 b	1.5793	0.8703
Sexual Abuse	2.6532	0.0150	1.8426
Emotional Abuse	2.3718	0.4175	0.8338
All Neglect	2.1849	1.7427	1.2577
Physical Neglect	0.9256	0.1294	1.0573
Emotional Neglect	1.9995	0.5268	0.3031
Educational Neglect	1.5965	1.8479	1.2288
Severity, Fatal	1.3915	1.4185	1.7438
Severity, Serious	2.2215	0.4400	0.1951
Severity, Moderate	3.4410 c	1.0858	1.6938
Severity, Inferred	1.9164	0.5634	2.0154

	Single Parent W/Partner vs Single Parent, No Partner	Single Parent W/Partner vs Neither Parent
All Maltreatment	3.1194 c	2.2783
All Abuse	4.3113 a	3.1220 c
Physical Abuse	4.6541 a	4.2168 b
Sexual Abuse	2.9054 d	1.6818
Emotional Abuse	2.2763	1.4927
All Neglect	1.1083	0.8015
Physical Neglect	0.9048	0.1367
Emotional Neglect	1.8999	1.7444
Educational Neglect	0.3789	0.6435
Severity, Fatal	0.0975	1.7960
Severity, Serious	2.0981	1.9461
Severity, Moderate	2.9136 d	2.1182
Severity, Inferred	1.7890	0.0962

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-11. Continued

	Single Parent, No Partner vs Neither Parent
All Maltreatment	0.6648
All Abuse	1.8574
Physical Abuse	0.7529
Sexual Abuse	2.7379
Emotional Abuse	0.6484
All Neglect	0.1324
Physical Neglect	1.0441
Emotional Neglect	0.0902
Educational Neglect	0.4009
Severity, Fatal	1.7812
Severity, Serious	0.1514
Severity, Moderate	0.8869
Severity, Inferred	1.9134

Table D-12. T-statistics for family structure and living arrangement differences in NIS-4 incidence rates for endangerment standard maltreatment

	Married Parents, Both Biological vs Other Married Parents	Married Parents, Both Biological vs Unmarried Parents	Married Parents, Both Biological vs Single Parent W/Partner
All Maltreatment	6.6306 a	8.2685 a	6.9701 a
All Abuse	9.4118 a	4.9368 a	7.4925 a
Physical Abuse	8.0683 a	5.4037 a	7.9019 a
Sexual Abuse	7.2208 a	1.9300	4.4521 a
Emotional Abuse	4.1852 b	2.7270	4.8431 a
All Neglect	4.1711 b	7.5359 a	6.5555 a
Physical Neglect	3.5508 c	5.7260 a	5.2368 a
Emotional Neglect	4.2143 b	7.5257 a	6.5754 a
Educational Neglect	1.3612	0.9543	2.2584
Severity, Fatal	0.9368	1.5858	0.8321
Severity, Serious	5.5188 a	3.9240 b	4.7321 a
Severity, Moderate	5.0418 a	3.9341 b	4.7918 a
Severity, Inferred	5.9636 a	2.9491 d	6.7689 a
Severity, Endangered	4.1257 b	8.1040 a	6.9261 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-12. Continued

	Married Parents, Both Biological vs Single Parent, No Partner	Married Parents, Both Biological vs Neither Parent
All Maltreatment	6.5623 a	6.6794 a
All Abuse	6.1203 a	5.8391 a
Physical Abuse	7.3688 a	6.0692 a
Sexual Abuse	7.0136 a	4.8951 a
Emotional Abuse	3.9688 b	2.7868
All Neglect	6.6924 a	5.0798 a
Physical Neglect	6.4291 a	4.9037 a
Emotional Neglect	6.0106 a	3.9865 b
Educational Neglect	3.3538 c	2.2513
Severity, Fatal	0.8137	1.1940
Severity, Serious	6.2326 a	3.1747 c
Severity, Moderate	5.2340 a	5.4347 a
Severity, Inferred	5.5748 a	5.7047 a
Severity, Endangered	5.7035 a	5.8630 a

	Other Married Parents		
	Other Married Parents vs Unmarried Parents	vs Single Parent W/Partner	Other Married Parents vs Single Parent, No Partner
All Maltreatment	3.6976 b	4.7129 a	1.6240
All Abuse	0.8038	3.4552 c	3.3375 c
Physical Abuse	0.7302	3.2124 c	3.6038 b
Sexual Abuse	1.5711	2.4843	2.8157 d
Emotional Abuse	0.0561	2.0366	1.4475
All Neglect	4.2853 a	4.6980 a	2.3697
Physical Neglect	3.8310 b	3.9907 b	3.4495 c
Emotional Neglect	4.0127 b	4.6941 a	0.6522
Educational Neglect	0.2055	1.8433	2.4855
Severity, Fatal	1.0720	0.5128	0.5437
Severity, Serious	0.7738	2.9378 d	1.5408
Severity, Moderate	0.2039	3.4907 c	1.4515
Severity, Inferred	1.0296	3.1506 c	0.0528
Severity, Endangered	4.9973 a	4.5874 a	1.4263

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-12. Continued

	Other Married Parents vs Neither Parent		
All Maltreatment	1.6125		
All Abuse	0.6266		
Physical Abuse	2.3103		
Sexual Abuse	0.5894		
Emotional Abuse	0.0848		
All Neglect	1.7335		
Physical Neglect	2.7080		
Emotional Neglect	0.2539		
Educational Neglect	1.6070		
Severity, Fatal	1.3051		
Severity, Serious	0.7594		
Severity, Moderate	2.8197 d		
Severity, Inferred	0.2033		
Severity, Endangered	0.5739		

	Unmarried Parents vs Single Parent W/Partner	Unmarried Parents vs Single Parent, No Partner	Unmarried Parents vs Neither Parent
All Maltreatment	2.4455	1.9599	2.0130
All Abuse	3.6347 b	1.5369	0.1993
Physical Abuse	3.5251 c	2.0774	1.1882
Sexual Abuse	3.0850 c	0.1311	1.7732
Emotional Abuse	1.6826	1.0633	0.1185
All Neglect	1.6898	2.3030	2.4177
Physical Neglect	1.0860	1.2265	1.2458
Emotional Neglect	1.9895	3.7240 b	4.2445 b
Educational Neglect	1.5965	1.8479	1.2288
Severity, Fatal	1.3915	1.4065	1.7438
Severity, Serious	2.2665	0.3807	0.1185
Severity, Moderate	3.3320 c	1.0951	2.4775
Severity, Inferred	0.8627	1.0469	0.9315
Severity, Endangered	0.3550	3.8642 b	5.8304 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-12. Continued

	Single Parent W/Partner vs Single Parent, No Partner	Single Parent W/Partner vs Neither Parent
All Maltreatment	3.7141 b	3.7486 b
All Abuse	5.1568 a	3.6033 b
Physical Abuse	5.5595 a	4.7707 a
Sexual Abuse	3.3613 c	2.0658
Emotional Abuse	3.1648 c	1.8602
All Neglect	3.3831 c	3.4620 c
Physical Neglect	2.1132	2.1040
Emotional Neglect	4.4834 a	4.8344 a
Educational Neglect	0.3789	0.6435
Severity, Fatal	0.0487	1.7960
Severity, Serious	2.1812	2.0163
Severity, Moderate	2.8338 d	1.7936
Severity, Inferred	3.1457 c	2.9406 d
Severity, Endangered	3.6560 b	5.1694 a

	Single Parent, No Partner vs Neither Parent
All Maltreatment	0.0342
All Abuse	1.9436
Physical Abuse	1.0776
Sexual Abuse	2.4204
Emotional Abuse	0.9808
All Neglect	0.3375
Physical Neglect	0.1483
Emotional Neglect	0.9411
Educational Neglect	0.4009
Severity, Fatal	1.8524
Severity, Serious	0.1809
Severity, Moderate	1.6069
Severity, Inferred	0.2484
Severity, Endangered	2.2527

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-13. T-statistics for grandparents as caregivers in NIS-4 incidence rates for harm standard maltreatment

	T-Value
All Maltreatment	0.3791
All Abuse	1.4628 d
Physical Abuse	2.7907 b
Sexual Abuse	0.7482
Emotional Abuse	0.2807
All Neglect	0.2575
Physical Neglect	0.9764
Emotional Neglect	0.9828
Educational Neglect	0.1716
Severity, Fatal	0.7679
Severity, Serious	0.2661
Severity, Moderate	0.9065
Severity, Inferred	0.8031

Table D-14. T-statistics for grandparents as caregivers in NIS-4 incidence rates for endangerment standard maltreatment

	T-Value
All Maltreatment	0.8596
All Abuse	0.6281
Physical Abuse	1.5034 d
Sexual Abuse	0.4697
Emotional Abuse	0.4180
All Neglect	0.6500
Physical Neglect	0.4900
Emotional Neglect	0.4581
Educational Neglect	0.1716
Severity, Fatal	0.7679
Severity, Serious	0.1724
Severity, Moderate	0.0861
Severity, Inferred	1.4559 d
Severity, Endangered	1.8846 c

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-15. T-statistics for family size differences in NIS-4 incidence rates for harm standard maltreatment

	One Child vs Two Children	One Child vs Three Children
All Maltreatment	2.5762 d	0.8134
All Abuse	1.2315	0.0823
Physical Abuse	2.1332	1.1094
Sexual Abuse	0.1420	0.2235
Emotional Abuse	0.6019	1.6190
All Neglect	2.4527	0.8697
Physical Neglect	1.2976	1.6539
Emotional Neglect	2.2999	0.8544
Educational Neglect	2.3498	0.2862
Severity, Fatal	0.1314	0.4295
Severity, Serious	1.7773	0.9084
Severity, Moderate	2.5704 d	0.2791
Severity, Inferred	0.9415	1.8088

	One Child vs Four or More Children
All Maltreatment	0.9628
All Abuse	0.8939
Physical Abuse	0.1359
Sexual Abuse	0.1393
Emotional Abuse	1.6700
All Neglect	0.9025
Physical Neglect	1.1557
Emotional Neglect	0.2787
Educational Neglect	0.4541
Severity, Fatal	0.0390
Severity, Serious	0.5105
Severity, Moderate	1.0339
Severity, Inferred	0.0970

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-15. Continued

	Two Children vs Three Children	Two Children vs Four or more children
All Maltreatment	1.8034	3.1534 c
All Abuse	0.9962	1.9033
Physical Abuse	1.0530	2.4974 d
Sexual Abuse	0.2841	0.2212
Emotional Abuse	1.2828	1.3529
All Neglect	1.7063	2.9064 c
Physical Neglect	0.6153	2.2354
Emotional Neglect	1.5654	1.5572
Educational Neglect	1.8622	1.8557
Severity, Fatal	0.4120	0.1030
Severity, Serious	1.5933	2.5097 d
Severity, Moderate	1.7441	2.5827 d
Severity, Inferred	0.6134	0.6350

	Three Children vs Four or more children
All Maltreatment	1.6856
All Abuse	0.8675
Physical Abuse	1.3487
Sexual Abuse	0.0817
Emotional Abuse	0.1145
All Neglect	1.6596
Physical Neglect	2.4838 d
Emotional Neglect	0.4105
Educational Neglect	0.6394
Severity, Fatal	0.4419
Severity, Serious	1.5970
Severity, Moderate	1.1520
Severity, Inferred	1.2002

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-16. T-statistics for family size differences in NIS-4 incidence rates for endangerment standard maltreatment

	One Child vs Two Children	One Child vs Three Children
All Maltreatment	1.6074	0.2400
All Abuse	0.9913	1.0749
Physical Abuse	1.8811	0.1076
Sexual Abuse	0.0097	0.8059
Emotional Abuse	1.3148	2.2162
All Neglect	1.6778	0.5155
Physical Neglect	1.3385	0.6389
Emotional Neglect	1.2394	1.3379
Educational Neglect	2.3498	0.2862
Severity, Fatal	0.1314	0.4295
Severity, Serious	1.7785	0.8923
Severity, Moderate	2.6311 d	0.2912
Severity, Inferred	1.1267	0.6438
Severity, Endangered	0.5330	1.4640

	One Child vs Four or More Children
All Maltreatment	3.3544 b
All Abuse	2.0482
Physical Abuse	1.1857
Sexual Abuse	0.0761
Emotional Abuse	2.7473 c
All Neglect	3.6960 b
Physical Neglect	4.6351 a
Emotional Neglect	3.4023 b
Educational Neglect	0.4541
Severity, Fatal	0.0390
Severity, Serious	0.6119
Severity, Moderate	1.3361
Severity, Inferred	1.2303
Severity, Endangered	4.6275 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-16. Continued

	Two Children vs Three Children	Two Children vs Four or more children
All Maltreatment	2.6932 d	5.8943 a
All Abuse	1.8130	2.6815 d
Physical Abuse	2.1041	2.7561 c
Sexual Abuse	0.6499	0.0494
Emotional Abuse	1.5495	2.1076
All Neglect	3.0450 c	6.1261 a
Physical Neglect	2.4745 d	6.6065 a
Emotional Neglect	3.5237 b	4.8745 a
Educational Neglect	1.8622	1.8557
Severity, Fatal	0.4120	0.1030
Severity, Serious	1.6175	2.6361 d
Severity, Moderate	1.8092	3.0045 c
Severity, Inferred	1.0594	2.8481 c
Severity, Endangered	3.1429 c	5.8166 a

	Three Children vs Four or more children
All Maltreatment	3.7575 b
All Abuse	0.9339
Physical Abuse	1.1431
Sexual Abuse	0.7424
Emotional Abuse	0.4894
All Neglect	3.6901 b
Physical Neglect	4.3765 a
Emotional Neglect	2.6497 d
Educational Neglect	0.6394
Severity, Fatal	0.4419
Severity, Serious	1.7083
Severity, Moderate	1.4539
Severity, Inferred	2.3279
Severity, Endangered	4.1647 a

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-17. T-statistics for metrostatus differences in NIS-4 incidence rates for harm standard maltreatment

	Major Urban vs Urban	Major Urban vs Rural
All Maltreatment	0.7036	2.0816
All Abuse	0.9546	2.4701 c
Physical Abuse	0.9390	1.8431
Sexual Abuse	0.8283	2.2014 d
Emotional Abuse	1.9516	2.4710 c
All Neglect	0.5685	1.8187
Physical Neglect	0.1229	1.9538
Emotional Neglect	1.6527	2.4202 d
Educational Neglect	0.4002	1.4347
Severity, Fatal	0.0620	3.2000 b
Severity, Serious	0.7686	2.3766 d
Severity, Moderate	0.6267	1.8410
Severity, Inferred	0.0088	1.1767

	Urban vs Rural
All Maltreatment	1.7503
All Abuse	1.5364
Physical Abuse	0.9583
Sexual Abuse	3.0497 c
Emotional Abuse	0.8642
All Neglect	1.6310
Physical Neglect	2.0776
Emotional Neglect	1.2778
Educational Neglect	1.3430
Severity, Fatal	2.0352
Severity, Serious	1.8440
Severity, Moderate	1.6061
Severity, Inferred	1.1694

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-18. T-statistics for metrostatus differences in NIS-4 incidence rates for endangerment standard maltreatment

	Major Urban vs Urban	Major Urban vs Rural
All Maltreatment	1.0262	2.9596 c
All Abuse	1.0882	2.8001 c
Physical Abuse	1.0654	2.2983 d
Sexual Abuse	0.0692	2.3173 d
Emotional Abuse	1.8205	2.5537 c
All Neglect	1.1877	2.9492 c
Physical Neglect	0.9259	3.2789 b
Emotional Neglect	1.6307	3.2299 b
Educational Neglect	0.4002	1.4347
Severity, Fatal	0.1240	3.3000 b
Severity, Serious	0.7655	2.3187 d
Severity, Moderate	0.8433	2.5619 c
Severity, Inferred	1.2991	2.9181 c
Severity, Endangered	1.0328	2.4914 c

	Urban vs Rural
All Maltreatment	2.3140 d
All Abuse	1.7207
Physical Abuse	1.0625
Sexual Abuse	2.2302 d
Emotional Abuse	1.3361
All Neglect	2.3148 d
Physical Neglect	2.7897 c
Emotional Neglect	2.1437
Educational Neglect	1.3430
Severity, Fatal	2.0352
Severity, Serious	1.7793
Severity, Moderate	2.1651
Severity, Inferred	1.7412
Severity, Endangered	1.8932

Alpha Levels

a: 0.001

b: 0.010

c: 0.050

d: 0.100

Table D-19. Chi-squared Results for Perpetrator's Relationship to Child and Severity of Harm by the Category of Maltreatment

Category	Percent of Children in Row with Injury/Impairment.....			Chi-square	
	Fatal/Serious	Moderate	Inferred	Value	Probability
ABUSE:	26%	66%	8%	45.59	<.001
Biological Parents	25%	71%	4%		
Nonbiological Parents and Partners	29%	62%	9%		
Others	28%	48%	24%		
Physical Abuse:	22%	78%	+	5.304	0.062
Biological Parents	22%	78%	+		
Nonbiological Parents and Partners	17%	83%	+		
Others	31%	69%	+		
Sexual Abuse:	33%	35%	32%	2.974	0.342
Biological Parents	38%	38%	24%		
Nonbiological Parents and Partners	32%	37%	31%		
Others	30%	30%	40%		
Emotional Abuse:	30%	69%	1%	**	
Biological Parents	27%	72%	1%		
Nonbiological Parents and Partners	41%	57%	2%		
Others	27%	73%	0%		
NEGLECT:	50%	46%	4%	1.125	0.549
Biological Parents	49%	47%	4%		
Nonbiological Parents and Partners	53%	41%	6%		
Others	^	^	^		
Physical Neglect:	64%	25%	11%	0.825	0.58
Biological Parents	63%	26%	11%		
Nonbiological Parents and Partners	69%	18%	13%		
Others	^	^	^		
Emotional Neglect:	92%	8%	+	0.598	0.439
Biological Parents	93%	7%	+		
Nonbiological Parents and Partners	86%	14%	+		
Others	^	^	^		
Educational Neglect:	17%	83%	+	6.892	0.009
Biological Parents	18%	82%	+		
Nonbiological Parents and Partners	6%	94%	+		
Others	^	^	^		
ALL MALTREATMENT:	39%	55%	6%	50.305	<.001
Biological Parents	41%	55%	4%		
Nonbiological Parents and Partners	34%	58%	8%		
Others	26%	50%	24%		

+ This severity level not applicable for this form of maltreatment.

** Chi-square could not be calculated due to low cell numbers

Table D-20. Chi-squared Results for Perpetrator's Sex and Perpetrator's Relationship to Child

Category	Percent of Children in Row with Perpetrator whose Sex was.....			Chi-Square			
	Male	Female	Unknown	Male		Female	
				Value	Prob	Value	Prob
ABUSE:	62%	41%	1%	54.909	<.001	66.039	<.001
Biological Parents	54%	51%	0%				
Nonbiological Parents and Partners	79%	26%	1%				
Others	74%	21%	6%				
Physical Abuse:	54%	50%	0%	31.356	<.001	43.302	<.001
Biological Parents	48%	56%	0%				
Nonbiological Parents and Partners	74%	29%	1%				
Others	56%	43%	1%				
Sexual Abuse:	87%	11%	5%	4.756	0.051	11.078	0.001
Biological Parents	80%	22%	2%				
Nonbiological Parents and Partners	97%	3%	0%				
Others	86%	6%	10%				
Emotional Abuse:	60%	50%	0%	4.761	0.075	1.362	0.407
Biological Parents	56%	53%	0%				
Nonbiological Parents and Partners	76%	41%	0%				
Others	60%	42%	0%				
NEGLECT:	38%	86%	2%	0.115	0.734	0.614	0.433
Biological Parents	38%	86%	2%				
Nonbiological Parents and Partners	40%	83%	5%				
Others	^	^	^				
Physical Neglect:	39%	87%	2%	0.249	0.618	1.216	0.27
Biological Parents	38%	88%	2%				
Nonbiological Parents and Partners	45%	81%	1%				
Others	^	^	^				
Emotional Neglect:	41%	80%	0%	0.521	0.47	0.808	0.369
Biological Parents	40%	79%	0%				
Nonbiological Parents and Partners	51%	85%	0%				
Others	^	^	^				
Educational Neglect:	36%	89%	3%	0.188	0.665	0.338	0.561
Biological Parents	36%	89%	2%				
Nonbiological Parents and Partners	30%	84%	12%				
Others	^	^	^				
ALL MALTREATMENT:	48%	68%	2%	60.063	<.001	91.863	<.001
Biological Parents	43%	75%	1%				
Nonbiological Parents and Partners	64%	48%	2%				
Others	75%	20%	6%				

Table D-21. Chi-squared Results for Perpetrator's Sex by Severity of Harm and Perpetrator's Relationship to Child

Category	Children in Maltreatment Category	Total Maltreated Children	with Perpetrator whose Sex was.....			Chi-Square			
			Male	Female	Unknown	Male		Female	
						Value	Prob	Value	Prob
FATAL or SERIOUS	100%	490,300	48%	70%	2%	12.733	0.002	25.258	<.001
Biological Parents	85%	415,300	45%	75%	2%				
Nonbiological Parents and Partners	11%	52,700	61%	59%	2%				
Others	5%	22,300	80%	15%	7%				
MODERATE	100%	694,700	45%	70%	2%	25.763	<.001	69.67	<.001
Biological Parents	81%	562,200	41%	76%	1%				
Nonbiological Parents and Partners	13%	90,200	62%	45%	3%				
Others	6%	42,300	63%	32%	7%				
INFERRED	100%	71,500	64%	41%	1%	34.311	<.001	40.406	<.001
Biological Parents	53%	38,000	40%	68%	0%				
Nonbiological Parents and Partners	18%	13,000	86%	24%	0%				
Others	29%	20,500	93%	3%	4%				
ALL MALTREATMENT:	100%	1,256,600	48%	68%	2%	60.063	<.001	91.863	<.001
Biological Parents	81%	1,015,600	43%	75%	1%				
Nonbiological Parents and Partners	12%	155,900	64%	48%	2%				
Others	7%	85,100	75%	20%	6%				

Table D-22. Chi-squared Results for Perpetrator's Age by Type of Maltreatment and Perpetrator's Relationship to Child

Category	Percent of Children in Row with Perpetrator Whose Age was.....				Chi-Square					
					< 26 Years		26 - 35 Years		> 35 Years	
	< 26 Years	26 - 35 Years	> 35 Years	Unknown	Value	Probability	Value	Probability	Value	Probability
ABUSE:	12%	33%	37%	18%	57.511	<.001	14.448	0.001	22.504	<.001
Biological Parents	9%	36%	37%	19%						
Nonbiological Parents and Partners	6%	36%	51%	7%						
Others	35%	17%	24%	25%						
Physical Abuse:	13%	34%	36%	17%	21.723	<.001	5.093	0.073	25.876	<.001
Biological Parents	11%	35%	35%	19%						
Nonbiological Parents and Partners	7%	35%	50%	8%						
Others	40%	21%	18%	22%						
Sexual Abuse:	15%	27%	32%	27%	36.238	<.001	5.489	0.045	5.117	0.051
Biological Parents	5%	35%	25%	35%						
Nonbiological Parents and Partners	4%	36%	48%	11%						
Others	30%	14%	29%	29%						
Emotional Abuse:	7%	36%	47%	10%	10.094	0.002	1.842	0.317	12.233	0.002
Biological Parents	5%	39%	47%	10%						
Nonbiological Parents and Partners	3%	31%	62%	3%						
Others	36%	21%	13%	30%						
NEGLECT:	9%	37%	38%	18%	16.457	<.001	26.852	<.001	28.939	<.001
Biological Parents	10%	40%	36%	18%						
Nonbiological Parents and Partners	2%	8%	66%	25%						
Others	^	^	^	^						
Physical Neglect:	15%	35%	35%	18%	9.286	0.002	11.61	0.001	19.366	<.001
Biological Parents	16%	38%	31%	18%						
Nonbiological Parents and Partners	2%	4%	81%	14%						
Others	^	^	^	^						
Emotional Neglect:	8%	36%	46%	13%	3.02	0.082	3.793	0.051	4.126	0.042
Biological Parents	8%	38%	44%	13%						
Nonbiological Parents and Partners	3%	18%	68%	13%						
Others	^	^	^	^						
Educational Neglect:	5%	39%	39%	20%	**		22.714	<.001	3.308	0.069
Biological Parents	6%	42%	38%	18%						
Nonbiological Parents and Partners	0%	3%	55%	42%						
Others	^	^	^	^						
ALL MALTREATMENT:	11%	35%	38%	18%	49.575	<.001	20.149	<.001	43.31	<.001
Biological Parents	10%	39%	36%	18%						
Nonbiological Parents and Partners	4%	25%	57%	15%						
Others	34%	18%	24%	25%						

** Chi-square could not be calculated due to low cell numbers

Table D-23. Chi-squared Results for Perpetrator's Age by Severity of Harm and Perpetrator's Relationship to Child

Category	Percent of Children in Row with Perpetrator Whose Age was.....				Chi-square					
					< 26 Years		26 - 35 Years		> 35 Years	
	< 26 Years	26 - 35 Years	> 35 Years	Unknown	Value	Prob	Value	Prob	Value	Prob
FATAL or SERIOUS	12%	35%	38%	17%	6.319	0.018	9.428	0.005	24.085	<.001
Biological Parents	12%	38%	36%	17%						
Nonbiological Parents and Partners	4%	20%	63%	14%						
Others	35%	15%	22%	30%						
MODERATE	9%	37%	37%	19%	29.193	<.001	15.828	<.001	23.803	<.001
Biological Parents	8%	40%	35%	19%						
Nonbiological Parents and Partners	3%	28%	53%	16%						
Others	35%	19%	21%	27%						
INFERRED	20%	24%	42%	15%	12.585	0.001	1.039	0.471	5.599	0.041
Biological Parents	19%	28%	38%	18%						
Nonbiological Parents and Partners	7%	22%	63%	8%						
Others	31%	20%	35%	15%						
ALL MALTREATMENT:	11%	35%	38%	18%	49.575	<.001	20.149	<.001	43.31	<.001
Biological Parents	10%	39%	36%	18%						
Nonbiological Parents and Partners	4%	25%	57%	15%						
Others	34%	18%	24%	25%						

Table D-24. Chi-squared Results for Child's Race by Type of Maltreatment and Perpetrator's Relationship to Child

Category	Percent of Children in Row with Race.....			Chi-square	
	White	Black	Hispanic	Value	Probability
ABUSE:	55%	24%	21%	3.708	0.333
Biological Parents	55%	23%	23%		
Nonbiological Parents and Partners	57%	22%	21%		
Others	53%	30%	16%		
Physical Abuse:	50%	26%	24%	4.959	0.235
Biological Parents	49%	25%	26%		
Nonbiological Parents and Partners	57%	25%	18%		
Others	45%	34%	20%		
Sexual Abuse:	51%	25%	24%	3.93	0.253
Biological Parents	47%	23%	30%		
Nonbiological Parents and Partners	50%	19%	31%		
Others	55%	30%	15%		
Emotional Abuse:	66%	19%	15%	0.943	0.825
Biological Parents	66%	19%	15%		
Nonbiological Parents and Partners	61%	19%	20%		
Others	73%	16%	11%		
NEGLECT:	53%	26%	20%	3.736	0.077
Biological Parents	54%	24%	21%		
Nonbiological Parents and Partners	40%	49%	11%		
Others	^	^	^		
Physical Neglect:	56%	25%	19%	5.567	0.032
Biological Parents	58%	22%	20%		
Nonbiological Parents and Partners	35%	53%	12%		
Others	^	^	^		
Emotional Neglect:	56%	25%	19%	3.439	0.092
Biological Parents	57%	22%	21%		
Nonbiological Parents and Partners	53%	46%	1%		
Others	^	^	^		
Educational Neglect:	50%	29%	21%	2.589	0.163
Biological Parents	52%	27%	22%		
Nonbiological Parents and Partners	29%	55%	16%		
Others	^	^	^		
ALL MALTREATMENT:	53%	26%	21%	3.45	0.322
Biological Parents	54%	24%	22%		
Nonbiological Parents and Partners	50%	32%	18%		
Others	55%	29%	16%		

Table D-25. Chi-squared Results for Perpetrator's Alcohol Use, Drug Use, and Mental Illness by Type of Maltreatment and

Perpetrator's Relationship to Child Category	% of Children in Row with Perpetrator where any of the following was a factor in maltreatment.....			Chi-Square					
				Alcohol Use		Drug Use		Mental Illness	
	Alcohol Use	Drug Use	Mental Illness	Value	Prob	Value	Prob	Value	Prob
ABUSE:	13%	9%	7%	7.927	0.014	1.97	0.317	3.739	0.151
Biological Parents	15%	10%	8%						
Nonbiological Parents and Partners	12%	10%	6%						
Others	6%	5%	5%						
Physical Abuse:	11%	7%	5%	6.669	0.025	2.814	0.186	0.526	0.762
Biological Parents	12%	7%	5%						
Nonbiological Parents and Partners	12%	8%	3%						
Others	3%	3%	5%						
Sexual Abuse:	8%	9%	5%	0.904	0.574	2.103	0.242	0.527	0.741
Biological Parents	10%	14%	3%						
Nonbiological Parents and Partners	10%	7%	5%						
Others	6%	6%	5%						
Emotional Abuse:	22%	17%	17%	2.831	0.221	0.204	0.758	5.069	0.052
Biological Parents	24%	17%	20%						
Nonbiological Parents and Partners	16%	18%	10%						
Others	11%	10%	4%						
NEGLECT:	12%	12%	8%	8.325	0.004	14.189	<.001	4.237	0.04
Biological Parents	13%	13%	8%						
Nonbiological Parents and Partners	4%	3%	4%						
Others	^	^	^						
Physical Neglect:	11%	15%	8%	7.542	0.006	9.362	0.002	0.579	0.447
Biological Parents	12%	16%	8%						
Nonbiological Parents and Partners	2%	1%	5%						
Others	^	^	^						
Emotional Neglect:	21%	20%	13%	5.854	0.016	7.695	0.006	6.488	0.011
Biological Parents	22%	21%	14%						
Nonbiological Parents and Partners	8%	7%	3%						
Others	^	^	^						
Educational Neglect:	10%	10%	6%	3.537	0.06	8.426	0.004	0.113	0.736
Biological Parents	11%	10%	6%						
Nonbiological Parents and Partners	3%	0%	5%						
Others	^	^	^						
ALL MALTREATMENT:	11%	11%	7%	10.235	0.005	6.157	0.031	5.144	0.072
Biological Parents	12%	12%	8%						
Nonbiological Parents and Partners	9%	7%	5%						
Others	6%	5%	5%						

Appendix E

Comparisons Between the NIS-3 and NIS-4

APPENDIX E

BETWEEN-STUDY ANALYSES

This appendix describes the analyses comparing the distribution of maltreatment in the NIS–4 with its distribution in the NIS–3 and NIS–2 across a number of subgroups defined by the characteristics of the child and family. This introduction describes the t-statistics and chi-squared tests used in the analyses. The tables that follow provide the results of all statistical tests that support the findings given in the *NIS–4 Report to Congress*.

To address the fact that the NIS–4 data derive from a complex sample design (stratified and multi-stage), all the computations were performed using WesVar (Westat, 2007).

Comparisons of Two Estimates. Comparisons of the differences between single estimates in two studies followed the same approach outlined in the introduction to Appendix D. That is, using the estimated rate in each study (r_1 and r_2) and the standard error of these rates (SE_{r1} and SE_{r2}) as computed by WesVar, the t-statistic was then calculated as follows:

$$t = \sqrt{\frac{r_1 - r_2}{SE_{r1}^2 + SE_{r2}^2}}$$

Analyses comparing single estimates from NIS–4 to a corresponding estimate from an earlier study used one-tailed tests of significance with 82 degrees of freedom for comparisons with NIS–3 and 89 degrees of freedom for comparisons with NIS–2.¹

Comparisons Involving More than Two Estimates. The chi-squared test was used to determine whether between-study changes in incidence rates differed for different subgroups. WesVar computes a chi-squared statistic that takes account of the complex sample design, the Rao-Scott approximation (RS3). This modified chi-squared statistic relies on modifying the Pearson chi-squared statistic using an estimated “design effect” (Rao & Scott, 1981, 1984) For the NIS–4 analyses, conclusions about the significance of between-study changes related to

¹ These degrees of freedom depend on the combined total number of replicate weights in each study analysis file.

specific characteristics used the RS3 probability levels, as recommended by the WesVar developers (Westat, 2007).

It should be noted that all statistics were calculated on measures of incidence rates, since the incidence rate measures took into account any differences in overall population size between the 1986 and 1993 studies and also equated the different comparison subgroups (e.g., different age groups, different income groups, etc.) for differences in their relative numbers in the general population.

References

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Table E-1a. T-statistics for comparisons between NIS-4 and NIS-3 incidence rates for Harm Standard maltreatment

	T-Value
All Maltreatment	1.5040 d
All Abuse	1.9247 c
Physical Abuse	1.3456 d
Sexual Abuse	2.0528 c
Emotional Abuse	1.6186 d
All Neglect	0.9491
Physical Neglect	0.8337
Emotional Neglect	0.7195
Educational Neglect	0.6374
Severity, Fatal	0.5981
Severity, Serious	1.0050
Severity, Moderate	1.2521
Severity, Inferred	3.3569 a

Table E-1b. T-statistics for comparisons between NIS-4 and NIS-2 incidence rates for Harm Standard maltreatment

	T-Value	
All Maltreatment	0.7999	
All Abuse	0.4722	
Physical Abuse	0.1880	
Sexual Abuse	0.1588	
Emotional Abuse	0.8042	
All Neglect	1.3411 d	
Physical Neglect	1.5915 d	
Emotional Neglect	5.2494 a	
Educational Neglect	0.2459	
Severity, Fatal	1.4710 d	
Severity, Serious	5.5393 a	
Severity, Moderate	0.7188	
Severity, Inferred	2.1268 c	
		Alpha Levels
		a: 0.001
		b: 0.010
		c: 0.050
		d: 0.100

Table E-2a. T-statistics for comparisons between NIS-4 and NIS-3 incidence rates for Endangerment Standard maltreatment

	T-Value
All Maltreatment	0.3648
All Abuse	2.2422 c
Physical Abuse	1.7573 c
Sexual Abuse	2.5479 b
Emotional Abuse	2.2202 c
All Neglect	0.2747
Physical Neglect	1.1901
Emotional Neglect	3.4514 a
Educational Neglect	0.6374
Severity, Fatal	0.5190
Severity, Serious	0.8789
Severity, Moderate	0.3076
Severity, Inferred	0.3827
Severity, Endangered	0.0785

Table E-2b. T-statistics for comparisons between NIS-4 and NIS-2 incidence rates for Endangerment Standard maltreatment

	T-Value	
All Maltreatment	3.7645 a	
All Abuse	1.4382 d	
Physical Abuse	2.3694 b	
Sexual Abuse	0.9600	
Emotional Abuse	1.5148 d	
All Neglect	4.5315 a	
Physical Neglect	4.2679 a	
Emotional Neglect	9.1051 a	
Educational Neglect	0.2459	
Severity, Fatal	1.4710 d	Alpha Levels
Severity, Serious	5.8110 a	a: 0.001
Severity, Moderate	0.0005	b: 0.010
Severity, Inferred	1.2021	c: 0.050
Severity, Endangered	7.0272 a	d: 0.100

Table E-3. Chi-squared tables for sex differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	Male	Female
NIS-3	21.7176	24.5058
NIS-4	16.0327	17.5222

Chi-Square	Value	Probability
RS3	0.115	0.734

All Abuse

	Male	Female
NIS-3	9.5062	12.6419
NIS-4	6.4617	8.4542

Chi-Square	Value	Probability
RS3	0.015	0.902

Physical Abuse

	Male	Female
NIS-3	5.7962	5.5581
NIS-4	4.5525	4.1342

Chi-Square	Value	Probability
RS3	0.123	0.726

Sexual Abuse

	Male	Female
NIS-3	1.6198	4.9401
NIS-4	0.647	3.0426

Chi-Square	Value	Probability
RS3	1.48	0.224

Table E-3. (Continued)

Emotional Abuse

	Male	Female
NIS-3	2.9343	3.0984
NIS-4	1.8546	2.105

Chi-Square	Value	Probability
RS3	0.135	0.714

All Neglect

	Male	Female
NIS-3	13.2562	12.8569
NIS-4	10.4114	10.0786

Chi-Square	Value	Probability
RS3	0	0.987

Physical Neglect

	Male	Female
NIS-3	5.4767	4.5338
NIS-4	3.7038	4.059

Chi-Square	Value	Probability
RS3	2.869	0.09

Educational Neglect

	Male	Female
NIS-3	5.4524	6.4074
NIS-4	4.9948	4.6924

Chi-Square	Value	Probability
RS3	0.771	0.38

Table E-3. (Continued)

Emotional Neglect

	Male	Female
NIS-3	3.5152	2.8068
NIS-4	2.7033	2.4381

Chi-Square	Value	Probability
RS3	0.417	0.518

Severity, Fatal

	Male	Female
NIS-3	0.0355	0.0093
NIS-4	0.0341	0.018

Chi-Square	Value	Probability
RS3	0.696	0.404

Severity, Serious

	Male	Female
NIS-3	9.2999	7.4566
NIS-4	6.2656	6.6188

Chi-Square	Value	Probability
RS3	4.488	0.034

Severity, Moderate

	Male	Female
NIS-3	11.2593	13.2685
NIS-4	9.172	9.524

Chi-Square	Value	Probability
RS3	0.758	0.384

Table E-3. (Continued)

Severity, Inferred

	Male	Female
NIS-3	1.123	3.7714
NIS-4	0.5609	1.3614

Chi-Square **Value** **Probability**
RS3 1.451 0.228

Table E-4. Chi-squared tables for age differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	10.0235	17.7842	33.0889	25.9334	29.5605	22.3213
NIS-4	8.5098	12.1195	17.5597	19.5014	21.2665	18.4845

Chi-Square **Value** **Probability**
RS3 6.489 0.196

All Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	4.3702	11.3934	13.77160	12.6607	13.7491	10.4114
NIS-4	3.6913	6.0802	8.7452	7.7084	9.1064	7.4706

Chi-Square **Value** **Probability**
RS3 3.664 0.456

Physical Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	3.2186	5.1694	8.0224	5.1463	7.3762	5.4834
NIS-4	2.4943	3.6383	5.4633	4.644	5.0063	4.3053

Chi-Square **Value** **Probability**
RS3 1.482 0.799

Table E-4. (Continued)

Sexual Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.7479	5.41	3.4906	4.1638	2.6423	2.6866
NIS-4	0.9965	1.7551	1.5756	1.4165	2.4026	1.5666

Chi-Square **Value** **Probability**
RS3 9.235 0.047

Emotional Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.4118	1.5573	4.492	4.1618	4.3614	3.335
NIS-4	0.3047	0.9799	2.6498	2.676	2.6869	2.3887

Chi-Square **Value** **Probability**
RS3 0.816 0.929

All Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	6.2175	6.7214	20.0468	14.9256	16.9314	13.7344
NIS-4	5.1244	6.4329	9.9239	12.6529	13.6708	12.2548

Chi-Square **Value** **Probability**
RS3 5.153 0.267

Physical Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	5.8495	4.9524	7.334	2.8378	5.0278	4.026
NIS-4	4.701	3.0429	4.0138	3.9574	3.9769	3.1776

Chi-Square **Value** **Probability**
RS3 2.752 0.519

Table E-4. (Continued)

Educational Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.0129	1.5818	10.3524	7.5058	9.5703	7.0824
NIS-4	0.0902	2.3082	4.8888	7.5185	7.3143	6.3989

Chi-Square **Value** **Probability**
RS3 4.827 0.249

Emotional Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.5308	0.3423	3.0406	5.0594	4.8918	4.9671
NIS-4	0.6203	1.2759	2.1405	2.9614	3.6899	4.083

Chi-Square **Value** **Probability**
RS3 8.47 0.078

Severity, Fatal

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.0998	0.0182	0.0010	0.0010	0.0040	0.0033
NIS-4	0.0996	0.007	0.003	0.0003	0.0085	0.0369

Chi-Square **Value** **Probability**
RS3 2.662 0.346

Severity, Serious

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	5.5981	5.5898	10.6477	8.8509	11.0197	8.5103
NIS-4	5.8716	4.2093	5.5639	6.7353	7.0619	7.6485

Chi-Square **Value** **Probability**
RS3 5.086 0.232

Table E-4. (Continued)

Severity, Moderate

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	3.0857	8.4486	20.2872	14.3890	16.2521	11.8417
NIS-4	1.8301	6.9845	11.4764	12.2422	12.5569	9.8314

Chi-Square **Value** **Probability**
RS3 3.902 0.397

Severity, Inferred

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	1.2398	3.7277	2.153	2.6926	2.2847	1.966
NIS-4	0.7085	0.9187	0.5163	0.5235	1.6393	0.9677

Chi-Square **Value** **Probability**
RS3 7.062 0.076

Table E-5. Chi-squared tables for racial/ethnic differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	White	Black	Hispanic
NIS-3	20.3861	31.6142	22.7932
NIS-4	12.5972	23.9673	14.1615

Chi-Square **Value** **Probability**
RS3 3.215 0.155

All Abuse

	White	Black	Hispanic
NIS-3	10.4829	12.5115	9.2021
NIS-4	5.9931	10.408	6.7126

Chi-Square **Value** **Probability**
RS3 8.313 0.013

Table E-5. (Continued)

Physical Abuse

	White	Black	Hispanic
NIS-3	5.1921	7.7663	4.7727
NIS-4	3.2415	6.626	4.4112

Chi-Square **Value** **Probability**
RS3 11.295 0.003

Sexual Abuse

	White	Black	Hispanic
NIS-3	3.1695	3.4404	2.7423
NIS-4	1.357	2.6064	1.8195

Chi-Square **Value** **Probability**
RS3 3.386 0.11

Emotional Abuse

	White	Black	Hispanic
NIS-3	3.0528	2.1558	2.4021
NIS-4	1.9513	2.2347	1.3213

Chi-Square **Value** **Probability**
RS3 1.652 0.415

All Neglect

	White	Black	Hispanic
NIS-3	10.91	19.6157	14.4904
NIS-4	7.4509	14.6542	8.2549

Chi-Square **Value** **Probability**
RS3 0.856 0.586

Table E-5. (Continued)

Physical Neglect

	White	Black	Hispanic
NIS-3	4.2788	7.5527	5.5276
NIS-4	2.7793	4.8304	2.7142

Chi-Square	Value	Probability
RS3	0.298	0.795

Educational Neglect

	White	Black	Hispanic
NIS-3	4.3713	10.5269	8.236
NIS-4	3.2644	7.4232	4.0012

Chi-Square	Value	Probability
RS3	0.055	0.968

Emotional Neglect

	White	Black	Hispanic
NIS-3	3.2655	2.9056	1.633
NIS-4	2.1975	3.7699	2.144

Chi-Square	Value	Probability
RS3	9.913	0.014

Severity, Fatal

	White	Black	Hispanic
NIS-3	0.0085	0.0439	0.0668
NIS-4	0.0188	0.0212	0.0504

Chi-Square	Value	Probability
RS3	0.454	0.635

Table E-5. (Continued)

Severity, Serious

	White	Black	Hispanic
NIS-3	8.0818	8.1558	7.5595
NIS-4	4.6388	8.7823	5.2474

Chi-Square **Value** **Probability**
RS3 8.353 0.012

Severity, Moderate

	White	Black	Hispanic
NIS-3	10.4633	18.5127	13.043
NIS-4	7.2193	13.6953	8.082

Chi-Square **Value** **Probability**
RS3 1.524 0.423

Severity, Inferred

	White	Black	Hispanic
NIS-3	1.8325	4.9017	2.1239
NIS-4	0.7203	1.4685	0.7817

Chi-Square **Value** **Probability**
RS3 0.842 0.48

Table E-6. Chi-squared tables for parent structure differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	One parent	Two parents
NIS-3	27.3301	15.5246
NIS-4	35.6348	9.5151

Chi-Square **Value** **Probability**
RS3 23.7940 < .001

All Abuse

	One parent	Two parents
NIS-3	11.3553	8.3999
NIS-4	13.8017	4.8413

Chi-Square **Value** **Probability**
RS3 16.732 < .001

Physical Abuse

	One parent	Two parents
NIS-3	6.8624	3.9473
NIS-4	7.8306	3.0067

Chi-Square **Value** **Probability**
RS3 3.159 0.076

Table E-6. (Continued)

Sexual Abuse

	One parent	Two parents
NIS-3	2.52	2.585
NIS-4	3.7505	0.9779

Chi-Square **Value** **Probability**
RS3 18.246 < .001

Emotional Abuse

	One parent	Two parents
NIS-3	2.5395	2.567
NIS-4	3.6365	1.3296

Chi-Square **Value** **Probability**
RS3 9.1390 0.003

All Neglect

	One parent	Two parents
NIS-3	17.3072	7.8943
NIS-4	23.4583	5.2713

Chi-Square **Value** **Probability**
RS3 10.882 0.001

Physical Neglect

	One parent	Two parents
NIS-3	5.8024	3.0628
NIS-4	8.257	2.2191

Chi-Square **Value** **Probability**
RS3 3.6100 0.057

Table E-6. (Continued)

Educational Neglect

	One parent	Two parents
NIS-3	9.6182	2.9744
NIS-4	11.5759	2.2869

Chi-Square	Value	Probability
RS3	1.9940	0.158

Emotional Neglect

	One parent	Two parents
NIS-3	4.047	2.3108
NIS-4	5.981	1.301

Chi-Square	Value	Probability
RS3	15.3250	< .001

Severity, Fatal

	One parent	Two parents
NIS-3	0.0153	0.0188
NIS-4	0.0348	0.033

Chi-Square	Value	Probability
RS3	0.035	0.852

Severity, Serious

	One parent	Two parents
NIS-3	10.4938	5.8375
NIS-4	14.0576	3.6781

Chi-Square	Value	Probability
RS3	21.334	< .001

Table E-6. (Continued)

Severity, Moderate

	One parent	Two parents
NIS-3	15.4035	8.0941
NIS-4	19.2029	5.438

Chi-Square **Value** **Probability**
RS3 7.118 0.008

Severity, Inferred

	One parent	Two parents
NIS-3	1.4174	1.5742
NIS-4	2.3395	0.366

Chi-Square **Value** **Probability**
RS3 35.627 < .001

Table E-7. Chi-squared tables for family size differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	1 child	2-3 children	4+ children
NIS-3	22.0419	17.7212	34.493
NIS-4	17.8936	13.3373	21.1682

Chi-Square **Value** **Probability**
RS3 2.667 0.175

All Abuse

	1 child	2-3 children	4+ children
NIS-3	10.5256	9.8783	13.9459
NIS-4	7.5602	6.7838	8.5067

Chi-Square **Value** **Probability**
RS3 0.705 0.597

Physical Abuse

	1 child	2-3 children	4+ children
NIS-3	5.0749	5.2443	6.3956
NIS-4	4.8693	3.6604	4.9694

Chi-Square **Value** **Probability**
RS3 3.078 0.182

Sexual Abuse

	1 child	2-3 children	4+ children
NIS-3	3.2461	2.5075	5.8092
NIS-4	1.8135	1.8150	1.7658

Chi-Square **Value** **Probability**
RS3 3.974 0.113

Table E-7. (Continued)

Emotional Abuse

	1 child	2-3 children	4+ children
NIS-3	3.2142	2.8111	3.4289
NIS-4	1.5188	1.9931	2.5326

Chi-Square **Value** **Probability**
RS3 1.535 0.463

All Neglect

	1 child	2-3 children	4+ children
NIS-3	12.5914	8.7718	21.5337
NIS-4	11.1338	7.4535	13.8355

Chi-Square **Value** **Probability**
RS3 2.496 0.23

Physical Neglect

	1 child	2-3 children	4+ children
NIS-3	4.4009	3.7806	9.0807
NIS-4	4.1646	2.8044	5.9267

Chi-Square **Value** **Probability**
RS3 1.249 0.472

Educational Neglect

	1 child	2-3 children	4+ children
NIS-3	5.9956	3.2463	9.2453
NIS-4	5.0851	3.2799	6.0409

Chi-Square **Value** **Probability**
RS3 2.044 0.32

Table E-7. (Continued)

Emotional Neglect

	1 child	2-3 children	4+ children
NIS-3	3.8984	2.4466	3.7148
NIS-4	3.2401	2.2149	3.021

Chi-Square **Value** **Probability**
RS3 0.097 0.941

Severity, Fatal

	1 child	2-3 children	4+ children
NIS-3	0.0193	0.024	0.0178
NIS-4	0.0271	0.0328	0.0282

Chi-Square **Value** **Probability**
RS3 0.009 0.989

Severity, Serious

	1 child	2-3 children	4+ children
NIS-3	8.1267	7.3463	9.8087
NIS-4	7.3789	5.2432	8.3618

Chi-Square **Value** **Probability**
RS3 1.379 0.477

Severity, Moderate

	1 child	2-3 children	4+ children
NIS-3	11.3981	8.8853	18.6431
NIS-4	9.3837	7.2382	11.7024

Chi-Square **Value** **Probability**
RS3 1.709 0.295

Table E-7. (Continued)

Severity, Inferred

	1 child	2-3 children	4+ children
NIS-3	2.4978	1.4657	6.0234
NIS-4	1.1039	0.8232	1.0758

Chi-Square **Value** **Probability**
RS3 7.201 0.019

Table E-8. Chi-squared tables for metrostatus differences between NIS-3 and NIS-4 incidence rates for harm standard maltreatment.

All Maltreatment

	Large Urban	Urban	Rural
NIS-3	14.0347	29.4356	28.2251
NIS-4	13.4005	15.1133	27.7245

Chi-Square **Value** **Probability**
RS3 1.582 0.399

All Abuse

	Large Urban	Urban	Rural
NIS-3	6.5753	14.55	12.9158
NIS-4	6.6216	7.0261	10.1343

Chi-Square **Value** **Probability**
RS3 2.131 0.318

Physical Abuse

	Large Urban	Urban	Rural
NIS-3	3.6356	7.2198	6.6172
NIS-4	4.1953	4.1332	5.2523

Chi-Square **Value** **Probability**
RS3 2.034 0.332

Table E-8. (Continued)

Sexual Abuse

	Large Urban	Urban	Rural
NIS-3	1.5309	4.4108	4.2202
NIS-4	1.7544	1.6036	2.4679

Chi-Square **Value** **Probability**
RS3 3.328 0.169

Emotional Abuse

	Large Urban	Urban	Rural
NIS-3	1.8654	4.2894	2.9466
NIS-4	1.2627	1.9563	3.5128

Chi-Square **Value** **Probability**
RS3 1.95 0.305

All Neglect

	Large Urban	Urban	Rural
NIS-3	8.1522	16.0605	16.6359
NIS-4	7.332	8.9914	19.2572

Chi-Square **Value** **Probability**
RS3 1.131 0.492

Physical Neglect

	Large Urban	Urban	Rural
NIS-3	3.2329	5.3045	7.824
NIS-4	3.6444	2.976	6.7857

Chi-Square **Value** **Probability**
RS3 0.613 0.68

Table E-8. (Continued)

Educational Neglect

	Large Urban	Urban	Rural
NIS-3	3.5911	8.1334	6.1405
NIS-4	2.516	4.5592	9.9216

Chi-Square **Value** **Probability**
RS3 2.099 0.278

Emotional Neglect

	Large Urban	Urban	Rural
NIS-3	2.2082	3.7338	3.8856
NIS-4	1.7101	2.2804	5.0063

Chi-Square **Value** **Probability**
RS3 1.065 0.497

Severity, Fatal

	Large Urban	Urban	Rural
NIS-3	0.0414	0.0168	.
NIS-4	0.0321	0.0469	0.0045

Chi-Square **Value** **Probability**
RS3 --- ---

Severity, Serious

	Large Urban	Urban	Rural
NIS-3	5.2336	9.7257	11.7588
NIS-4	5.58	5.489	10.8509

Chi-Square **Value** **Probability**
RS3 0.858 0.598

Table E-8. (Continued)

Severity, Moderate

	Large Urban	Urban	Rural
NIS-3	7.062	16.473	13.984
NIS-4	6.8467	8.6739	15.7065

Chi-Square **Value** **Probability**
RS3 1.854 0.343

Severity, Inferred

	Large Urban	Urban	Rural
NIS-3	1.6978	3.2201	2.4823
NIS-4	0.9417	0.9035	1.1626

Chi-Square **Value** **Probability**
RS3 1.509 0.45

Table E-9. Chi-squared tables for sex differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	Male	Female
NIS-3	40.0371	42.2621
NIS-4	36.6063	37.946

Chi-Square	Value	Probability
RS3	0.097	0.756

All Abuse

	Male	Female
NIS-3	16.131	20.2475
NIS-4	9.9654	12.0063

Chi-Square	Value	Probability
RS3	0.148	0.7

Physical Abuse

	Male	Female
NIS-3	9.2707	8.9806
NIS-4	6.6566	5.9264

Chi-Square	Value	Probability
RS3	0.459	0.498

Sexual Abuse

	Male	Female
NIS-3	2.278	6.7707
NIS-4	1.0483	3.844

Chi-Square	Value	Probability
RS3	0.552	0.458

Table E-9. (Continued)

Emotional Abuse

	Male	Female
NIS-3	8.0392	7.6937
NIS-4	3.8567	3.9778

Chi-Square	Value	Probability
RS3	0.208	0.649

All Neglect

	Male	Female
NIS-3	29.239	27.6269
NIS-4	29.0468	28.6172

Chi-Square	Value	Probability
RS3	0.4250	0.5150

Physical Neglect

	Male	Female
NIS-3	19.7314	18.5904
NIS-4	15.1481	15.1902

Chi-Square	Value	Probability
RS3	0.466	0.495

Educational Neglect

	Male	Female
NIS-3	5.4524	6.4074
NIS-4	4.9948	4.6924

Chi-Square	Value	Probability
RS3	0.771	0.38

Table E-9. (Continued)

Emotional Neglect

	Male	Female
NIS-3	9.1616	7.79950
NIS-4	15.0183	14.6864

Chi-Square	Value	Probability
RS3	3.012	0.083

Severity, Fatal

	Male	Female
NIS-3	0.0372	0.0093
NIS-4	0.0344	0.0184

Chi-Square	Value	Probability
RS3	0.884	0.3470

Severity, Serious

	Male	Female
NIS-3	9.3529	7.5524
NIS-4	6.5425	6.8921

Chi-Square	Value	Probability
RS3	4.398	0.0360

Severity, Moderate

	Male	Female
NIS-3	14.0803	15.2583
NIS-4	13.825	13.6431

Chi-Square	Value	Probability
RS3	0.511	0.475

Table E.9. (Continued)

Severity, Inferred

	Male	Female
NIS-3	2.0738	4.6244
NIS-4	2.4649	3.4418

Chi-Square	Value	Probability
RS3	7.979	0.005

Severity, Endangered

	Male	Female
NIS-3	14.4928	14.8177
NIS-4	13.7395	13.9507

Chi-Square	Value	Probability
RS3	0.002	0.969

Table E-10. Chi-squared tables for age differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	26.0362	38.5549	60.1692	46.3972	44.4148	29.6148
NIS-4	33.3998	34.9032	42.3939	38.3065	37.5518	28.9514

Chi-Square **Value** **Probability**
RS3 9.937 0.048

All Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	7.3953	17.2862	24.6613	21.2892	22.5870	15.7361
NIS-4	6.0665	9.9188	13.1373	10.92	12.5598	10.0249

Chi-Square **Value** **Probability**
RS3 3.46 0.38

Physical Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	4.8351	7.1311	12.2535	9.4588	12.7901	8.6885
NIS-4	3.7016	5.8457	7.7157	6.1881	7.0735	5.876

Chi-Square **Value** **Probability**
RS3 1.655 0.721

Sexual Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	1.1053	6.6294	5.16070	5.2358	4.7267	3.7667
NIS-4	1.2784	2.483	2.3835	1.9493	2.9742	1.8789

Chi-Square **Value** **Probability**
RS3 6.907 0.141

Table E-10. (Continued)

Emotional Abuse

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	1.9763	5.28830	12.9455	10.5514	9.5619	6.9785
NIS-4	1.5885	2.9542	5.1623	4.4954	4.7134	4.1017

Chi-Square **Value** **Probability**
RS3 3.799 0.38

All Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	21.7954	25.5535	44.1821	32.27690	26.6055	18.8495
NIS-4	27.2385	26.8042	33.1135	30.3687	28.6471	21.5627

Chi-Square **Value** **Probability**
RS3 8.57 0.078

Physical Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	19.3063	21.1116	29.2255	19.2955	15.4805	8.5276
NIS-4	17.5375	15.3445	18.9427	15.7395	13.0198	8.7185

Chi-Square **Value** **Probability**
RS3 4.309 0.325

Educational Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.0129	1.5818	10.3524	7.5058	9.5703	7.0824
NIS-4	0.0902	2.3082	4.8888	7.5185	7.3143	6.3989

Chi-Square **Value** **Probability**
RS3 4.827 0.249

Table E-10. (Continued)

Emotional Neglect

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	3.6608	4.2788	15.4484	12.0946	8.1537	7.9967
NIS-4	13.1585	13.4301	16.998	15.2092	15.0853	11.3908

Chi-Square **Value** **Probability**
RS3 25.071 < .001

Severity, Fatal

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	0.0998	0.0182	0.0010	0.0063	0.0040	0.0033
NIS-4	0.1017	0.007	0.003	0.0003	0.0085	0.0369

Chi-Square **Value** **Probability**
RS3 3.205 0.365

Severity, Serious

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	5.6988	5.7360	10.7391	8.8906	11.0654	8.5203
NIS-4	6.1834	4.3458	5.9192	7.0847	7.369	7.8405

Chi-Square **Value** **Probability**
RS3 5.043 0.237

Severity, Moderate

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	4.9627	10.4977	24.78980	18.269	17.4111	12.6101
NIS-4	4.4774	11.2208	19.3279	16.703	16.8301	12.5287

Chi-Square **Value** **Probability**
RS3 2.438 0.634

Table E-10. (Continued)

Severity, Inferred

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	1.4788	4.9839	3.8536	3.4791	3.559	2.1512
NIS-4	2.007	3.3423	3.4363	2.5303	3.1333	2.3359

Chi-Square **Value** **Probability**
RS3 2.0800 0.491

Severity, Endangered

	0-2	3-5	6-8	9-11	12-14	15-17
NIS-3	13.796	17.3192	20.7857	15.7523	12.3753	6.3299
NIS-4	20.6304	15.9873	13.7075	11.9881	10.2108	6.2095

Chi-Square **Value** **Probability**
RS3 13.939 0.004

Table E-11. Chi-squared tables for racial/ethnic differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	White	Black	Hispanic
NIS-3	36.494	54.957	41.963
NIS-4	28.582	49.553	30.245

Chi-Square **Value** **Probability**
RS3 2.676 0.202

All Abuse

	White	Black	Hispanic
NIS-3	17.3227	19.052	17.784
NIS-4	8.7297	14.9054	9.3803

Chi-Square **Value** **Probability**
RS3 6.353 0.031

Physical Abuse

	White	Black	Hispanic
NIS-3	8.5998	11.3414	7.7649
NIS-4	4.6315	9.6636	5.8518

Chi-Square **Value** **Probability**
RS3 11.006 0.003

Sexual Abuse

	White	Black	Hispanic
NIS-3	4.3604	4.1476	4.0789
NIS-4	1.8591	3.1251	2.4876

Chi-Square **Value** **Probability**
RS3 4.8 0.062

Table E-11. (Continued)

Emotional Abuse

	White	Black	Hispanic
NIS-3	7.7483	6.6375	8.3472
NIS-4	3.5097	4.4899	2.4185

Chi-Square **Value** **Probability**
RS3 1.507 0.373

All Neglect

	White	Black	Hispanic
NIS-3	24.4481	41.0933	29.6244
NIS-4	22.4178	36.8285	22.9717

Chi-Square **Value** **Probability**
RS3 1.339 0.433

Physical Neglect

	White	Black	Hispanic
NIS-3	16.6221	27.5806	20.1133
NIS-4	12.2024	17.8671	9.9383

Chi-Square **Value** **Probability**
RS3 0.207 0.866

Educational Neglect

	White	Black	Hispanic
NIS-3	4.3713	10.5269	8.236
NIS-4	3.2644	7.4232	4.0012

Chi-Square **Value** **Probability**
RS3 0.055 0.968

Table E.11. (Continued)

Emotional Neglect

	White	Black	Hispanic
NIS-3	8.6398	9.0982	6.1048
NIS-4	12.1344	18.1613	13.2456

Chi-Square **Value** **Probability**
RS3 9.55 0.006

Severity, Fatal

	White	Black	Hispanic
NIS-3	0.0085	0.0439	0.0735
NIS-4	0.0188	0.0227	0.051

Chi-Square **Value** **Probability**
RS3 0.492 0.635

Severity, Serious

	White	Black	Hispanic
NIS-3	8.1715	8.2336	7.5747
NIS-4	4.8371	9.1017	5.6647

Chi-Square **Value** **Probability**
RS3 8.811 0.009

Severity, Moderate

	White	Black	Hispanic
NIS-3	12.4954	22.1442	16.1276
NIS-4	10.9699	18.6482	11.1968

Chi-Square **Value** **Probability**
RS3 0.732 0.636

Table E-11. (Continued)

Severity, Inferred

	White	Black	Hispanic
NIS-3	2.7223	6.2125	2.6685
NIS-4	2.5693	3.7267	2.1233

Chi-Square **Value** **Probability**
RS3 1.037 0.414

Severity, Endangered

	White	Black	Hispanic
NIS-3	13.096	18.3228	15.5189
NIS-4	10.1872	18.054	11.2093

Chi-Square **Value** **Probability**
RS3 3.575 0.138

Table E-12. Chi-squared tables for parent structure differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	One parent	Two parents
NIS-3	51.988	26.8531
NIS-4	81.1572	22.9408

Chi-Square **Value** **Probability**
RS3 23.135 < .001

All Abuse

	One parent	Two parents
NIS-3	19.6302	13.4842
NIS-4	20.8655	7.3091

Chi-Square **Value** **Probability**
RS3 16.083 < .001

Physical Abuse

	One parent	Two parents
NIS-3	10.6089	6.5442
NIS-4	11.764	4.3352

Chi-Square **Value** **Probability**
RS3 7.011 0.0080

Sexual Abuse

	One parent	Two parents
NIS-3	4.1856	3.243
NIS-4	5.0777	1.3108

Chi-Square **Value** **Probability**
RS3 16.5070 < .001

Table E-12. (Continued)

Emotional Abuse

	One parent	Two parents
NIS-3	8.5791	6.1643
NIS-4	7.1412	2.802

Chi-Square	Value	Probability
RS3	4.674	0.031

All Neglect

	One parent	Two parents
NIS-3	38.8901	17.5972
NIS-4	62.6644	17.9623

Chi-Square	Value	Probability
RS3	8.147	0.004

Physical Neglect

	One parent	Two parents
NIS-3	28.5896	10.8231
NIS-4	34.5555	8.855

Chi-Square	Value	Probability
RS3	3.888	0.049

Educational Neglect

	One parent	Two parents
NIS-3	9.6182	2.9744
NIS-4	11.5759	2.2869

Chi-Square	Value	Probability
RS3	1.994	0.158

Table E-12. (Continued)

Emotional Neglect

	One parent	Two parents
NIS-3	10.4782	6.3663
NIS-4	31.4459	10.0713

Chi-Square **Value** **Probability**
RS3 12.626 < .001

Severity, Fatal

	One parent	Two parents
NIS-3	0.0153	0.0201
NIS-4	0.0356	0.0331

Chi-Square **Value** **Probability**
RS3 0.079 0.779

Severity, Serious

	One parent	Two parents
NIS-3	10.5211	5.9099
NIS-4	14.7002	3.8371

Chi-Square **Value** **Probability**
RS3 22.207 < .001

Severity, Moderate

	One parent	Two parents
NIS-3	18.536	9.5939
NIS-4	28.2973	7.7855

Chi-Square **Value** **Probability**
RS3 8.191 0.004

Table E-12. (Continued)

Severity, Inferred

	One parent	Two parents
NIS-3	2.4542	2.0584
NIS-4	6.692	1.6545

Chi-Square	Value	Probability
RS3	16.7510	< .001

Severity, Endangered

	One parent	Two parents
NIS-3	20.4615	9.2709
NIS-4	31.4321	9.6306

Chi-Square	Value	Probability
RS3	4.938	0.026

Table E-13. Chi-squared tables for family size differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	1 child	2-3 children	4+ children
NIS-3	34.215	34.0907	68.0864
NIS-4	36.6345	31.2976	62.9037

Chi-Square **Value** **Probability**
RS3 1.581 0.389

All Abuse

	1 child	2-3 children	4+ children
NIS-3	16.9145	16.2631	23.5473
NIS-4	10.5983	10.4141	13.8616

Chi-Square **Value** **Probability**
RS3 0.401 0.7720

Physical Abuse

	1 child	2-3 children	4+ children
NIS-3	8.5787	8.3794	10.6274
NIS-4	6.594	5.6467	7.8134

Chi-Square **Value** **Probability**
RS3 0.828 0.534

Sexual Abuse

	1 child	2-3 children	4+ children
NIS-3	4.7383	3.556	7.0115
NIS-4	2.4742	2.3501	2.5024

Chi-Square **Value** **Probability**
RS3 3.188 0.179

Table E-13. (Continued)

Emotional Abuse

	1 child	2-3 children	4+ children
NIS-3	6.3825	7.4783	10.55690
NIS-4	2.7972	4.0663	5.7631

Chi-Square **Value** **Probability**
RS3 0.377 0.805

All Neglect

	1 child	2-3 children	4+ children
NIS-3	22.2967	22.6978	52.1824
NIS-4	27.3406	23.5484	52.1806

Chi-Square **Value** **Probability**
RS3 1.683 0.418

Physical Neglect

	1 child	2-3 children	4+ children
NIS-3	13.2343	16.12970	38.9146
NIS-4	13.2796	11.959	31.1273

Chi-Square **Value** **Probability**
RS3 2.165 0.318

Educational Neglect

	1 child	2-3 children	4+ children
NIS-3	5.9956	3.2463	9.2453
NIS-4	5.0851	3.2799	6.0409

Chi-Square **Value** **Probability**
RS3 2.044 0.32

Table E-13. (Continued)

Emotional Neglect

	1 child	2-3 children	4+ children
NIS-3	7.526	7.5412	12.60530
NIS-4	13.9023	13.4209	27.442

Chi-Square **Value** **Probability**
RS3 0.553 0.672

Severity, Fatal

	1 child	2-3 children	4+ children
NIS-3	0.0234	0.024	0.01780
NIS-4	0.0273	0.0333	0.0282

Chi-Square **Value** **Probability**
RS3 0.021 0.977

Severity, Serious

	1 child	2-3 children	4+ children
NIS-3	8.2392	7.4208	9.8212
NIS-4	7.6124	5.4686	8.7987

Chi-Square **Value** **Probability**
RS3 1.397 0.474

Severity, Moderate

	1 child	2-3 children	4+ children
NIS-3	12.52180	11.377	22.0739
NIS-4	13.7818	10.7437	17.8944

Chi-Square **Value** **Probability**
RS3 2.129 0.237

Table E-13. (Continued)

Severity, Inferred

	1 child	2-3 children	4+ children
NIS-3	3.557	2.1343	7.5814
NIS-4	3.2527	2.4364	4.6595

Chi-Square **Value** **Probability**
RS3 2.798 0.221

Severity, Endangered

	1 child	2-3 children	4+ children
NIS-3	9.8737	13.1346	28.5921
NIS-4	11.9602	12.6157	31.523

Chi-Square **Value** **Probability**
RS3 1.249 0.505

Table E-14. Chi-squared tables for metrostatus differences between NIS-3 and NIS-4 incidence rates for endangerment standard maltreatment.

All Maltreatment

	Large Urban	Urban	Rural
NIS-3	25.5377	54.9054	48.1884
NIS-4	31.8563	34.9157	62.6003

Chi-Square **Value** **Probability**
RS3 2.621 0.263

All Abuse

	Large Urban	Urban	Rural
NIS-3	11.2526	24.3234	19.7261
NIS-4	9.774	10.6948	15.5101

Chi-Square **Value** **Probability**
RS3 1.953 0.35

Physical Abuse

	Large Urban	Urban	Rural
NIS-3	6.0788	11.4414	10.5492
NIS-4	5.8444	6.1961	8.1803

Chi-Square **Value** **Probability**
RS3 1.172 0.529

Sexual Abuse

	Large Urban	Urban	Rural
NIS-3	2.4317	6.0238	5.3561
NIS-4	2.3139	2.3027	3.0078

Chi-Square **Value** **Probability**
RS3 2.826 0.227

Table E-14. (Continued)

Emotional Abuse

	Large Urban	Urban	Rural
NIS-3	4.58280	10.9899	8.46420
NIS-4	2.9674	3.8199	6.7814

Chi-Square **Value** **Probability**
RS3 1.805 0.36

All Neglect

	Large Urban	Urban	Rural
NIS-3	17.7017	37.4444	35.1405
NIS-4	23.2763	26.3166	52.5799

Chi-Square **Value** **Probability**
RS3 2.4210 0.278

Physical Neglect

	Large Urban	Urban	Rural
NIS-3	12.53130	24.5484	24.72740
NIS-4	12.7506	12.8684	29.2321

Chi-Square **Value** **Probability**
RS3 2.852 0.237

Educational Neglect

	Large Urban	Urban	Rural
NIS-3	3.5911	8.1334	6.1405
NIS-4	2.516	4.5592	9.9216

Chi-Square **Value** **Probability**
RS3 2.852 0.237

Table E-14. (Continued)

Emotional Neglect

	Large Urban	Urban	Rural
NIS-3	4.6808	11.2565	11.3323
NIS-4	11.8782	14.2341	26.8271

Chi-Square **Value** **Probability**
RS3 1.4490 0.429

Severity, Fatal

	Large Urban	Urban	Rural
NIS-3	0.0414	0.0191	---
NIS-4	0.033	0.0469	0.0045

Chi-Square **Value** **Probability**
RS3 --- ---

Severity, Serious

	Large Urban	Urban	Rural
NIS-3	5.2364	9.8744	11.8268
NIS-4	5.9153	5.7253	11.1685

Chi-Square **Value** **Probability**
RS3 0.946 0.565

Severity, Moderate

	Large Urban	Urban	Rural
NIS-3	8.2266	19.7618	17.2154
NIS-4	9.8933	12.1839	24.5607

Chi-Square **Value** **Probability**
RS3 2.729 0.23

Table E-14. (Continued)

Severity, Inferred

	Large Urban	Urban	Rural
NIS-3	2.5534	4.4314	2.9247
NIS-4	1.812	3.0823	4.9781

Chi-Square **Value** **Probability**
RS3 2.153 0.282

Severity, Endangered

	Large Urban	Urban	Rural
NIS-3	9.47990	20.8187	16.2214
NIS-4	13.3813	14.2498	22.1866

Chi-Square **Value** **Probability**
RS3 2.611 0.265

Table E-15. T-statistics for Source of Recognition Differences Between NIS-4 and NIS-3 for harm standard maltreatment

Recognition Source	T-value
PROBATION/COURTS	0.3788
POLICE/SHERIFF	1.0670
PUBLIC HEALTH	0.6118
INVESTIGATORY AGENCY SUBTOTAL	0.5241
HOSPITALS	0.1747
SCHOOLS	1.7032 c
DAYCARE CENTERS	0.0011
MENTAL HEALTH	0.0986
SOCIAL SERVICES AND SHELTERS**	1.8481 c
PUBLIC HOUSING	--
OTHER SENTINEL AGENCY SUBTOTAL***	1.5175 d
ALL SENTINEL SOURCES TOTAL***	1.3412 d
DSS/WELFARE DEPT.	0.3677
OTHER AGENCY OR PROFESSIONAL	1.2938 d
ALL OTHER SOURCES	3.4666 a
SUBTOTAL (CPS ONLY)	2.5512 b
TOTAL, ALL SOURCES ***	1.5080 d

Table E-16. T-statistics for Source of Recognition Differences Between NIS-4 and NIS-3 for endangerment standard maltreatment

Recognition Source	T-value
PROBATION/COURTS	1.7818 c
POLICE/SHERIFF	3.4044 a
PUBLIC HEALTH	0.8988
INVESTIGATORY AGENCY SUBTOTAL	3.7094 a
HOSPITALS	0.9463
SCHOOLS	1.6960 c
DAYCARE CENTERS	0.3338
MENTAL HEALTH	0.0529
SOCIAL SERVICES AND SHELTERS**	1.7048 c
PUBLIC HOUSING	--
OTHER SENTINEL AGENCY SUBTOTAL***	1.0768
ALL SENTINEL SOURCES TOTAL***	0.3878
DSS/WELFARE DEPT.	1.4133 d
OTHER AGENCY OR PROFESSIONAL	2.6385 b
ALL OTHER SOURCES	0.5996
SUBTOTAL (CPS ONLY)	0.1556
TOTAL, ALL SOURCES ***	0.3758

a: 0.001 ** For comparison across studies Social Services and Shelters are combined into one category

b: 0.010 *** For comparison purposes, totals exclude Public Housing which was a new category in the NIS4

c: 0.050

d: 0.100

Table E-17. T-statistics for Source of Recognition Differences Between NIS-4 and NIS-3 in children who received CPS investigation for harm standard maltreatment

Recognition Source	T-value
PROBATION/COURTS	2.8206 b
POLICE/SHERIFF	0.7493
PUBLIC HEALTH	2.4007 b
INVESTIGATORY AGENCY SUBTOTAL	2.2769 c
HOSPITALS	0.8418
SCHOOLS	0.0246
DAY CARE CENTERS	1.2805
MENTAL HEALTH	0.1091
SOCIAL SERVICES AND SHELTERS**	1.9701 c
PUBLIC HOUSING	--
OTHER SENTINEL AGENCY SUBTOTAL***	0.2325
ALL SENTINEL SOURCES TOTAL***	1.1521
TOTAL ALL SOURCES***	0.7545

Table E-18. T-statistics for Source of Recognition Differences Between NIS-4 and NIS-3 in children who received CPS investigation for endangerment standard maltreatment

Recognition Source	T-value
PROBATION/COURTS	4.9139 a
POLICE/SHERIFF	1.1915
PUBLIC HEALTH	3.0906 b
INVESTIGATORY AGENCY SUBTOTAL	2.5926 b
HOSPITALS	1.1530
SCHOOLS	0.9165
DAY CARE CENTERS	2.6159 b
MENTAL HEALTH	0.3221
SOCIAL SERVICES AND SHELTERS**	2.1001 c
PUBLIC HOUSING	--
OTHER SENTINEL AGENCY SUBTOTAL***	0.8362
ALL SENTINEL SOURCES TOTAL***	2.3797 b
TOTAL ALL SOURCES***	1.8536 c

** For comparison across studies Social Services and Shelters are combined into one category

*** For comparison purposes, totals exclude Public Housing which was a new category in the NIS4

a: 0.001
b: 0.010
c: 0.050
d: 0.100