A Dissertation
Submitted to the Faculty
Of
Xavier University
In Partial Fulfillment of the
Requirements for the Degree of
Doctor of Psychology
By
Kim J. Rosenzweig, M.A.
September, 2011

Approved:

Karl W. Stuckenberg, Ph.D., ABPP
Chair, Department of Psychology

Kathleen J. Hart, Ph.D., ABPP
Dissertation Chair
The Prevalence of Substantiated Sexual Abuse of Children Who are Deaf: An Examination of a National Database
Dissertation Committee

Chair
Kathleen J. Hart, Ph.D., ABPP
Professor of Psychology

Member
W. Michael Nelson, Ph.D., ABPP
Professor of Psychology

Member
Barbara W. Boat, Ph.D.
Executive Director, The Childhood Trust
Associate Professor
University of Cincinnati
Acknowledgements

This dissertation is a tangible representation of an achievement that would not have been possible without the guidance and support of countless individuals. I have the distinct pleasure to I enumerate some of them here.

Dr. Kathleen Hart has been a valued advisor and mentor during my years of graduate study. Without her guidance this project would not have been as well received as it has been thus far. Her keen sense of wit, ability to get to the heart of a matter, and unfailing support were fundamental to my steadfast progress in my program and on this dissertation. I am also deeply grateful to my committee members Dr. W. Michael Nelson and Dr. Barbara Boat. Their insights and sharp observations proved vital in improvement of all aspects of my dissertation. Both were kind, encouraging, and supportive while also expecting the best of me. Thank you all.

There are many members of the Xavier University faculty who have provided support to me over the last few years. I would especially like to thank Dr. Janet Schultz who was always willing to take the time to provide me with wise counsel. In my clinical training, Dr. Schultz serves as my icon for “best practice.” My goal is to take the knowledge she has imparted to me and use it to serve children and families well in professional practice.

Some in my family have wondered why I chose this difficult path, but they have been constant in their support and in celebrating milestones with me along the way. Heartfelt thanks and love goes to my Mom, my brothers, and their families for their love and encouragement. In particular, my sister Rebecca and her husband Glen continued to
cheer me on and show interest in my studies and work in spite of their own seemingly insurmountable trials during my years of graduate study. Their encouragement and Leanna’s words of support never left me. Thank you. I love you dearly.

Finally, my husband Phill and son Ben were the ones most impacted by my decision to attend college and then graduate school. This decision, wholly supported by them both, had significant impacts on our family functioning. They provided their time, their encouragement, and their unflagging optimism that I could complete this task. While I mention them last, they are the ones who deserve the greatest thanks and love. It was my husband who helped me believe, back in 2003, that I could achieve my goal of becoming a psychologist. He proudly says “I knew it first” and has never wavered in loving and supporting me along the way. Without him, I would not be writing these words today.
<table>
<thead>
<tr>
<th>Acknowledgements</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>iii</td>
</tr>
<tr>
<td>List of Tables</td>
<td>iv</td>
</tr>
<tr>
<td>List of Appendices</td>
<td>v</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. Review of the Literature</td>
<td>1</td>
</tr>
<tr>
<td>II. Rationale and Hypotheses</td>
<td>28</td>
</tr>
<tr>
<td>III. Method</td>
<td>32</td>
</tr>
<tr>
<td>IV. Proposed Analyses</td>
<td>36</td>
</tr>
<tr>
<td>References</td>
<td>37</td>
</tr>
<tr>
<td>V. Dissertation</td>
<td>44</td>
</tr>
<tr>
<td>References</td>
<td>68</td>
</tr>
<tr>
<td>Tables</td>
<td>73</td>
</tr>
<tr>
<td>Appendices</td>
<td>79</td>
</tr>
<tr>
<td>Author’s Note</td>
<td>81</td>
</tr>
<tr>
<td>Summary</td>
<td>82</td>
</tr>
</tbody>
</table>
List of Tables

Proposal

Table                                      Page

1. Summary of Child Sexual Abuse Incidence and Prevalence Studies ..........3-4

Chapter V

1. Rate of Substantiated Maltreatment by Group, Percentage of Group, and
   Comparison of Maltreatment Findings by Disability Status ............... ......... 73

2. Rate and Percentage of Substantiated Sexual Abuse Cases by Group and
   Comparison of Sexual Abuse Findings by Disability Status ............... ......... 74

3. Sexual Abuse Perpetrator: Number and Percentage of Group by Disability
   Status ............................................................................................................. 75

4. Mean Age and Standard Deviation of Children at Time of Substantiated
   Sexual Abuse by Disability Status ................................................................. 76

5. Distribution and Percentage of Group of Maltreated Child Race/Ethnicity
   by Disability Status .................................................................................... 77

6. Distribution and Percentage of Total ($n=145$) of Maltreated Child
   Race/Ethnicity by Type of Disability .......................................................... 78
List of Appendices

Chapter V

A. NDACAN Permission Letter ........................................................................79
B. Institutional Review Board Approval Letter ........................................80
Chapter I

Review of the Literature

In 2007, approximately 794,000 children were confirmed victims of abuse or neglect: this number represents 10.6 per 1,000 children in the United States (U.S. Department of Health and Human Services, Administration on Children, Youth, and Families [USDHHS], 2009b). Abuse or neglect is defined by the Federal Abuse Prevention and Treatment Act as “any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm” (USDHHS, p. xi).

Of those nearly 800,000 children, more than 60,000 (7.2%) were sexually abused (USDHHS, 2009b). Sexual abuse may include touching, fondling and kissing of the genital areas, digital or penile penetration of the mouth, vagina, or anus, in addition to sexual activity with no contact, such as exhibitionism or voyeurism (Bonner, Logue, & Kees, 2003). The Child Abuse Prevention and Treatment Act (CAPTA), originally enacted in 1974, is federal legislation that provides states with minimum standards for defining child abuse and neglect. The CAPTA definition of sexual abuse includes the “employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or assist any other person to engage in, any sexually explicit conduct or simulation of such conduct for the purpose of producing a visual depiction of such conduct; or the rape, and in cases of caretaker or inter-familial relationships, statutory rape, molestation, prostitution, or other form of sexual exploitation of children, or incest with children” (USDHHS, 2009a).
While over 60,000 children were confirmed victims of sexual abuse in 2007, some research estimates that there is likely twice that number whose victimization is not reported (Hunter, 2006). A 1995 Gallup poll sampling 1000 families in the United States suggested that the rates of child abuse may be as much as ten times higher than officially reported (Theodore et al., 2005). The incidence of reported abuse, and potential for such large numbers of unreported cases, emphasize the importance of continued research in this area.

Assessing Prevalence of Child Sexual Abuse

Obtaining an accurate count of the number of individuals who have experienced child sexual abuse has proven to be a difficult task for a number of reasons. Table 1 details the studies discussed in this proposal. First, studies use different definitions of sexual abuse. Comparing these studies becomes problematic as some may define abuse using more inclusive occurrences (e.g., being exposed to an adult’s private parts), while other studies are less inclusive and may only count acts such as penetration as abuse. One survey of women found that when using a less inclusive definition, the rates of abuse were between 15% and 26%; however, with a more inclusive definition of child sexual abuse, prevalence rates rose to 21-32% (Vogeltanz et al., 1999).

Second, study samples (e.g., psychiatric inpatients vs. college students) could produce different findings. Child maltreatment is a risk factor for psychopathology (Perry, 2008); therefore, it is likely that higher rates of sexual abuse will be found in data from clinical samples. For example, in a study of the combination of child maltreatment and PTSD in forensic inpatients, Spitzer, Chevalier, Gillner, Freyberger, and Barnow, (2006) found that the men and women in their sample had experienced physical neglect
Table 1
Summary of Child Sexual Abuse Incidence and Prevalence Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Method</th>
<th>Abuse Substantiated</th>
<th>Definition of Abuse</th>
<th>Percent Abused*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vogelzang et al. (1999)</td>
<td>U.S. Females 12 and older</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>21.32%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Less inclusive</td>
<td>15.26%</td>
</tr>
<tr>
<td>Spitze et al. (2006)</td>
<td>PTSD Forensic</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>47%</td>
</tr>
<tr>
<td>Walsh et al. (2007)</td>
<td>Female College Age</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>22%</td>
</tr>
<tr>
<td>Theodore et al. (2005)</td>
<td>Mothers in Carolina</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>3.9%</td>
</tr>
<tr>
<td>Herskovitz et al. (2007)</td>
<td>Disabled Children Israel</td>
<td>Self-report via forensic interview</td>
<td>No</td>
<td>More inclusive</td>
<td>38.7%</td>
</tr>
<tr>
<td>Skinner (1991)</td>
<td>Deaf Clinical</td>
<td>Therapist Report</td>
<td>No</td>
<td>More inclusive</td>
<td>41.1%</td>
</tr>
<tr>
<td>Kveton (2004)</td>
<td>Deaf Norwegian</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>44.3%</td>
</tr>
</tbody>
</table>

Note: More inclusive definitions of sexual abuse allow non-penetration sexual acts such as sexual touching, exposure to adults' private parts, and exposure to pornography. Less inclusive definitions of sexual abuse limit acts to either penile or digital penetration of a child.

*Percent abused includes sexual abuse only. Many studies also reported multiple types of maltreatment for each child.
<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Method</th>
<th>Abuse Substantiated</th>
<th>Definition of Abuse</th>
<th>Percent Abused*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nilsson et al. (2003)</td>
<td>Female Clinical</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>28%</td>
</tr>
<tr>
<td>Ewen et al. (2006)</td>
<td>Substance Dependent</td>
<td>Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>10.6%</td>
</tr>
<tr>
<td>Denbo et al. (2007)</td>
<td>Arrested Florida Youth</td>
<td>State records &amp; Self-report</td>
<td>No</td>
<td>More inclusive</td>
<td>28%</td>
</tr>
<tr>
<td>Sullivan &amp; Knutsen (2000)</td>
<td>Nebraska Disabled Students</td>
<td>State Records</td>
<td>Yes</td>
<td>More inclusive</td>
<td>6%</td>
</tr>
<tr>
<td>USDHES (2009b)</td>
<td>National General Population</td>
<td>State Records</td>
<td>Yes</td>
<td>More inclusive</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Note: More inclusive definitions of sexual abuse allow non-penetration sexual acts such as sexual touching, exposure to adult pornography, exposure to sexual images. Less inclusive definitions of sexual abuse limit acts to either penile or digital penetration of a child.

*Percent abused includes sexual abuse only. Many studies also reported multiple types of abuse treatment for each child.
(41%), emotional neglect (59%), both physical and emotional abuse (69%), and 47% of them had been sexually abused. In contrast, Walsh, Blaustein, Knight, Spinazzola, and van der Kolk (2007) surveyed undergraduate women and found 22% reported instances of child sexual abuse. In addition to the higher findings likely from inpatient samples, college student samples also limit the generalizability of the findings due to known higher socio-economic status, parent education level, and other protective factors known to be possessed by most college students.

The third challenge for research in this area is that studies are often retrospective, which leaves them subject to responder bias. Finkelhor (1994) noted that respondents in retrospective studies may have inaccurate memories of events that occurred a decade or more in the past. Additionally, the known rates of underreporting incidences of sexual abuse (Hunter, 2006) coupled with the difficulty in proving abuse once a report is made (London, Bruck, Ceci, & Shuman, 2007) compounds the complexity in obtaining accurate statistics for prevalence.

While a retrospective study has its limitations, it remains a frequently used method. Finkelhor (1994) compiled information from adults using 19 surveys of past abuse experiences. These surveys randomly sampled community members via such methods as telephone directories, random digit dialing, and neighborhoods stratified on variables such as age, race, and/or sex. He found considerable evidence to indicate that at least 20% of American women and 5-10% of American men have experienced some form of sexual abuse during childhood. These findings seem to be widely accepted as a standard for prevalence rates of sexual abuse as they are cited throughout the child abuse literature.
Though less common, prospective studies have also been used to assess child sexual abuse. These studies can also be problematic because they are difficult, expensive, and subject to attrition. Brown, Cohen, Johnson, and Salzinger (1998) analyzed the longitudinal data from 644 families who were assessed on four different occasions over a 17-year period in order to identify demographic, family, parent, and child factors that were associated with a future risk for child abuse and neglect. Sixteen years after the initial data collection, researchers obtained data on child maltreatment both from official reports and retrospective self-reports of the now-adult participants. The study, which is described at the Children in the Community website by Cohen and Brook (n.d.), began data collection in 1975 with 976 households included, and by the time researchers began to gather self-report data, only 644 of the now-adult participants from the original pool of over 800 children were able to be located (Cohen & Brook). Researchers found that maternal youth and sociopathy predicted physical abuse, sexual abuse, and neglect and that the risk of child abuse or neglect increased from 3% to 24% when four or more risk factors were present (Brown et al., 1998). While this type of study is a tremendous addition to the body of knowledge on this subject, it is expensive and difficult to complete due to the loss of participants over time as a result of moves, or simply a lack of desire to continue with the study.

Local, state, and federal organizations employ methods of assessing the prevalence of child sexual abuse that are more formal, relying on the findings of investigations into claims of abuse to determine if there is enough evidence to conclude that abuse occurred. However, these allegations are made far less frequently than abuse actually occurs, leaving the researchers to estimate the actual numbers of abuse that may
occur in a given population. In an effort to obtain a more accurate rate of child maltreatment, Theodore et al. (2005) sampled 1,435 homes in North and South Carolina using an anonymous telephone survey. They found that maternal-reported physical abuse was 40 times greater and sexual abuse was 15 times greater than official statistics for the same period.

County Child Protection Service (CPS) agencies collect data regarding alleged and substantiated abuse of children in their jurisdictions. Some of the state level data are used in order to compile national reports. For example, a national report of child maltreatment is compiled each year with data from state contributions. For the year 2007, these data showed that there were approximately 3.2 million referrals made to CPS agencies of possible child abuse and neglect that included approximately 5.8 million children (USDHHS, 2009b). Of those referrals, 61.7% reached the second stage, became a report, and were either investigated or received an assessment. The result was that 25.2% of the investigations that reached the report stage determined that at least one child was a victim of child abuse or neglect.

The National Incidence Survey (NIS), conducted by the National Center on Child Abuse and Neglect (NCCAN), is the result of a congressional mandate. Four NIS studies have been conducted to date, with the first published in 1981, then in 1988, 1996, and the most recent published in 2010; the data from 2010 have not been fully analyzed. The purpose of the third (1996) NIS study (NIS-3) was to provide updated estimates in incidence of child abuse and neglect in the U.S., to examine abuse of children based on demographic factors, and to estimate the incidence of substantiated abuse that result in civil or criminal proceedings (Sedlak & Broadhurst, 1996). It was also hoped that this
report would be used to develop and understand relationships between maltreatment and its observation, report to an agency, and action taken by the agency (Sedlak & Broadhurst).

The NIS-3 examined the data under two different standards for child maltreatment. The more stringent of the two was the Harm Standard, which required that a maltreated child suffered verifiable harm at the hands of a parent or parent substitute. The less stringent was the Endangerment Standard, which added that children may not yet have been harmed but were in danger of being so, and that the perpetrator could be defined more broadly than parent or parent substitute (e.g., teen babysitter). Under the Harm Standard, children who were maltreated totaled 23.1 per 1,000 children: sexual abuse specifically occurred in 3.2 per 1,000. When using the Endangerment Standard, national incidence of maltreatment was 41.9 per 1,000 children and sexual abuse was 9.1 per 1,000 children (Sedlak & Broadhurst, 1996). As with other research, using a broader definition of what constitutes sexual abuse increases the incidence rates. Given that the USDHHS defines abuse with the parameter of imminent risk, it seems appropriate to use the Endangerment Standard as the best guide to ascertaining the number of children who are abused, as it includes children who are at risk and acknowledges that the abuser may be someone other than the parent/parent substitute.

Impact of Child Sexual Abuse

The impact of child sexual abuse has been widely researched (see Hunter, 2006 for a review). Children who report sexual abuse are likely to be removed from their homes and placed in foster care, resulting in emotional upheaval and possible attachment issues. There are a number of additional pressures that may be placed on the child at this
time, including questioning from social workers and attorneys as well as pressure to testify against the offender (Gries et al. 2000).

There are a variety of physical and psychological symptoms that are prevalent in children who have been sexually abused, such as sexualized behaviors (including overt self-stimulation, inappropriate sexual behaviors with other children and adults, and talk, play and fantasy with sexual content) and Post-Traumatic Stress Disorder (PTSD) (Kendall-Tackett, Williams, & Finkelhor, 1993). Researchers report increased rates of nightmares, sleep disorders, depression, repressed anger and hostility, behavior problems, and somatic complaints in children who are victims of sexual abuse (Berliner & Elliott, 2002). In addition, correlations between forced participation in sexual acts and the psychological, physical, and poorer sexual well-being of female victims have been reported (de Visser, Rissel, Richters, & Smith, 2007). Specifically, women who had experienced sexual coercion (defined as being forced to participate in an unwanted sexual activity) were significantly more likely to have experienced psychosocial distress, physical complaints and sexual dysfunction, a finding that is consistent with a study of men (Bonner et al., 2003). These studies indicate that sexual abuse can have negative psychological and physiological effects on a child and that those effects may even last throughout youth and into adulthood.

**Risk Factors for Sexual Abuse Victimization**

Numerous studies have attempted to ascertain the individual factors that might increase a child’s likelihood of sexual abuse victimization. Multiple studies have shown that gender is a risk factor such that girls are as much as three to four times more likely to be victimized than are boys (e.g., Dembo, Schmeidler, & Childs, 2007; Hester, 2002;
Sedlak & Broadhurst, 1996). Whereas correlations exist between gender and increased risk for child maltreatment, the same cannot be said for racial differences. Bolen (2001) examined race and ethnicity as risk factors for sexual abuse. Her findings were inconclusive as to whether any relationship can be drawn between a certain race/ethnicity and an increased or decreased risk of child maltreatment. First instances of sexual abuse often occur in younger children, although some research indicated that there is a sharp increase during early to mid-adolescence (Wolfe, 2007).

Elliott, Browne, and Kilcoyne (1995) interviewed convicted sexual offenders of children and asked about the characteristics that caused them to choose certain children as victims over others. Younger children were more likely to be chosen and the way children were dressed (e.g., wearing revealing or provocative clothing) was also a factor that influenced whether they were targeted by offenders. The offenders interviewed stated that a child who was trusting and innocent (13%) or who lacked confidence and had low self-esteem (49%) was more likely to be a target of abuse. At least one offender responded that children who lacked confidence were easy targets because they were able to be lured with compliments and attention (Elliott et al.).

Another risk factor that may contribute to the sexual victimization of a child is whether there are problems present in the child’s family. One study of 315 youths who had been arrested and placed in a juvenile assessment facility found that family problems were related to both physical and sexual abuse (Dembo et al., 2007). Another study found that girls who were sexually abused during childhood described their families as more distant, having a lack of spontaneity, and a high level of chaos (Svedin, Back, & Soderback, 2002).
Abuse of Children Who Are Disabled

Considerable research has examined a child’s disability status as a risk factor for abuse and found that disabled children are much more likely to be victims than non-disabled children (e.g., Kendall-Tackett, Lyon, Taliaferro, & Little, 2005; Sullivan & Knutson, 2000). One national study, mandated by the Family Services Act of 1988, collected data on specific types of disability in order to report on incidence of abuse in this population (Cross, Ratnofsky, & Kaye, 1991). This study found that the incidence of all types of maltreatment of children with disabilities was 1.7 times higher than non-disabled children. For sexual abuse, the rates were 1.75 times higher if the child was disabled. This study also collected information on demographic characteristics of maltreated children and the perpetrators of abuse (e.g., age at abuse, relationship to perpetrator). Analyses conducted on these data have not attempted to ascertain whether the type of disability was related to risk for abuse, however.

Of the nearly 800,000 confirmed cases of child abuse or neglect in 2007, 8.1% of those cases involved children who were disabled (USDIHHS, 2009b). The disability categories in the USDIHHS data were mental retardation, emotional disturbance, visual or hearing impairment, learning disability, physical disability, behavioral problems, or another medical problem. Approximately 8% of all children are disabled (Kendall-Tackett et al., 2005) therefore, the percent of disabled children who are abused seems consistent with the rate of disability. However, studies specifically examining abuse of children who are disabled indicate that they are victims of maltreatment more often than non-disabled children (Kendall-Tackett et al.). The lower than expected rates of abuse in
the USDHHS study as relative to studies such as Kendall-Tackett et al. (2005) may be
due to a reduced rate of disclosure among children with disabilities.

Research also indicates that children with disabilities are less likely than non-
disabled children to disclose abuse. This finding may be due to an impaired ability to
understand what happened (Goldman, 1994; Hershkowitz, Lamb, & Horowitz, 2007) or
the physical and social isolation that can result from being disabled (Paine & Hansen,
2002). Lower levels of disclosure by a child with a disability may account for the lower
percentage of abused disabled children as reported by the USDHHS. It is also possible
that the increased likelihood for children with disabilities to be victims of abuse is due to
their perceived status as easier targets by abusers.

In order to assess the prevalence of abuse and neglect within a population of
children who were identified as disabled, Sullivan and Knutson (2000) examined the
records of 50,278 school children in the Midwest. These records were merged with the
databases of the Department of Social Services, the Foster Care Review Board, and the
county sheriff’s office in order to identify those who had reportedly been abused. Of the
4,503 abused children, 1,012 were identified as disabled. The disabilities of these
children had been verified by a team of evaluators and included autism, behavior
disorders, deaf-blindness, hearing impairments, mental retardation, orthopedic
impairments, other health impairments, traumatic brain injury, and visual impairments.
The authors used a Nebraska Department of Education rule in order to define the
disabilities, which is that the children must receive special education and related services
because of their impairments. Sullivan and Knutson found an overall maltreatment rate
of approximately 11% in this population; however, the rate of maltreatment of children
with a disability was 31%. Further, their data indicated that disabled children were more likely to have experienced multiple episodes of abuse than their non-disabled peers. Both disabled and non-disabled children were maltreated for the first time between the ages of six and nine.

The abuse types included in Sullivan and Knutson’s (2000) study were neglect, sexual, emotional, and physical, as well as combinations of all types. The authors found that there was a strong association between some form of abuse and disability, such that a disabled child was 3.4 times more likely to be a victim of abuse than was a non-disabled child. This study did not find any significant associations between type of disability and type of maltreatment (Sullivan & Knutson).

In an effort to learn more about whether there is a relationship between the type of child abuse and a child’s disability status, Hershkowitz et al. (2007) examined the forensic statements of 40,430 alleged abuse victims. In part, these authors were investigating the probability that children with disabilities were more likely to allege sexual abuse as opposed to physical abuse, and whether these children failed to disclose abuse more often or longer than non-disabled children. They grouped disabilities, in part, as recommended by Kendall-Tackett et al (2005). These included emotional and behavior disorders, pervasive developmental disorders, mental retardation, brain injuries, communication and learning disorders, physical impairments or other health related disabilities, sensory impairments, and multiple disabilities. To differentiate further, the authors then categorized the disability types into “minor” and “severe” categories, based on the investigator’s evaluation of the children’s functioning during the course of the forensic process. Hershkowitz et al. found that those who were categorized as having a
minor (e.g., severe emotional problems, developmental delays, hearing impairments; 11%) or severe (e.g., childhood schizophrenia, autism, deafness; 1.2%) disability were proportionally more likely than non-disabled children to allege sexual abuse. Specifically, they found that children with both minor and severe disabilities were alleged victims of sexual abuse more often than non-disabled children: this difference was statistically significant. Additionally, the children with disabilities failed to disclose abuse more than non-disabled children (Hershkowitz et al.). Unlike Sullivan and Knutson (2000), these authors found some differences relating to age. Disabled children were more likely to be abused between the ages of three and six relative to their non-disabled peers, who were more likely to be abused between the ages of 11 and 14. Finally, these authors found that children with severe disabilities were less likely to disclose abuse than children with minor disabilities. These findings indicated that disability may be a risk factor for abuse and severity of disability may increase that risk.

Abuse of Children Who Are Deaf

To date, some studies have examined the rates of sexual abuse of children by comparing non-disabled to disabled children; however, no national reports examine the frequency of abuse by type of disability. As this topic is further researched, it is important to examine the differences between rates of abuse by type of disability.

One type of disability that has been understudied is deafness. There are a few studies that specifically investigate hearing impairment as a risk factor for sexual abuse, and explore the idea that children with hearing impairments are abused at higher rates than hearing children (e.g., Kvam, 2004; Skinner, 1991). Previous researchers have expressed concern that children who are deaf may be at a higher risk for sexual abuse
from bus drivers as well as caregivers at residential schools for the deaf due to their ability to have access to children in settings that are more private without other adults present (Sullivan, Vernon, & Scanlan, 1987). Ability to communicate effectively with trusted adults may play a part in a perpetrator’s choice to abuse a child who is deaf (Sullivan & Knutson, 1998).

Children who are deaf may be more vulnerable to abuse for several reasons. Ridgeway (1993) described that deaf children often begin to develop a negative self-view during their early school days. Hearing children too often become viewed by children who are deaf as smarter and better: the hearing world is viewed as “powerful, controlling, and dominating” (Ridgeway, p. 167). Additionally, 90% of deaf children have hearing parents (Scheetz, 2001) and therefore may not be socialized in the deaf community where they their deafness is not viewed as a defect. These factors and others can cause deaf children to feel that they are not as good as hearing children thus lowering their self-esteem (Schirmer, 2001); this self-perception may ease the way for a perpetrator. As stated earlier, sexual offenders tend to choose children who lack self-esteem and confidence (Elliott et al. 1995). In addition, a lack of exposure to popular media may contribute to a failure to learn which behaviors are acceptable or unacceptable. This lack of knowledge may also be due in part to the dearth of sexual abuse prevention programs that are appropriate for a deaf population.

Sobsey and Doe (1999) speculated that individuals who are disabled may be more likely targets for two reasons. First, some rehabilitation and education programs may encourage compliant behavior. Second, a person who is deaf or otherwise disabled may be perceived as weak and passive, thus an easier target. Sullivan et al. (1987)
speculated that deaf children “tend to be intensely curious and are usually highly naïve about sexual norms and values” (p. 257), which could leave them more vulnerable to sexual abuse. It is possible that along with this gap in knowledge comes a lack of awareness of sexual predators, thereby increasing the vulnerability of children who are deaf.

In addition to naïveté about sexual norms and values, Sullivan et al. (1987) postulated that children who are deaf may be more vulnerable to abuse because they are accustomed to being touched, and may be more likely to respond to intimate physical contact with another person. Deaf mothers, and mothers who are aware that their infants or toddlers are deaf, are more likely to touch their children than are mothers of hearing children (Marschark, 2007). This increased familiarity with physical contact may contribute victimization of children who are deaf.

Finally, deaf children with hearing parents may not develop emotionally if they do not have adequate communication with their family. As the greater majority of children who are deaf have hearing parents, this poor communication style may lead to problems in reporting abuse due to a lack of knowledge of sign language on the part of parents and an ignorance of sexual signs on the part of children (Sullivan et al., 1987). In addition, they may lack adequate social interaction due to the fact that they exist in a hearing community, not among those with whom they can fully communicate (Ridgeway, 1993). This tendency for children who are deaf to have lower self-esteem and lack of emotional development could contribute to the increased attraction of this group for sexual predators. For these reasons, it is important to examine whether
deafness is itself a greater risk factor for sexual abuse when compared to other disabilities.

Due to the dearth of research on this topic, the few articles that do exist are cited in nearly all subsequent articles or reviews on this topic. In fact, all articles related to the sexual abuse of children who are deaf include at least one citation to Sullivan et al. (1987): this article appears to serve as a foundation for the supposition that children who are deaf are abused at a significantly higher rate than hearing children. As it has become the seminal article, it is important to understand the basis of the assertions made by the authors. Several attempts were made to obtain the original research on this project (e.g., contacted or attempted to contact the authors; contacted Boys Town to request data from interviews) for the purpose of this dissertation. These attempts were unsuccessful; therefore, what follows is a description of the findings as described in the aforementioned article.

Sullivan et al. (1987) used data collected in four different studies and concluded that children who are deaf may be abused at a rate nearly double that in the hearing community. The first was a survey of ninth grade students conducted at a residential school for the deaf, most likely the Kansas School for the Deaf (H. Swan, personal communication, May 20, 2009); however, I was unable to locate a published description of the sample, the survey used, or methods used to conduct the survey. Sullivan et al. state that the survey assessed the students’ knowledge of sexual abuse and self-protection techniques, and whether they had experienced sexual abuse. Sullivan et al. do not indicate how the question regarding sexual abuse was posed, or how sexual abuse was
defined. Approximately 50% of those surveyed answered in the affirmative regarding the experience of sexual abuse.

Sullivan et al. (1987) also examined interviews of students in a residential school for the deaf conducted by police investigators using sign language interpreters. No information was provided regarding the investigators' name(s) or departments, why police officers were conducting the interviews, or whether these data were substantiated or published. Seventy-five of the 150 students interviewed indicated that they had experienced both physical and sexual abuse. Sullivan et al. cited a third study, which was presented by Sullivan, Scanlan, and LeBarre in 1986 at the Second National Conference on Habilitation and Rehabilitation of Deaf Adolescents. Attempts to obtain this presentation were also unsuccessful. As described in Sullivan et al, this study included data collected over a two-year period after lectures that were held for all incoming freshman at a postsecondary educational facility for the hearing impaired. The speakers described and defined different forms of sexual abuse during the lecture. Upon completion of the lecture, the students completed a written questionnaire. No information is provided by Sullivan et al. regarding the contents of the questionnaire. They reported that 11.1% of the 322 students who completed the survey reported that they had been victims of sexual abuse. The authors did not provide a definition of sexual abuse as used in this questionnaire.

Finally, Sullivan et al. reported on the findings of interviews conducted by sign language interpreters with residents of the Center for Abused Handicapped Children at the Boys Town National Institute for Communication Disorders in Children. The date of this research is unknown. These interviews identified more than 100 children who were
deaf and who reported physical or sexual abuse. The authors did not indicate what percentage of the deaf population these children represented; however, they presented these findings as strong support for their conclusion that children who are deaf are more likely to be abused than their hearing counterparts.

As discussed, the conclusions drawn by Sullivan et al. (1987) are frequently cited by researchers investigating the incidence of sexual abuse in the deaf community; often these findings are used as a benchmark against which to compare their findings on rates of sexual abuse of children who are deaf, as well as locations where the abuse occurred (e.g., in the home, at school). Because Sullivan et al. (1987) has been central to subsequent writing or research on the issue of sexual abuse in the deaf community, it is important to examine the veracity of the suppositions made. As stated earlier, attempts to obtain the original articles from the four studies cited in this article were unsuccessful. The interviews, surveys, and research cited by Sullivan et al. have strong conclusions about the prevalence of sexual abuse among children who are deaf as compared to hearing children. Even with limited information about the children who participated or the methods used, methodological problems with the cited studies are evident. These include sampling problems (which Sullivan et al. acknowledge) and possible communication difficulties: the modes of communication and language abilities of the children may be a reason to doubt how well the children understood the questions and the definitions of sexual abuse (Sullivan et al.).

In spite of these potential problems, however, the possibility of a large percentage of deaf children reporting sexual victimization is disturbing. According to Sullivan et al. (1987), the four studies cited indicated that the rate of sexual abuse is 54% for boys and
50% for girls. This is in comparison to rates among the hearing community for boys and girls, which are 10% and 25%, respectively, according to Finkelhor’s (1994) widely cited findings. One noticeable difference in these data is the reversal of the sex ratio from the hearing community; in the Sullivan et al. study, more boys than girls report sexual victimization. In addition, the USDHHS (2009b) found that 7.6% of confirmed cases of abuse were sexual in nature, much less than the percentages cited by Sullivan et al. (1987). Other authors have voiced concerns regarding the conclusions of Sullivan et al. (e.g., Sebald, 2008) and called for more methodological research on this topic.

The publication of the article by Sullivan et al. (1987) created an awareness of the paucity of research in the area of sexual abuse of deaf youth. In an effort to add to the body of knowledge, Skinner (1991) examined the prevalence of child abuse and associated factors in a deaf clinical population. She obtained data by surveying therapists who were serving the mental health needs of deaf and/or hard of hearing individuals. Skinner did not compare this sample with a similar hearing sample; rather, the purpose of the study was to examine the characteristics of abuse within the deaf community by comparing severity of hearing loss, time of hearing loss, types of abuse, hearing status of parents, parent’s mode of communication, and type of school attended. Therapists reported on 865 clients, 599 (69%) of whom had experienced some type of abuse. Sexual abuse alone accounted for 10% of the maltreatment that was reported. Skinner did not report the age at which the abuse had first occurred. Combined types of abuse (physical, sexual, and neglect) accounted for 45% of the total cases reported by clients. Skinner’s study was the earliest reference to Sullivan et al. (1987) that could be located, and a good attempt to examine the characteristics of deaf abused individuals in a more scientifically
rigorous manner. While a comparison with a hearing clinical comparison group would have been valuable, Skinner provided helpful information regarding some of the characteristics of those in her sample who had been abused.

In order to evaluate Skinner’s (1991) findings, it is necessary to compare them to a clinical sample in the hearing population as studies using clinical samples show higher rates of abuse overall. The comparison between a deaf and hearing clinical population shows variability in the findings. Some (e.g., Evren, Kural, & Cakmak, 2006) are quite similar to Skinner (1991), while others (e.g., Nilsson, et al. 2005) show higher rates of sexual abuse in the hearing clinical sample. Skinner’s findings, while not reaching statistical significance on any of her hypotheses, show a higher rate of abuse overall and a varied rate of sexual abuse as compared to these clinical studies. A difference in this sample as compared to the other studies with clinical participants may be that Skinner surveyed the therapists whereas each of the aforementioned clinical studies surveyed the patients themselves. Skinner’s response rate (34% of invited therapists) may over- or under-represent actual prevalence rates.

Embry (2000) attempted to examine the maltreatment of children who are deaf on a more national level. He conducted a mail survey using 2,000 randomly selected names from the TDI Telephone Text Directory. This directory lists individuals, businesses, and organizations that have telecommunication devices for the deaf (TDDs). He received 770 responses (51% return rate) from 48 states with information regarding general demographic factors, amount of hearing loss, rates and types of maltreatment, and other factors thought to be predictive of abuse (e.g., caregiver alcohol/substance abuse and mental health problems, economic status, family functioning). The respondents were
93% white, 60% male, and 49% were profoundly deaf by or before the age of three. Embry reported that 45% of the sample had been abused: 19% had been physically abused by a caregiver and 30% by a residential staff worker, almost 18% reported sexual abuse, and 9% reported neglect. When examining the factors that predicted abuse, Embry found that poor communication quality between participant and parent, factors related to residential school attendance, caregiver mental health factors, and amount of hearing loss were all predictive of maltreatment. Embry defined sexual abuse as “minor” (occurred before age 18, involved sexual touching) or “major” (occurred before age 14 or before age 18, involved penetration, and the perpetrator was stranger, professional, babysitter and at least five years older than participant). Although Embry used age as a parameter for defining the type of abuse, he did not report on the age at which the abuse first occurred. When examining issues connected with residential school for the deaf attendance, Embry found that 43% of respondents reported that incidents of minor sexual abuse and nearly 38% of major sexual abuse occurred while at school.

Another, more recent study compared the prevalence rates and effects of child sexual abuse in both a hearing and a deaf sample. Hester (2002) surveyed 187 deaf and hearing individuals who were randomly selected from the general population of residents living in Utah. She obtained her sample of deaf participants using the Utah TTY Directory, deaf church directories, and referrals from study participants. The pool for the hearing group was chosen from the white and yellow pages of a Utah phone book. These names were selected via generated random number lists which denoted page number and name to select from the page. She obtained a response rate of 26.6% which included 69 hearing and 104 deaf participants. Surveys were mailed to selectees with follow up
reminders sent one week and three weeks later. Participants were asked about the amount of hearing loss, and were classified with profound (71 dB), or moderate (below 70 dB) hearing loss. Individuals with moderate hearing loss were placed in the hearing group and those with profound loss were assigned to the deaf group.

Hester’s (2002) study used a paper/pencil survey in order to collect information regarding general demographic information as well as hearing status, parents’ hearing status, and primary mode of communication (e.g., English, American Sign Language). This survey also included questions, in multiple choice formats, regarding the respondents’ experience of child sexual abuse. This section began with a brief description of sexual abuse (e.g., touching, intercourse, and exhibitionism) and included drawings to indicate where respondents were touched or were told to touch others. Data were collected concerning age at abuse, number of times, location(s) (e.g., home, school), information on abuser(s), and types of sexual abuse acts. The descriptions of abuse ranged from acts such as looking at private parts, performing oral sex, and intercourse. These acts were classified as either being forced upon the victim, or the victim being forced to do the act. Finally, the survey asked whether and to whom the abuse was disclosed. The study also included a measure of overall psychological functioning.

Hester (2002) found that respondents who were deaf reported child sexual abuse at a rate of 19.8%, compared to 10.1% of hearing respondents. While these rates did not differ significantly, this study suggests that individuals who were deaf were abused more often than were their hearing counterparts. In contrast with Sullivan et al., (1987), who found that attending a school for the deaf increased the risk of child sexual abuse, Hester
found that attendance at a school for the deaf was not a risk factor. The mean age of at the time the abuse started was 8.8 years for deaf and 10.9 years for hearing children. This is older than the findings of both Sullivan and Knutson (2000) and Hershkowitz et al. (2007). Hester also inquired as to the level of severity and found that respondents who were deaf had experienced more severe forms of abuse as compared to the hearing participants. Additionally, 61% of deaf respondents who had been abused stated that they had more than one perpetrator, whereas none of the hearing respondents reported more than one perpetrator. In spite of the lack of statistical significance in this study, results indicate that abuse occurs more frequently, with more severity, and with multiple perpetrators to children who are deaf as compared to hearing children.

Only one other study was located that has examined the prevalence of child sexual abuse in the deaf community. Kvam (2004) used the Norwegian Deaf Register, which included contact information for all 1,150 Norwegian adults who were deaf. A 1994 survey of members of the Norwegian general population served as a model for Kvam’s questionnaire, and the results of that survey were used for comparison to the results from the deaf sample. In order to overcome any possible issues with communication, a deaf social worker videotaped a sign language version of the questionnaire as well as instructions for how to answer the paper edition; these videotapes were available to participants as needed. In an effort to increase awareness and response rates, the author placed articles on sexual abuse and announcements of the coming questionnaire in local newspapers and magazines for the deaf. Final response rate of questionnaires that fit criteria (e.g., fell into same age range) to compare to the 1994 survey was 55.5% and included 338 participants.
Kvam (2004) reported findings that were similar to Sullivan et al. (1987) in that the rates of abuse were higher for the individuals who were deaf. Kvam defined the types of abuse as non-contact, contact without genital touching, genital touching, and intercourse. When the findings for all of these types of sexual abuse were combined, 45.8% of deaf and 30.6% of hearing women reported abuse and 42.4% of deaf and 15.8% of hearing men reported abuse. The data only for sexual abuse with contact indicated that deaf females reported abuse more than twice as often (39.6%) as hearing females (19.2%), and deaf males reported sexual abuse with contact at a rate that was three times higher (32.8%) than for hearing males (9.6%). There were some methodological problems with this retrospective study such as the possibility of forgotten or distorted facts, as well as the difference in wording on the questionnaires for the control group as compared to the group who was deaf. Lastly, Kvam described the response rates as low (55.5% for the survey of the deaf and 37% for the 1994 control survey) which weakened the validity of the studies. In spite of these limitations however, Kvam’s findings support those of that Sullivan et al. (1987) in concluding that there is a higher rate of sexual abuse in the deaf community as compared to hearing.

Knowledge of Sex and Sexual Abuse among Deaf

Several previous studies have found that individuals who are deaf do not have the same general knowledge about sex and sexual health as do their hearing peers. Swartz (1993) showed statistically significant differences in knowledge of sex between deaf and hearing college freshman. This conclusion was based on responses to the Sex Knowledge Inventory from 38 deaf and 203 hearing participants from the freshman classes at two Maryland colleges and Gallaudet University. Deaf students lacked the most knowledge
in the areas of anatomy and physiology. Swartz speculated that this lack of knowledge was the result of language limitations, inadequate signs for anatomical words, a poverty of acquired information via daily exposure to auditory information from television, peers, radio, etc., and poor comprehension of interpreters in school settings. Swartz also pointed to poor familial communication as a possible contributor to the lag in knowledge of the deaf respondents. Luckner and Gonzalc (1993) also examined knowledge of sexual matters when they surveyed over 200 secondary students at deaf and hard-of-hearing schools or programs and found that deaf adolescents had gaps in knowledge on sexual issues concerning transmission, prevention, and risk factors for HIV/AIDS. These studies indicate that the differences in schooling, communication abilities, and ability to acquire knowledge from everyday life may negatively impact the knowledge of sexual issues in the deaf population.

There has been some speculation but little research into the reasons for the apparent lag in knowledge between deaf and hearing samples. Joseph, Sawyer, and Desmond (1995) observed that a lack of incidental learning (e.g., via overheard conversations, media exposure) may be part of the cause for the difference. Another possible reason is hesitance on the part of parents to teach their children about sex, due in part to communication difficulties (Fitz-Gerald & Fitz-Gerald, 1980; 1987). Indeed, Schirmer (2001) stated that parents of children who are deaf are less likely than parents of hearing children to talk about matters of sex. Job (2004) described several additional factors involved in the gap of sexual knowledge between hearing and deaf populations: lack of opportunity to acquire knowledge, misinformation from peers, and inadequate
school-based information. Swartz (1993) also cited poor in-school education on the subject as well as difficulty comprehending written texts due to language limitations.

Knowing deaf adolescents and college students have less general sexual knowledge than their hearing peers, it is easy to assume that the same is true in regard to knowledge of sexual abuse. Research has shown that only about 50% of parents of hearing children educate their children about sexual abuse (Kenny, Capri, Thakkar-Kolar, Ryan, & Runyon, 2008; Wurtele, Kvaternick, & Franklin, 1992). In addition, Wurtele and Owens (1997) reported that hearing children have little knowledge about sexual abuse and the skills to protect themselves from predators; therefore, it is likely that children who are deaf have even less knowledge, and are even less likely to be educated by their parents about sexual abuse and self-protection.

Due to the lag in knowledge and communication issues, it is important to separate deaf and hearing impaired children from other disabilities when examining sexual abuse of children who are disabled. Many previous studies grouped children into sensory disabilities/impairments (e.g., Hershkowitz et al., 2007; Sullivan & Knutson, 2000): this grouping would not allow us to differentiate between deaf/hard of hearing and blind/visually impaired children.
Chapter II

Rationale and Hypotheses

The research on child sexual abuse estimates prevalence rates between 10-25% in the general population (Finkelhor, 1994). Assessment of the rates of abuse can be problematic due to their often retrospective nature; few longitudinal or prospective studies have been conducted due to their difficulty and expense. Further, information regarding rates of abuse on a national level is based on reports to some authority or organization. However, research indicates that sexual abuse is unreported more often than not (Theodore et al., 2005); therefore determining the actual number of cases of child sexual abuse is difficult at best.

While the statistics of the prevalence and effects of sexual abuse are alarming on their own, when the child has a disability of any kind, the numbers increase. Several clinical studies have shown that children with disabilities are victims of sexual abuse more often than non-disabled children (e.g., Kendall-Tackett et al., 2005) and some studies have found that a disabled child was more than three times as likely to be a victim of all types of abuse than was a non-disabled child (Sullivan & Knutson, 2000), regardless of level or type of disability (Hershkowitz et al., 2007). There are mixed findings regarding age differences relative to occurrence of abuse of disabled children. Some authors note no differences (Sullivan & Knutson) and others found that disabled children are abused at a younger age than their non-disabled peers (Hershkowitz et al.) In contrast, Hester (2002) found abuse of children who are deaf occurred at an older age than the children in both of those studies.
Children who are deaf may be especially vulnerable due to poor self-esteem (Schirmer, 2001) and problems communicating (Ridgeway, 1993). Limited research exists on the prevalence of sexual abuse in this community. Some literature indicates that between 40-50% of children who are deaf may be victims of sexual abuse (Kvam, 2004; Sullivan et al., 1987), while other research has shown rates between 10-20% (Embry, 2000; Hester, 2002; Skinner, 1991). These studies each have their own limitations such as sampling problems, use of clinical samples, low response rates, responder bias, and possible communication issues with the deaf respondents.

While national studies exist that provide information regarding the rates of and factors involved in child maltreatment, these studies rarely include the disability status of the child as a variable. Most studies group disability categories together (e.g., visual/hearing impairment) in a way that makes it impossible to ascertain whether deafness itself is a risk factor for increased rates of child sexual abuse. In order to better understand what role, if any, deafness plays in a child’s vulnerability to sexual abuse, it is important to examine national-level data that include specific types of disability as a variable.

The data that will be analyzed for this study were collected by Crosse et al. (1991). These data are the only known national source that specifies specific types of disability of the child. This detailed information allows for closer examination of rates of sexual abuse of deaf children as compared to other disabilities. It also allows for a deeper understanding of the factors contributing to or correlating with sexual abuse of children who are deaf. In addition, these data provide information about the reported and substantiated cases of maltreatment against children with hearing impairments and other
disabilities. Much of the existing research provides data based only on retrospective self-reports. This study may contribute to the field by providing information regarding the possible differences in abuse disclosure to authority figures by children who are deaf as compared to children with other disabilities.

The data that will be examined include cases of child maltreatment, that have been substantiated by the relevant local authorities. Sexual abuse in this data set was defined by three types: (1) evidence of oral, anal or genital penile penetration, either homosexual or heterosexual; (2) molestation with genital contact but not necessarily penetration, and (3) other unknown sexual abuse which included unspecified acts such as fondling of breasts or buttocks, exposure to the perpetrator, and allegations of inadequate or inappropriate supervision of a child’s voluntary sexual activities.

This study will also examine the perpetrators of abuse. When the data were collected, Cross et al. (1991) used individual codes for relative abusers and allowed write-in specification of non-relative abusers. This study will identify “school personnel” as any non-relative perpetrator connected with a school in an employed or voluntary capacity.

Children who were classified in this data set as “disabled” met two criteria: identification as having a disability (such as mental retardation) and evidence of functional impairment (see pages 33-34 for more detail).

In light of the above, the following hypotheses are proposed:

H1: Children who are categorized as disabled (see definition on page 30-31) will have significantly higher rates of all substantiated abuse relative to non-disabled children
H2: Children who are categorized as disabled will have significantly higher rates of substantiated sexual abuse relative to non-disabled children.

H3: Children who are deaf will have significantly higher rates of substantiated sexual abuse relative to children in other disability categories.

H4: Children who are categorized as disabled will have significantly higher rates of substantiated sexual abuse by school or school-related personnel (staff, bus drivers) relative to non-disabled children.

H5: Children who are deaf will have significantly higher rates of substantiated sexual abuse by school or school-related personnel relative to children in other disability categories.

H6: The mean age of substantiated sexual abuse will not differ significantly for children who are categorized as disabled relative to non-disabled children.

H7: The mean age of substantiated sexual abuse will be significantly older for children who are deaf compared to other disabled children.

H8: The distribution of Race/ethnicity will not significantly for children categorized as disabled relative to non-disabled children.

H9: The distribution of Race/ethnicity will not significantly differ across disability categories.
Chapter III

Method

Participants

The data for this study were collected by Crosse et al. (1991) and will come from a publicly available dataset managed by the National Data Archive on Child Abuse and Neglect (NDACAN) at Cornell University. The children whose data are captured in this data set had maltreatment cases substantiated by Child Protective Services (CPS) agencies. These agencies comprised a nationally representative sample and were drawn from a county sample procedure consisting of 3,185 counties throughout the United States. This sampling was constructed using information on school enrollment, metropolitan status, and median household income from the 1998 County and City Data book which was prepared by the U.S. Census. Details of the sampling procedure are described at the NDACAN website: www.ndacan.cornell.edu.

The sample consisted of 36 agencies that were stratified into two size categories using school enrollment as a measure of size: county school enrollment of 53,122 students was the cut-off point. All substantiated cases from each participating agency for a four or six week period were gathered in the data set and will be used in this study.

The data used in this study are from 1,249 substantiated cases of abuse involving 1,834 children. The maltreated children identified during the study period and used in this dataset ranged in age from under one to 17 years. The sample was 47.8% male, 52.2% female, and predominantly Caucasian (60.7%). Other races/ethnicities included African American (28.2%), Hispanic (8.1%), and other (2.9%). Further description of the
demographics for the children and families whose data were captured for this study is
provided by Crosse et al. (1991).

Disabilities included in this dataset are as follows: mentally retarded, speech or
language delayed, motor development delayed, orthopedically impaired, chronic health
condition, hard of hearing, deaf, visually handicapped, blind, speech or language
impaired, hyperactive, learning disabled, failure to thrive, seriously emotionally
disturbed, low birth weight, positive drug or alcohol toxicology, HIV infected, and
premature. The caseworkers contributing information to this dataset were the ones who
identified children as disabled. The disabilities were not confirmed by a health care
professional. Caseworkers were also asked to specify which disability type was the most
serious problem if more than one was identified, and were asked specific questions
regarding mental health issues, behavior problems, and criminal involvement of the
children in question.

According to Cross et al., 1991, the children were determined to have a disability
based on the following criteria:

“... (a) they were suspected of being mentally retarded, hard of
hearing, deaf, speech impaired, visually impaired, blind, seriously
emotionally disturbed, orthopedically impaired, other health impaired,
deaf-blind, or of having specific learning disabilities or multiple
disabilities; and (b) who, because of those impairments, had limited
functioning in one or more life activities, including mobility, self-care,
receptive and expressive language, learning, self-direction, capacity for
independent living, and economic self-sufficiency.” (p. 1-7).
Cross et al. (1991) also included data on children who had a perinatally at-risk condition. These children were included if they “were under one year of age and they were suspected of being low birth weight, premature, or HIV infected, or of having a positive drug or alcohol toxicology” (p. 1-7).

For the purposes of this study, and in order to compare with other studies of abuse of disabled children (e.g., Hershkowitz et al., 2007; Sullivan & Knutson, 2000), the data from the children with disabilities will be grouped into the following categories: motor impairments, hearing impairments, visual impairments, language and/or speech impairments, other health impairments, Attention-Deficit/Hyperactivity (ADHD) disorder, learning disorders, seriously emotionally disturbed, and multiple disabilities. The data from the children who were identified as being perinatally at-risk will not be included in this study.

Procedure

According to Crosse et al. (1991), participating agencies began data collection between February 4, 1991 and March 11, 1991. Caseworkers used printed sample instruments with instructions to identify appropriate cases and complete study forms. Generally, all substantiated cases for this six week period were included; however, some agencies collected data for only four weeks. A second round of data collection involved telephone interviews with the current or last caseworker assigned to the cases originally identified for this study. These interviews took place approximately 90 days after the case was substantiated. These interviews focused on obtaining additional information on services received by the participants and the outcomes of the cases. In addition, this data collection confirmed estimates of disabilities obtained during the first round.
Periodically, additional follow-ups were conducted regarding the status of cases (Crosse et al.)

The NDACAN organization is the holder of this dataset. These data have been completely de-identified and no information is available that would allow one to determine the names or any identifying information regarding the participants in this study. This dataset will be securely maintained and managed in accordance with NDACAN policy. Access to this dataset was obtained via an online application at the NDACAN website. After supplying information regarding the proposed use of the dataset, and agreeing to follow the terms and guidelines as outlined by the Terms of Use Agreement, a link to the dataset was emailed for download.

The variables in the dataset that will be used for analysis in this study include the type of maltreatment substantiated, the child’s disability status, and the type of disability (deaf, hard of hearing, etc.). In addition, the age of the child at the time of abuse will be examined for comparison against national norms. Race/ethnicity of child and perpetrator of abuse will also be examined as will the relationship of the perpetrator to the child (caregiver, neighbor).
Chapter IV

Proposed Analyses

The aim of the present study is to analyze national-level data in order to better understand what role, if any, deafness plays in a child’s vulnerability to sexual abuse. In addition, this study aims to examine the identity of the perpetrators of sexual abuse of deaf children in order to examine the question of whether school or school-related personnel are abusers of children who are deaf more often than of non- or otherwise-disabled children. Further aims of this study is to compare the age at abuse of children who are deaf with children in other disability categories and children without a disability and to examine whether race/ethnicity is a significant predictor of abuse of children who are deaf as compared their non- or otherwise-disabled peers.

In order to test hypotheses one through five, which address the rates of abuse for disability categories of children, chi-square analyses will be conducted.

In order to test hypotheses six and seven, which addresses the mean age of substantiated sexual abuse, an Analysis of Variance (ANOVA) will be conducted.

In order to test hypotheses eight and nine, which is that the distribution of Race/ethnicity will not significantly differ across non-disabled children or disability categories, a chi-square analysis will be conducted.
References


SUBSTANTIATED SEXUAL ABUSE OF DEAF


Chapter V

Dissertation

Abstract

Previous studies have found that children who are disabled are more likely to be maltreated, with especially high rates of maltreatment among deaf children. This study examined data from a nationally-derived sample of 2662 alleged child maltreatment cases that also included information on type of disability to evaluate rates of maltreatment between disabled and non-disabled and to examine other variables that have been associated with risk for maltreatment. Disabled children were found to be 3.1% more likely to be maltreated than their non-disabled peers, and 2.08 times more likely to be sexually abused than non-disabled children. Perpetrators of sexual abuse were more likely to be an adult outside of the family/caregiver group for children who were disabled (37.5%) compared to non-disabled (19.6%), and sexually abused disabled children were predominantly Caucasian (86.2%). The number of deaf and hearing impaired children in this sample was much less than expected in light of statistics on the frequency of deafness, which raises concern that communication issues and lack of awareness of sexual abuse may contribute to low rates of disclosure of maltreatment in the deaf community.
The Prevalence of Substantiated Sexual Abuse of Children Who are Deaf: An Examination of a National Database

In 2007, approximately 794,000 children were confirmed victims of maltreatment or neglect, a number that represents 10.6 per 1,000 children in the United States (U.S. Department of Health and Human Services, Administration on Children, Youth, and Families [USDHHS], 2009). Of those nearly 800,000 children, more than 60,000 (7.2%) were sexually abused (USDHHS). Some research estimates that there is likely twice that number whose victimization is not reported (Hunter, 2006). A 1995 Gallup poll sampling 1000 families in the United States suggested that the rates of child maltreatment may be as much as ten times higher than officially reported (Theodore et al., 2005). The incidence of reported maltreatment, and potential for such large numbers of unreported cases, emphasize the importance of continued research in this area.

Impact of Child Sexual Abuse

The impact of child sexual abuse has been widely researched (see Hunter, 2006 for a review). Children who report sexual abuse are likely to be removed from their homes and placed in foster care, resulting in emotional upheaval and possible attachment issues. There are a number of additional pressures that may be placed on the child at this time, including questioning from social workers and attorneys as well as pressure to testify against the offender (Gries et al., 2000). There also are a variety of physical and psychological symptoms that are prevalent in children who have been sexually abused, such as sexualized behaviors (including overt self-stimulation and inappropriate sexual behaviors) and Post-Traumatic Stress Disorder (PTSD) (Kendall-Tackett, Williams, & Finkelhor, 1993). Researchers report increased rates of nightmares, sleep disorders,
depression, repressed anger and hostility, behavior problems, and somatic complaints in children who are victims of sexual abuse (Berliner & Elliott, 2002). History of maltreatment (in general) and sexual abuse (in particular) is also associated with longstanding difficulties such as suicide attempts, development of personality disorders, and other serious mental disorders (Hunter, 2006; Linehan, 1993).

**Risk Factors for Sexual Abuse Victimization**

Numerous studies have attempted to ascertain the individual factors that might increase a child’s likelihood of sexual abuse victimization. Multiple studies have shown that gender is a risk factor such that girls are as much as three to four times more likely to be victimized than are boys (e.g., Dembo, Schmeidler, & Childs, 2007; Hester, 2002; Sedlak & Broadhurst, 1996). Racial differences may be a risk factor, although some summaries of studies have inconclusive findings (Bolen, 2001) while other studies suggest that the frequency of child maltreatment differs across racial/ethnic groups (Ullman & Filipas, 2005). Differences in rates of disclosure (as opposed to incidence of the behavior) have been suggested to account for these racial differences, when they have been found (Ullman & Filipas). Age may play a part in risk for sexual abuse although findings are also varied. First instances of sexual abuse occur most often in younger children although some research indicates that there is a sharp increase during early to mid-adolescence (Wolfe, 2007). Certain personality characteristics may also contribute to risk for sexual abuse. Elliott, Browne, and Kilcoyne (1995) interviewed convicted sexual offenders of children and learned that children who were trusting and innocent (13%) or who lacked confidence and had low self-esteem (49%) were more likely to be targets of sexual abuse.
Maltreatment and Sexual Abuse of Children Who Are Disabled

Given that previous studies have suggested that children with “vulnerabilities” are at higher risk of victimization, it is not surprising that some studies specifically examining maltreatment of children who are disabled indicate that they are victims more often than non-disabled children (Kendall-Tackett, Lyon, Taliaferro, & Little, 2005), although this has not been supported by all data (USDHHS, 2009). Research also indicates that children with disabilities are less likely than non-disabled children to disclose maltreatment. This finding may be due to a variety of factors, including an impaired ability to understand what happened (Goldman, 1994; Hershkowitz, Lamb, & Horowitz, 2007) or the physical and social isolation that can result from being disabled (Paine & Hansen, 2002). Lower levels of disclosure by a child with a disability may account for the relatively low percentage of maltreated disabled children reported by the USDHHS as compared to the studies cited above as the USDHHS data reports only on maltreatment substantiated by Child Protective Service (CPS) agencies.

In an effort to assess the prevalence of maltreatment and neglect among children who were identified as disabled, several studies have been conducted. Sullivan and Knutson (2000) examined the records of 50,278 school children in the Midwest and found an overall maltreatment rate of approximately 11%; the rate of maltreatment of children with a disability was 31%. Both disabled and non-disabled children most commonly were maltreated for the first time between the ages of six and nine years. The authors found that there was a strong association between some form of maltreatment and disability, such that a disabled child was 3.4 times more likely to be a victim of maltreatment than was a non-disabled child. This study did not find any significant
associations between type of disability and type of maltreatment (Sullivan & Knutson). Hershkowitz et al. (2007) examined the forensic statements of 40,430 children with alleged cases of physical and/or sexual abuse. These statements were collected in Israel between 1998 and 2004, and the authors found that children with both minor (developmental delay, hearing impairment) and severe (childhood schizophrenia, deafness) disabilities were alleged victims of sexual abuse significantly more often than non-disabled children. Additionally, the children with disabilities were less likely to disclose sexual abuse at a significantly higher rate than non-disabled children (Hershkowitz et al.). Unlike Sullivan and Knutson, these authors found some differences relating to age. Disabled children were more likely to be sexually abused between the ages of three and six years, whereas their non-disabled peers were more likely to be sexually abused between the ages of 11 and 14 years.

**Maltreatment and Sexual Abuse of Children Who Are Deaf**

One type of disability that has been understudied in this area is deafness. Children who are deaf may be more vulnerable to maltreatment for several reasons such as a negative self-view (Ridgeway, 1993), encouragement of compliant behavior by rehabilitation and education programs, a perception by others as weak and passive (Sobsey & Doe, 1999), and naiveté about sexual norms and values (Sullivan, Vernon, & Scanlan, 1987).

The few studies examining rates of sexual abuse of deaf and hearing impaired children present disturbing findings. Sullivan et al. (1987) examined data that had been collected in four different studies and concluded that children who are deaf may be sexually abused at a rate nearly double that in the hearing community. There are
methodological limitations in this study (which Sullivan et al. acknowledge) and possible communication difficulties that limit confidence in these results, however. For example, the modes of communication and language abilities of the children who were assessed in the studies raises concern about how well the children understood the questions and the definitions of sexual abuse (Sullivan et al.). Despite these potential problems, the possibility of a large percentage of deaf children experiencing sexual victimization is troubling.

There is limited subsequent research on this issue. Skinner (1991) examined the prevalence of child maltreatment and associated factors in a sample of deaf adults who were seeking mental health treatment. She obtained data by surveying therapists who reported on 865 clients, 599 (69%) of whom had experienced some type of maltreatment. Sexual abuse alone accounted for 10% of the maltreatment that was reported in this sample. Embry (2000) attempted to examine the rates of maltreatment of children who are deaf on a national level by conducting a mail survey of 2,000 randomly selected names from the Telecommunications for the Deaf, Inc. (TDI) Telephone Text Directory. Of the 770 survey respondents, 45% reported a previous incident of maltreatment. Of these, 19% reported that they had been physically abused by a caregiver and 30% by a residential staff worker; almost 18% reported sexual abuse; and 9% reported neglect. Poor communication quality between participant and parent, factors related to residential school attendance, caregiver mental health factors, and amount of hearing loss were all related to maltreatment in the regression analysis of risk factors. Perhaps most concerning, Embry found that 43% of respondents reported that incidents of minor
sexual abuse and nearly 38% of major sexual abuse occurred while at a residential school for the deaf.

Hester (2002) surveyed 104 deaf and 69 hearing individuals who were randomly selected from the general population of residents living in Utah. She found that respondents who were deaf reported child sexual abuse at a rate of 19.8%, compared to 10.1% of hearing respondents, but attendance at a school for the deaf was not a risk factor in this sample. The mean age at the time the sexual abuse started was 8.8 years for deaf and 10.9 years for hearing children, which is older than the findings of both Sullivan and Knutson (2000) and Hershkowitz et al. (2007). Hester did not examine differences in age for statistical significance. Kvam (2004) also surveyed deaf adults (n = 338) regarding their experiences of sexual abuse and compared findings with a survey of members of the general population (n = 1850) in Norway. She reported findings similar to Sullivan et al. (1987) in that the rates of all types of sexual abuse (which were operationally defined as non-contact, contact without genital touching, genital touching, and intercourse) were higher for the individuals who were deaf compared to those who were hearing for both women and men: 45.8% of deaf and 30.6% of hearing women reported sexual abuse whereas 42.4% of deaf and 15.8% of hearing men reported sexual abuse. Sexual abuse with contact was an even more disparate finding in that deaf females reported sexual abuse more than twice as often (39.6%) as hearing females (19.2%), and deaf males reported sexual abuse with contact at a rate that was three times higher (32.8%) than for hearing males (9.6%).
Disclosure of Sexual Abuse among Deaf

Kvam (2004) also found that children who are deaf are less likely to disclose sexual abuse than their hearing peers. This may, in part, be related to previous findings that deaf children have less general knowledge about sex (Luckner & Gonzales, 1993), less knowledge about appropriate sexual behavior (in general) and what constitutes sexual abuse (more specifically) (e.g., Swartz, 1993), resulting in a lack of awareness about what constitutes inappropriate contact. This lack of knowledge may be due to a dearth of incidental learning (e.g., via media exposure) and may account for the difference in rates of disclosure (Joseph, Sawyer, & Desmond, 1995).

Poor communication with parents may also inhibit disclosure of sexual abuse by children who are deaf. Over 90% of children who are deaf have parents who are hearing (Scheetz, 2001), and many of these parents do not know any sign language or know only a minimal number of signs. Some research indicates that as much as 81% of parents are unable to communicate effectively with their deaf child (Ridgeway, 1993). In cases of sexual abuse, it is possible that the child who is deaf may not be able to convey the complicated concepts of sexual abuse to a parent who is not fluent in their language. In addition, parents of children who are deaf are less likely to talk to their children about sex (Schirmer, 2001), which may create a barrier to disclosure once sexual abuse has occurred.

The studies examining the sexual abuse of children with disabilities and specifically those who are hearing impaired are disturbing. Research indicates higher rates of sexual abuse in deaf samples as compared with hearing samples (Kvam, 2004). This increased risk, combined with a developmental lag in sexual knowledge (Swartz, 1993) and
barriers to communication (Schirmer, 2001) may create increased vulnerability for children who are hearing impaired versus those who are otherwise disabled. Little research exists that examines rates of sexual abuse by type of disability. Many previous studies placed children who are deaf into a “sensory disability/impairment” group (e.g., Hershkowitz et al., 2007; Sullivan & Knutson, 2000): this grouping would not allow differentiation between deaf/hearing impaired and blind/visually impaired children. Thus, it is important to separate deaf and hearing impaired children from other disabilities when examining the rates of sexual abuse of children who are disabled.

Method

Participants

The data for this study were collected by Crosse et al. (1991) who developed a publicly available dataset managed by the National Data Archive on Child Abuse and Neglect (NDACAN) at Cornell University. The children whose data were captured in this dataset had maltreatment cases substantiated by local Child Protective Services (CPS) agencies. These agencies were drawn from a county sample procedure of 3,185 counties throughout the United States. This sampling was constructed using information on school enrollment, metropolitan status, and median household income from the 1998 County and City Data book prepared by the U.S. Census. Details of the sampling procedure are described at the NDACAN website: www.ndacan.cornell.edu. The sample consisted of 36 agencies that were stratified into two size categories in order to properly weight each agency’s data regardless of size. See Cross et al. (1991) for more detail regarding sampling methods. All substantiated cases from each participating agency for a four or six week period were gathered in the dataset and were used in this study.
The data used in this study involve 1,834 children ranging in age from under one year to 18 years. Some children had multiple cases of alleged maltreatment; therefore, there were a total of 2,662 alleged child maltreatment cases included in this dataset. The sample was 50.7% male and predominantly Caucasian (41.2%). Other races/ethnicities included African American (37.9%), Hispanic (15%), Asian (2.3%), and other/unknown (3.7%). Children with disabilities comprised 198 (7.4%) of the alleged child maltreatment cases, including nine children (0.3%) with hearing impairments. Further description of the demographics for the children and families whose data were captured for this study is provided by Crosse et al. (1991).

The dataset includes information about disabilities of some of the children (disability status was known for all of those who had maltreatment substantiated) in the following categories: mentally retarded, speech or language delayed, motor development delayed, orthopedically impaired, chronic health condition, hard of hearing, deaf, visually handicapped, blind, speech or language impaired, hyperactive, learning disabled, failure to thrive, seriously emotionally disturbed, low birth weight, positive drug or alcohol toxicology, HIV infected, and premature. The caseworkers contributing information to this dataset assigned the children to disability categories based on the information available to them; the disabilities were not independently confirmed by a health care professional for the purposes of this dataset. The caseworkers were instructed to make this determination based on their impression that the child experienced impairments and “had limited functioning in one or more life activities, including mobility, self-care, receptive and expressive language, learning, self-direction, capacity for independent living, and economic self-sufficiency” (Cross et al., 1991, p. 1-7).
For the purposes of this study, and in order to compare with other studies of maltreatment of disabled children (e.g., Hershkowitz et al., 2007; Sullivan & Knutson, 2000), the data from the children with disabilities were grouped into the following categories: motor impairments, hearing impairments, visual impairments, language and/or speech impairments, other health impairments, Attention-Deficit/Hyperactivity (ADHD) disorder, learning disorders, seriously emotionally disturbed, and multiple disabilities. Although Cross et al. (1991) identified an “at risk” group of children under the age of one year who had conditions such as low birth weight, premature birth or HIV infection, those cases were not identified as disabled in the present study.

Procedure

According to Crosse et al. (1991), participating agencies began data collection between February 4, 1991 and March 11, 1991 and completed collection between four and six weeks later. Caseworkers used printed sample instruments with instructions to identify appropriate cases and complete study forms. Generally, all substantiated cases for this six week period were included; however, some agencies collected data for only four weeks. A second round of data collection involved telephone interviews with the current or last caseworker assigned to the cases originally identified for this study. These interviews took place approximately 90 days after the case was substantiated. These interviews focused on obtaining additional information on services received by the participants and the outcomes of the cases. In addition, this data collection confirmed estimates of disabilities obtained during the first round. Periodically, additional follow-ups were conducted regarding the status of cases (Crosse et al.)
The NDACAN organization maintains and regulates use of this dataset. These data have been completely de-identified and no information was available that would allow one to determine the names or any identifying information regarding the participants in this study. The primary investigator was given access to the database in order to conduct this study (see Appendix A). This dataset was securely maintained and managed in accordance with NDACAN policy. Access to this dataset was obtained via an online application at the NDACAN website. After supplying information regarding the proposed use of the dataset, and agreeing to follow the terms and guidelines as outlined by the Terms of Use Agreement, a link to the dataset was emailed for download. This study was also approved by the Xavier University Institutional Review Board (see Appendix B).

The variables in the dataset that were used for analysis in this study include the type of maltreatment substantiated; the child’s disability status; and the type of disability (deaf, hard of hearing, etc.). Age of the child at the time of maltreatment and Race/ethnicity of the child were also examined as was the relationship of the perpetrator to the child (biological parent, other caregiver).

Results

Maltreatment and Sexual Abuse

The children whose data were collected for this study were referred to local CPS agencies for maltreatment investigation. The first level of analysis in this study was to examine the rates of maltreatment between disabled and non-disabled children. Table 1 presents the findings of substantiated maltreatment for both non-disabled and disabled children. In this sample ($n = 2662$), there were 1885 cases (70.8%) in which some type of
maltreatment was substantiated; of these, 145 (7.7%) involved disabled children. To examine differences between disabled and non-disabled children on rates of any type of maltreatment, a 2x2 chi-square analysis was conducted. There were significant differences between these groups, $\chi^2(2, N = 2662) = 12.36, p = .002$. This indicates that in this sample, children with any type of disability experienced higher rates of maltreatment compared to their non-disabled peers (73.2% versus 70.1%).

Next, we examined rates of substantiated maltreatment between children with a hearing impairment and children with all other types of disabilities. Of the 2662 alleged cases of maltreatment in this sample, 9 (0.3%) were hearing impaired and 189 (7.1%) had other types of disabilities. The low number of hearing impaired children prohibited meaningful statistical analysis of rates of maltreatment of hearing impaired versus otherwise disabled children. Six hearing impaired children (66.6% of the hearing impaired children) and 139 children (73.5% of all with other disabilities) with other types of disabilities had maltreatment substantiated. These data are displayed in Table 1.

A major focus of this study was to examine the rates of sexual abuse among the groups described above. Of the 2662 cases in this sample, there were 280 (10.5%) for whom sexual abuse was substantiated. As can be seen in Table 2, whereas only 9.7% of non-disabled children were sexually abused, 20.2% of children with disabilities were sexually abused. A 2x2 chi-square analysis indicated was a significant difference between these groups, $\chi^2(1, N = 2662) = 21.31, p < .001$. Although the low number of hearing impaired children prevented meaningful statistical analysis, there was a considerably higher percentage of substantiated sexual abuse cases among children with hearing impairments (33.3% of all hearing impaired) versus children in all other disability
categories (19.6% of all with other types of disabilities) and children without disabilities (9.7% of children with no disabilities).

Perpetrators

Because previous studies had suggested that non-family members are more likely to be the perpetrators of sexual abuse in children who are disabled (Sullivan & Knutson, 2000) and that children who are deaf are more likely to be sexually abused by older students or school personnel (Kvam, 2004), we examined this dataset to ascertain the relationship of the perpetrators to the victims of substantiated sexual abuse. The data were collapsed into two groups: perpetrators who were family members/caregivers and perpetrators who were listed as “other adults.” It was hoped that these groups would allow comparisons from this sample to those cited above. The data for non-disabled and disabled children are described in Table 3. Of the 280 children for whom sexual abuse was substantiated, 218 (77.9%) were sexually abused by a caregiver or family member and 62 (22.1%) were sexually abused by someone outside the family/caregiver group (e.g., neighbor, school personnel).

A 2x2 chi-square analysis was conducted to compare the perpetrators of substantiated sexual abuse between non-disabled and disabled children. As Table 3 shows, children who were disabled had significantly higher rates of sexual abuse by adults outside of the family (37.5%) than children who were not disabled (19.6%). \( \chi^2(1, N = 280) = 6.38, p = .01 \). The percentage of hearing impaired children who were sexually abused by adults outside of the family (33.3%) was comparable to the percentage of children with other disabilities who were sexually abused by nonfamily members.
(37.5%); this finding could not be examined statistically due a lower than expected number of children in the hearing impaired category.

**Age at Substantiated Sexual Abuse**

Although findings in this area have been inconsistent (Kvam, 2004), some previous research (e.g., Hershkowitz et al, 2007) indicated that disabled children who are sexually abused are younger at the time of sexual abuse than children who are not disabled. We examined this question with some of the children in this dataset using age at the time of substantiated sexual abuse. Table 4 presents the mean age at time of substantiated sexual abuse, standard deviations, and F values for disabled and non-disabled children. As can be seen in this table, one-way ANOVAs indicated that these groups did not differ between disabled (M = 9.61 years) and nondisabled (M = 9.30 years) children in age at time of substantiated sexual abuse, $F(1, 273) = .16, p = .69$. As with previous hypotheses, we were unable to statistically evaluate potential differences between hearing impaired children and children with other disabilities. However, there was more than a two year difference in age at substantiated sexual abuse between hearing impaired children (M = 11.67 years) and children with other disabilities (M = 9.43), indicating that children with hearing impairments in this sample were more likely to have sexual abuse substantiated at an older age than children with other types of disabilities.

**Race/Ethnicity**

Although findings have differed across studies (Bolen 2001), some research has suggested that the frequency of child maltreatment differs across racial/ethnic groups (Ullman & Filipas 2005). Tables 5 and 6 represent the distribution of race/ethnicity across children who had maltreatment substantiated by their disability status for this
dataset. The results of a 2x2 chi-square analysis indicated a statistically significant
difference between maltreated children who were disabled and non-disabled was
statistically significant, $\chi^2(4, N = 1885) = 128.04, p < .001$. As Table 5 demonstrates,
maltreated children with disabilities were predominantly Caucasian (86.2%) compared to
non-disabled children (38.1%), and this sample had far fewer maltreated African
American children with disabilities (11%) than without disabilities (40.4%). The children
with hearing impairments had similar distribution of race/ethnicity when compared to
children in other disability categories.

Discussion

In light of previous research (e.g., Sullivan & Knutson, 2000) that had suggested
high rates of maltreatment, and perhaps especially sexual abuse (e.g., Kvam, 2004)
among hearing impaired and otherwise disabled children, the present study was
undertaken to examine data that were from a nationally generated sample derived from
official allegations of maltreatment, and was subject to standardized collection methods.
It was hoped that analysis of this dataset could assist in understanding what role, if any,
deafness plays in a child’s vulnerability to maltreatment in general and child sexual
abuse in particular, and whether there are differences between children who have a
hearing impairment versus another type of disability.

The first aim of this study was to compare the prevalence of any type of
maltreatment for children with any type of disability relative to children without a
disabling condition. In this sample, children with disabilities were more likely to be
maltreated than were non-disabled children (73.2% versus 70.1%), which is consistent
with previous studies (Kendall-Tackett et al., 2005; Sullivan & Knutson, 2000) that
found significantly higher rates of maltreatment among samples of children with disabilities. In the current sample, children with a disability were maltreated at a rate 3.1% higher than their non-disabled peers.

While two-thirds (66.6%) of the children with hearing impairments in the current study had maltreatment substantiated, this was less than both non-disabled (70.1%) children and children with other types of disabilities (73.5%). This lower rate of maltreatment runs contrary to previous findings, such as those of Sullivan and Knutson (1998) who found that children who were deaf and hard of hearing were significantly more likely to experience neglect and physical maltreatment than children without disabilities.

A major focus of this study was to examine the differences between subgroups of children (non-disabled versus disabled and hearing impaired versus otherwise disabled) specifically on rates of substantiated sexual abuse. In this area, the results of this study are disturbing. The percentage of children with disabilities whose allegation of sexual abuse was substantiated was more than double that of non-disabled children (20.2% vs. 9.7%), which is consistent with previous research indicating children with disabilities are at higher risk for substantiated sexual abuse, although the incidence in the present study is somewhat less than other studies. The children in this study were 2.08 times more likely to be sexually abused than children without disabling conditions; Sullivan and Knutson (2000) found that disabled children were 3.14 times more likely to be sexually abused than their non-disabled peers.

In the present study, children who were hearing impaired were sexually abused at a higher rate (33.3%) than children with other disabilities (19.5%); this finding is
inconsistent with previous studies (e.g., Sullivan & Knutson, 1998) which found that
children with hearing impairments did not differ from children with other disabilities in
the occurrence of sexual abuse. This difference was not evaluated statistically due to the
very small number of children with hearing impairments in this sample relative to other
types of disabilities. Even without statistical evaluation, the data shows that a child in
this sample who had a hearing impairment was 1.7 times more likely to be sexually
abused than his or her peer with any other type of disability.

The low number of hearing impaired children in this sample raises several issues.
Deafness and hearing impairments are low-prevalence disabilities (0.15-0.2% and 1.8%
respectively) in the general population. In this sample, even after combining deaf and
hearing impaired children into one group, we found a prevalence that was much lower
(0.34%) than would be expected based on national statistics (1.8%; Sheetz, 2001). Since
the current dataset is comprised of cases in which concern about maltreatment was
referred for investigation, it does not capture children who have been maltreated but
whose maltreatment has not been reported or suspected. These are issues of great
importance that need to be addressed in the deaf and hearing impaired community. It is
possible that these children are under-represented due to an inability to disclose
maltreatment. Previous research indicates that disclosure of sexual abuse is considerably
less likely when the child has any type of communication disorder (Hershkowitz et al.,
2007). Kvam’s (2004) retrospective study found that although the rate of sexual abuse
was high (42.4% for women and 45.8% for men), nearly half (49%) of sexual abuse
cases involving deaf children were never disclosed and very few (5.6%) were reported to
authorities. It is also possible that adults in the child’s life may not have the ability to
understand a child if he or she is attempting to disclose maltreatment in general or sexual abuse in particular (due to lack of proficiency in sign language, etc.), as many parents of hearing impaired children are not proficient in American Sign Language (Scheetz, 2001). Additionally, as stated earlier, children who are hearing impaired to the degree that they need to use sign language to communicate are often not taught sexual signs, not instructed on sexual abuse prevention, and have less awareness of appropriate versus inappropriate sexual behavior than hearing children (Schirmer, 2001; Sullivan et al. 1987).

Previous studies on sexual abuse of individuals who are deaf indicate that the perpetrators of sexual abuse are more often school personnel or other students than family members (Embry, 2000; Kvam, 2004). The researchers who collected this data allowed categorization of perpetrators as family or caretakers (parents, relatives, guardians or foster parents) and “other adults” but did not archive the more specific information about the nature of that relationship (e.g., neighbor, bus driver). When comparing the disabled and non-disabled groups, children who were disabled were 1.9 times more likely to be sexually abused by an “other adult” than were children with no disabilities. The percentages of perpetrators who were classified as “other adults” were similar (33.3% versus 37.8%) for hearing impaired and otherwise disabled children. As there was only one hearing impaired child whose perpetrator was in this category, we could not evaluate this finding statistically. The issue of the perpetrator’s relationship to the child victim is important as previous studies (e.g., Hershkowitz, et al., 2007; London, Bruck, Ceci, & Shuman, 2007) have found that when a child’s perpetrator is a stranger rather than a family member, younger victims are more likely to delay disclosure as
compared to older victims. Previous research (Kvam, 2004) has found that children who are deaf are more likely to be sexually abused by other children or school personnel; this could also contribute to the current finding of a very low number of hearing impaired children in this sample.

The final areas examined in this study were the factors of age at the time of substantiated sexual abuse and race/ethnicity of the maltreated children in this study. There were no differences between the children who were disabled relative to their non-disabled peers in the mean age at substantiated sexual abuse. As research indicates that children who are deaf are more often sexually abused at school, it was hypothesized that hearing impaired children would have sexual abuse substantiated at a significantly older age than children with other disabilities. The sexually abused children with hearing impairments in this sample were quite a bit older than children with other disabilities (11.67 years compared to 9.43 years). While low cell counts prevented statistical evaluation, this is a large difference between these groups.

In contrast to previous findings (Bolen, 2001), we found a significant difference in race/ethnicity between the disabled and non-disabled maltreated children. Specifically, the greater majority of children with disabilities were Caucasian (86.2%), whereas the distribution of race/ethnicity was more varied among non-disabled children (38.1% Caucasian, 40.4% African American, etc.). It is unknown why this difference was present in this sample, but this finding raises concerns as to whether maltreatment of minority children with disabilities is under-reported. This may be due to racial disparities in access to care and an area for further study in order to ascertain the generalizability of
this finding and to educate individuals about the need to increase the likelihood that
disabled children in racial minority categories report maltreatment more frequently.

Limitations

There are a number of limitations to this study that should be acknowledged. The
researchers who collected this data gathered cases from a random sample of county-run
CPS agencies in the hopes of creating a nationally representative sample. While it
appears the overall proportion of children with disabilities in this dataset (7.4%) is
approximately what can be expected in the general population (8%; Kendall-Tackett et.
al, 2005), the proportion of children in this sample who are deaf is less than expected.
Cross et al. (1991) stated that some of the CPS agencies in this study excluded children
in institutional settings (e.g., facilities for children with disabilities) from their caseloads.
This may mean that allegations of maltreatment made about or by children in residential
schools for the deaf were not a part of this dataset. The small sample of deaf and/or
hearing impaired children both limited the power of the study to find statistical
significance, and the generalizability of the current findings.

Deafness is a low-prevalence childhood disability (Scheetz, 2001) with estimated
prevalence at approximately 0.15 to 0.2% of the population (Mitchell, 2005). In this
dataset, there were only two children (.08%) categorized as deaf. As a result, we
expanded the analyses for the present study to the more general category of all hearing
impaired children. Thus, our analyses compared the nine deaf/hearing impaired children
in this sample to children with other types of disabilities. Even with this expansion, we
found a prevalence that is much lower (0.34% of the current sample) than expected
compared to national estimates of 1.8% (Schirmer, 2001), and the prevalence that has
been found in previous studies (1.8%, Sullivan & Knutson, 2000). Unfortunately, this low number of hearing impaired children limits the meaning and generalizability of some features of the current study, as it does not appear that we have captured a representative sample. The small number of hearing impaired children represented in this dataset may speak to some of the concerns about the vulnerability of hearing impaired children to sexual abuse, and the lower incidence of disclosure of sexual abuse in this population. In spite of these limitations, it was possible to gain some important information by examining this dataset.

There was no information available as to the extent of hearing loss, the use of hearing devices, or the reliance on American Sign Language for communication for the six children classified as “hearing impaired;” any or all of these features could affect the likelihood that a child might communicate incidence of sexual abuse. Indeed, previous research (Hester, 2002) has suggested that there may be differences in sexual abuse depending on the severity of the hearing loss, and without this information, it is difficult to interpret the current findings.

As previously mentioned, there was no detailed information regarding the types of relationships captured for perpetrators who were listed as “other adults.” Because this study examined results with these individuals in one group, it is not known whether the majority were neighbors, school personnel, peers, or others. Without this information, it is not possible to ascertain in what location and with whom children with disabilities may be most vulnerable.

It is also important to note that the data in this study were collected in 1991 and therefore may not be generalizable to current day as disability prevalence rates may have
changed (e.g., increases in ADHD diagnoses), mandatory maltreatment reporting requirements (or maltreatment reporting practices) may have changed, and racial/ethnic demographic patterns may have shifted (e.g., increase in Hispanic population), among other possible differences over time. Because of the “age” of these data, caution should be used when interpreting findings on some of these factors.

An additional limitation of this study may be the designation of disability status. Researchers relied on social workers’ determination of a child’s disability status based on information available to them at the time of their contact with the child, but the nature of this information is not well described for this dataset and it was not verified by health care professionals. As a result, the data on disabilities may be less accurate than desired. Finally, some children in this sample were listed more than once due to multiple allegations of maltreatment. It is unknown whether this factor skewed the data in any way on disability factors.

Conclusions

Even with these limitations, the results of the present study support previous findings in concluding that children with disabilities are more likely to be sexually abused than non-disabled children. The current results emphasize the importance of educating the caregivers of children with disabilities and the general public about the increased vulnerability for maltreatment in this population. While there are no research studies on this topic, it is believed that increasing a child’s knowledge and a parent’s awareness can reduce the risks of child sexual abuse (Kenny, Capri, Thakkar-Kolar, Ryan, & Runyon, 2008). Increasing knowledge may also increase rates of disclosure and decrease rates of sexual abuse in the deaf population.
The involvement in sexual abuse prevention education of parents of children who are deaf may be especially important. Research has shown that only about half of parents of typical children discuss sexual abuse with their children (Kenny et al., 2008). It is likely that those rates are considerably lower for children who are deaf due to communication difficulties discussed earlier. If both the parents and the children who are deaf are exposed to a child sexual abuse prevention program, it is hoped that the children will report any attempted sexual abuse and will be understood by the parents.

Research thus far indicates that there are minimal resources available specifically to educate the deaf population and their parents about prevention and self-protection from attempted child sexual abuse. This is an important area that is lacking in research and in development of programs for the deaf and hearing impaired population. Future research should examine effective methods for educating children who are deaf and their families on this serious issue.
References


Needham Heights, MA: Allyn and Bacon.


doi:10.1016/S0145-2134(00)00190-3


doi:10.1007/BF01102192


Program Innovations for Victims, Survivors, & Offenders, 14(3), 67-89.
doi:10.1300/J070v14n03_04


Table 1

Rate of Substantiated Maltreatment by Group, Percentage of Group, and Comparison of Maltreatment Findings by Disability Status

<table>
<thead>
<tr>
<th>Disability Status</th>
<th>Maltreatment Finding&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Yes</th>
<th>No</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Disabled&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>1740</td>
<td>711</td>
<td>12.36</td>
<td>.002</td>
</tr>
<tr>
<td>(n=2464)</td>
<td></td>
<td></td>
<td>28.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Disabled&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td>145</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=198)</td>
<td></td>
<td></td>
<td>24.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td></td>
<td>6</td>
<td>3</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>(n=9)</td>
<td></td>
<td></td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Other Disabilities</td>
<td></td>
<td>139</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=189)</td>
<td></td>
<td></td>
<td>23.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Maltreatment finding was unknown for 18 children.

<sup>b</sup>All children who were identified as having no disability.

<sup>c</sup>All children identified as having any type of disability.
<table>
<thead>
<tr>
<th>Disability Status</th>
<th>Substantiated Sexual Abuse</th>
<th>No</th>
<th>Yes</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Disabled ($n=2464$)</td>
<td></td>
<td>2224 (90.2%)</td>
<td>240 (9.7%)</td>
<td>21.31</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>All Disabled ($n=198$)</td>
<td></td>
<td>158 (79.7%)</td>
<td>40 (20.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired ($n=9$)</td>
<td></td>
<td>6 (66.6%)</td>
<td>3 (33.3%)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>All Other Disabilities ($n=189$)</td>
<td></td>
<td>152 (80.4%)</td>
<td>37 (19.5%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3

*Sexual Abuse Perpetrator: Number and Percentage of Group by Disability Status*

<table>
<thead>
<tr>
<th>Disability Status</th>
<th>Perpetrator</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Caregiver or Family Member</td>
<td>Other Adult</td>
<td>$\chi^2$</td>
<td>$p$</td>
<td></td>
</tr>
<tr>
<td>Non-Disabled (n=240)</td>
<td>193 (80.4%)</td>
<td>47 (19.6%)</td>
<td>6.38</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>All Disabled (n=40)</td>
<td>25 (62.5%)</td>
<td>15 (37.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired (n=3)</td>
<td>2 (66.6%)</td>
<td>1 (33.3%)</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>All Other Disabilities (n=37)</td>
<td>23 (62.2%)</td>
<td>14 (37.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Mean Age and Standard Deviation of Children at Time of Substantiated Sexual Abuse by Disability Status.

<table>
<thead>
<tr>
<th>Disability Status</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Disabled (n=237)</td>
<td>9.3</td>
<td>4.36</td>
<td>.16</td>
<td>.69</td>
</tr>
<tr>
<td>All Disabled (n=38)</td>
<td>9.6</td>
<td>4.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing Impaired (n=3)</td>
<td>11.67</td>
<td>2.08</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>All Other Disabilities (n=35)</td>
<td>9.43</td>
<td>5.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5

*Distribution and Percentage of Group of Maltreated Child Race/Ethnicity by Disability Status*

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Non-Disabled (n=1740)</th>
<th>All Disabled (n=145)</th>
<th>Hearing Impaired (n=6)</th>
<th>All Other Disabilities (n=139)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>663 (38.1%)</td>
<td>125 (86.2%)</td>
<td>5 (83.3%)</td>
<td>120 (86.3%)</td>
</tr>
<tr>
<td>African American</td>
<td>703 (40.4%)</td>
<td>16 (11%)</td>
<td>1 (16.7%)</td>
<td>15 (10.8%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>259 (14.9%)</td>
<td>4 (2.8%)</td>
<td>0</td>
<td>4 (2.9%)</td>
</tr>
<tr>
<td>Asian</td>
<td>36 (2.7%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other/Don’t Know</td>
<td>79 (4.5%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td></td>
<td>128.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$p$</td>
<td></td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6
Distribution and Percentage of Total (n=145) of Maltreated Child Race/Ethnicity by Type of Disability

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Mental Retardation (n=10)</th>
<th>ADHD (n=17)</th>
<th>Learning Disability (n=13)</th>
<th>Serious Emotional Disturb. (n=16)</th>
<th>Motor Impairment (n=4)</th>
<th>Hearing Impairment (n=4)</th>
<th>Speech Impairment (n=25)</th>
<th>Other Health Impairment (n=13)</th>
<th>Multiple Disabilities (n=43)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>10 (6.9%)</td>
<td>16 (11%)</td>
<td>10 (6.9%)</td>
<td>14 (9.7%)</td>
<td>4 (2.7%)</td>
<td>3 (2.1%)</td>
<td>22 (15.2%)</td>
<td>12 (8.3%)</td>
<td>34 (23.5%)</td>
</tr>
<tr>
<td>African American</td>
<td>0</td>
<td>1 (0.7%)</td>
<td>2 (1.4%)</td>
<td>1 (0.7%)</td>
<td>0</td>
<td>1 (0.7%)</td>
<td>3 (2.1%)</td>
<td>1 (0.7%)</td>
<td>7 (4.8%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>0</td>
<td>1 (0.7%)</td>
<td>1 (0.7%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2 (1.4%)</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other/Don’t Know</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

*Children with more than one disability are listed only in the Multiple Disability category*
Appendix A

NDACAN Permission Letter

March 3, 2010

Kim Rosenzweig
Psychology Department
Xavier University
6400 Palmetto Dr.
Fairfield, OH 45014

Dear Mrs. Rosenzweig:

Your order from the National Data Archive on Child Abuse and Neglect includes an invoice and the data files (including documentation for you to print). Please refer to the readme file for installation and file information. If you need help loading the data, please e-mail NDACANSupport@cornell.edu and a staff person will contact you. In addition, our User Support section at www.ndakan.cornell.edu contains help documents for several data procedures.

NDACAN will contact you once a year about this order to request copies of publications or presentations that you may have produced from these data.

Additional documentation, such as reports and research findings, may be obtained by contacting the Child Welfare Information Gateway: http://www.childwelfare.gov.

If you have a question about your shipment, please call or e-mail me.
Thank you for your order.

Sincerely,

Andrés Arroyo
Archiving Assistant
Phone: (607-255-7799)
E-mail: NDACAN@cornell.edu
November 23, 2010

Kim Rosenzweig
6400 Palmetto Drive
Fairfield, OH 45014

Re: Protocol #1032, "The Prevalence of Substantiated Sexual Abuse of Children Who are Deaf: An Examination of a National Database"

Dear Ms. Rosenzweig:

The IRB has reviewed the materials regarding your study, referenced above, and has determined that it meets the criteria for the Exempt from Review category under Federal Regulation 45CFR46. Your protocol is approved as exempt research, and therefore requires no further oversight by the IRB. We appreciate your thorough treatment of the issues raised.

If you wish to modify your study, including the addition of data collection sites, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

Please contact our office if you have any questions. We wish you success with your project!

Sincerely,

[Signature]

Morell E. Mullins, Jr., Ph.D
Chair, Institutional Review Board
Xavier University

MM'sb

C: Kathleen Hart-advisor
Author’s Note

The data utilized in this dissertation were made available by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, NY; and have been used by permission. Data from the study (The Maltreatment of Children With Disabilities and Child Maltreatment in Substance Abusing Families, 1991) were originally collected by Cross, Ratnofsky, and Kaye, (Westat, Inc. & James Bell Associates, Inc.). Neither the collector of the original data, the funder, the Archive, Cornell University, or its agents or employees bear any responsibility for the analyses or interpretations presented here.
Summary

Title: The Prevalence of Substantiated Sexual Abuse of Children Who are Deaf: An Examination of a National Database

Problem: The research on child sexual abuse estimates prevalence rates between 10-25% in the general population (Finkelhor, 1994), and when the child has a disability of any kind, the numbers increase. Several clinical studies have shown that children with disabilities are victims of sexual abuse more often than non-disabled children (Kendall-Tackett et al., 2005) with as much as a 3.4 times increased likelihood of all types of abuse for a disabled child compared to a non-disabled child (Sullivan & Knutson, 2000), regardless of level or type of disability (Herschkowitz et al., 2007). Children who are deaf may be especially vulnerable due to poor self-esteem (Schirmer, 2001) and problems communicating (Ridgeway, 1993). Limited research exists on the prevalence of sexual abuse in the deaf community; however, some literature indicates that between 40-50% of children who are deaf may be victims of sexual abuse (Kvam, 2004; Sullivan et al., 1987).

Method: Data analyzed for this study were collected by Crosse, Ratnofsky, & Kaye (1991) and were obtained from a publicly available dataset managed by the National Data Archive on Child Abuse and Neglect (NDACAN) at Cornell University. The children whose data are captured in this data set had maltreatment cases substantiated by Child Protective Services (CPS) agencies. Caseworkers collected data and reported on substantiated cases of child abuse over a four to six week period. The data used in this study involve 1,834 children ranging in age from under one year to 17 years. Some children had multiple cases of alleged abuse; therefore, there were a total of 2662 alleged child abuse cases included in this dataset. The sample was 50.7% male and predominantly Caucasian (41.2%). Other races/ethnicities included African American (37.9%), Hispanic (15%), Asian (2.3%), and other/unknown (3.7%). Children with disabilities comprised 198 (7.4%) of the alleged child abuse cases, including nine children (0.3%) who were deaf or hearing impaired.

The variables that were analyzed for the purposes of this study were child age at the time of abuse, child race/ethnicity, type of maltreatment substantiated, relationship of perpetrator to child, and type of disability (grouped into the following categories: motor impairments, hearing impairments, visual impairments, language and/or speech impairments, other health impairments, Attention-Deficit/Hyperactivity (ADHD) disorder, learning disorders, seriously emotionally disturbed, and multiple disabilities).

Findings: In this sample (n = 2662), there were 1885 cases (70.8%) in which some type of maltreatment was substantiated; of these, 145 (7.7%) involved disabled children. A 2x2 chi-square analysis yielded significant differences between these non-disabled and disabled children, \( \chi^2(2, N = 2662) = 12.36, p = .002 \) such that disabled children were 3.1% more likely to be abused than their non-disabled peers. There were no significant differences between hearing impaired children and children with other disabilities. A 2x2 chi-square analysis revealed significant differences between sexually abused disabled
and non-disabled children $\chi^2(1, N = 2662) = 21.31, p < .001$. Disabled children were sexually abused 2.08 times more often than non-disabled children. There was a higher percentage of hearing impaired children who were sexually abused compared to children with other disabilities (33.3% versus 19.5%); however, this was not a significant finding.

Statistical analysis revealed a significant difference between disabled and non-disabled children on the perpetrators of abuse with 37.5% of disabled children being abused by an adult outside of the family/caregiver group compared to 19.6% of non-disabled, $\chi^2(1, N = 280) = 6.38, p = .01$. There was not a significant difference between hearing impaired and otherwise disabled on this factor. One-way ANOVAs indicated that groups did not differ significantly on age at substantiated abuse. There was a significant difference on race/ethnicity of child by disability status with disabled sexually abused children being predominantly Caucasian (86.2%) while the race/ethnicity of non-disabled sexually abused children was more evenly spread across races/ethnicities, $\chi^2(4, N = 1885) = 128.04, p < .001$. There was no difference on this factor between hearing impaired and otherwise disabled children.

**Implications:** These results support other studies which have found that a child with a disability is significantly more likely to experience maltreatment than a non-disabled child. In this study, a disabled child was twice as likely to experience sexual abuse in particular. The number of deaf and hearing impaired children appears to be under-represented in this sample, however, which raises concern that communication issues and lack of awareness of sexual abuse, may contribute to low rates of disclosure in the deaf community. Future research should address the education of parents of deaf and hearing children, as well as the children themselves, about sexual abuse in general and about prevention measures.