

CHILD ABUSE AMONG CHILDREN WITH DISABILITIES: WHAT WE KNOW AND WHAT WE NEED TO KNOW

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Abstract

Information concerning abuse and neglect of children with disabilities is scarce, research suffers from definitional and methodological shortcomings, and few studies examine why these children are at an increased risk of abuse. In this

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chapter, we first discuss general definitional and methodological limitations, specific issues related to the abuse of children with disabilities, and efforts of child abuse researchers to overcome these limitations. We then discuss the prevalence of maltreatment among children with disabilities. Next, we present and apply to children with disabilities an ecological approach to child abuse, showing how certain societal, familial, parental, and child characteristics function to increase these children's risk of abuse and neglect. We conclude by describing four research directions for better understanding the abuse of children with disabilities.

1. INTRODUCTION

It has often been said that the test of a civilized society is how well that society protects its most vulnerable members. With such federal programs as Head Start, Social Security, and Temporary Assistance for Needy Families, our society provides a safety net for many millions of our citizens. Granted, debates have raged for years as to whether there are enough of these programs, and whether each program's funding levels, eligibility criteria, and comprehensiveness of services are adequate to address the needs. Although not always considered in such debates, children with disabilities are among those in need. Moreover, given the need to protect and support these children, it is shocking that children with disabilities are at a significantly increased risk of experiencing abuse and neglect. Even more distressing, most of this abuse comes at the hands of parents and other caregivers.

In this chapter, we tackle the difficult, complicated issue of what is known and what needs to be known about the maltreatment of children with disabilities. We begin by defining the term child abuse itself, noting the types of abuse, the varying definitions used by different professionals, and other methodological problems that arise when studying child abuse. Although such problems are well-known—and researchers explicitly point out such limitations in their own studies—we explore such issues to provide a clearer picture of just how difficult it is to examine child abuse in children with disabilities.

Cognizant of the many difficulties involved in this type of work, we then discuss issues of the prevalence and types of child abuse experienced by these children. Specifically, we compare rates of abuse among children with versus without disabilities, note which specific types of abuse seem most likely in children with disabilities of a certain type and explore other predisposing factors in children and their parents. Going beyond the “how many” debate, the next section then discusses why child abuse occurs. Using Belsky's (1980) version of an “ecological approach” to child abuse, we explore the ways in which the risk of child abuse and

neglect is a function of the interaction among societal, family, parent, and child characteristics. We end by describing four research directions for better understanding the abuse of children with disabilities.

2. DEFINITIONAL AND METHODOLOGICAL ISSUES

Before focusing specifically on abuse among children with disabilities, it is important to first discuss the various complications that arise when studying child abuse and neglect. Because of definitional and methodological complications, it often becomes difficult to measure prevalence of abuse and to compare studies of child abuse and neglect. When studying children with disabilities, further definitional considerations must be mentioned, as studies may use varying definitions for specific types of disabilities. Finally, certain methodological difficulties arise when studying children with and without disabilities who have experienced abuse. We begin this discussion, then, with a brief background into these definitional and methodological problems, before examining questions concerning how often abuse occurs among children with disabilities.

2.1. Definitional issues

Although most of us have some idea of what child abuse is, defining abuse and neglect is complicated by two considerations. The first is that abuse is divided into four distinct types. Defined in [Table 7.1](#), the four major types of child abuse are physical abuse, sexual abuse, emotional abuse, and neglect. When reviewing studies of abuse and neglect, however, it is difficult to compare findings because authors sometimes include all four types of abuse in their investigation, while others focus on one or two specific types of maltreatment. Further, when authors examine multiple types of maltreatment, some will report findings of each type of abuse separately, while others report on abuse overall ([Horner-Johnson & Drum, 2006](#)). Finally, it is difficult to parcel out if children experienced only one type of abuse, or if the children suffered from multiple types of abuse. The term “child maltreatment” further complicates this issue as the definition of child maltreatment can differ for each study, in whether it includes all four major types of abuse or only a select few.

A second complication relates to which criteria of abuse are used in a particular study. For some, it has become the convention in research studies to include only substantiated cases of child abuse so as to maintain some degree of internal reliability. Applying this criterion, however, will exclude reported or suspected cases of abuse, which may be particularly beneficial to study. Also, within substantiated cases of abuse, there may be differences depending on whether the parents were charged in the criminal court or if

Table 7.1 Definitions of child abuse and neglect

Type of abuse	Definition
Physical abuse	Physical acts that cause or could cause physical injury to the child
Sexual abuse	When a person involves the child in sexual activity to provide gratification or financial benefit to the perpetrator
Emotional abuse	Acts (such as verbal or emotional assault) or omissions that cause or could cause conduct, cognitive, affective, or other mental disorders
Neglect	<p><i>Physical</i> includes abandonment, expulsion from the home, failure to seek remedial health care or delay in seeking care, disregard for hazards in the home, inadequate supervision, or inadequate food, clothing, or shelter</p> <p><i>Emotional</i> is providing inadequate nurturance or affection, permitting maladaptive behavior, and other inattention to emotional/developmental needs</p> <p><i>Educational</i> is permitting chronic truancy or other inattention to educational needs</p>

Source: Sobsey *et al.* (1997).

the case was settled through Child Protective Services (CPS). Such differences arise because, among the different professionals working with abused children and investigating reports of child abuse, different criteria are used to determine if the child was abused. For example, individuals in the medical field are more likely to suspect and “define” abuse based on visual evidence presented at the doctor’s office or hospital. Lawyers and courts, on the other hand, more often collect testimony from the child, the parents, and other possible witnesses, as well as consider the visual evidence. Most of this disagreement among professionals exists because detecting and prosecuting child abuse is still relatively new, and parents are only recently being held accountable for their actions. Thus, while the different criteria for determining child abuse overlap to some extent, they are still not perfectly in sync with one another (Pianta, Egeland, & Erickson, 1990). As Giovannoni (1990) explained, “at various times child abuse has been defined in statutes, by judges interpreting those statutes, by social workers intervening in the problem, by medical practitioners managing a medical entity, or by lawyers assuring legal rights” (p. 10).

Specifically, then, the different criteria that have been used to define child abuse include:

Medical definition: First defined by Kempe based on radiological evidence of multiple fractures, “battered child syndrome” became the medical

construct of child abuse (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962). These children typically presented to medical professionals with fractures, subdural hematomas, failure to thrive, and multiple soft tissue injuries. Importantly, for diagnosis of battered child syndrome, skeletal injuries in several locations at different stages of healing were also evident.

Prior to Kempe's presentation of battered child syndrome to the American Academy of Pediatrics, recognition of child abuse was only slowly arising and parents were rarely held accountable for their actions. Physicians in the twentieth century began to suspect that parents were abusing their children, as different lesions, fractures, and hematomas were frequently observed. While some physicians attempted to explain such trauma through causes such as the child having weak bones, it was becoming apparent that abuse was most often the correct diagnosis. Despite suspicion of parental abuse, most parents were never held accountable for injuring their child, as they simply denied maltreatment or claimed they could not remember any trauma occurring to the child (Lynch, 1985).

Today, the medical definition of child abuse is still vague, with common diagnoses including 'failure to thrive,' 'nonaccidental trauma,' and 'battered child syndrome.' For these diagnoses to be considered a form of maltreatment, however, precipitating factors leading to the incident must also be taken into consideration (Giovannoni, 1990). Currently, a medical diagnosis of child abuse is provided not only to identify that abuse has occurred, but also to identify characteristics within the abuser that led to child abuse and to develop therapeutic interventions for the child who was abused (Aber & Zigler, 1981; Socolar et al., 2001).

Finally, the medical definition of child abuse relies on each individual physician determining if the circumstances are indicative of abuse and worthy of reporting. The physician must not only provide medical diagnoses and treatments to the physical injury, but must also determine if the situation warrants legal and social intervention. For example, if a young child presents with a fracture, the physician must consider that certain fractures (metaphyseal and posterior rib fractures) are more indicative of child abuse than are other types of fractures (Jenny, 2006). The medical definition of child abuse, then, varies by practitioner and hospital (Giovannoni, 1990).

Legal definition: The legal definition of abuse is as vague as the medical definition, as definitions and reporting procedures vary by state (Vig & Kaminer, 2002). Within the legal system, the definition includes all four types of abuse, but this definition usually focuses on harm to the child, as well as characteristics of the abuser and the actual act of abuse. Legal definitions also consider whether the abuse was intentionally inflicted on the child.

Within the legal system, there are three different but equally important statutes that relate to child abuse. The criminal statutes define child abuse as

a criminal act that can be prosecuted; the dependency statutes relate to children who become wards of the state; and reporting statutes define who is responsible for reporting child abuse to authorities. All three statutes, however, are vague in detail and often contain such catchall phrases as “or any other care necessary for his well-being” (Giovannoni, 1990). As a result, the different courts that are hearing the cases are left to interpret the meaning of such statutes. Further, while every state has a mandatory reporting law if there is reasonable suspicion of child abuse, wide variations exist in the statutory language and little guidance is provided as to the definition of “reasonable suspicion.” Not surprisingly, there is inconsistent reporting of (possible) abuse (Levi & Brown, 2005).

Finally, court intervention can occur if the child is considered to be endangered, although mandatory reporting to state social services is only necessary when the abuse has been substantiated. In order for abuse to be substantiated, there must be evidence that physical abuse caused disfigurement or other serious bodily injury, or that emotional abuse caused severe anxiety, depression, or other psychological symptoms (Aber & Zigler, 1981). Assessing such characteristics for substantiation, however, can be difficult. When courts rely on testimony from the child who was abused, difficulties arise for individuals with disabilities who cannot accurately report the event or when courts consider the individual to be an unreliable witness (Cederborg & Lamb, 2006; Mitchell & Buchele-Ash, 2000). In such situations, cases that are usually closed before an adequate investigation can be conducted.

Research definition: When studying child abuse, researchers must decide which definition of abuse they are going to employ in their study. Those who rely on welfare agencies or CPS records of child abuse will be likely to collect data on substantiated cases of child abuse committed by family members. Most likely absent from these records, though, will be sexual abuse (more often committed by outside perpetrators) and abuse of children living in institutions, foster homes, and other public settings and settings outside of the family. Further, in relying solely on substantiated cases of child abuse, the researcher risks missing valuable information related to children with disabilities. This risk stems from factors directly related to children with disabilities, such as their inability to disclose the abuse.

Furthermore, even if a single universal definitional standard were adopted, it would be difficult to achieve consistency because different reporting settings vary in how definitions are used in diagnosis. For example, to determine if doctors’ reporting differed by the type of hospital at which the child was seen, Trokel, Wadimmba, Griffith, and Sege (2006) investigated doctors’ detection and reports of child abuse from physical injuries treated at different hospitals across the country. These authors collected data from 2253 infant patients (<1 year of age), who presented at the hospital with either traumatic brain injuries or femur fractures (2 injuries highly

suspicious of abuse etiology). These authors then examined if the doctors differed on their detection and reporting of child abuse based on the type of hospital in which they worked. Even when children presented with the same type of injury, those seen at children's (vs. general) hospitals were twice as likely to receive diagnoses of child abuse. Other studies have found that doctors are more likely to suspect child abuse if the child is younger, more severely injured, from a single-parent family, and if the mother is poorly educated (Trokel et al., 2006).

In examining child abuse among children with disabilities, further definitional complications arise. First, different studies may use the same term for a disability, but may apply a very different definition, usually based on who is providing the diagnosis. For example, when applying the term mental retardation, Crosse, Kaye, and Ratnofsky (1993) excluded children with fetal alcohol syndrome, prenatal substance exposure, motor delays, or language delays. The authors then compared their data to the incidence of mental retardation as determined by the US Office of Education, which would include many of the children they excluded in the category of mental retardation.

A further example is the use of the term "intellectual disability." As Horner-Johnson and Drum (2006) explain, "the term 'intellectual disability' is used in many countries to describe what has often been referred to in the United States as mental retardation, developmental disability (particularly intellectual limitations), or cognitive disability. It is also similar to the terms learning disability or learning difficulties as used in the United Kingdom, which are distinct from the US use of learning disability as a condition that affects scholastic achievement (e.g., dyslexia) without necessarily implying limitations in overall intellectual functioning" (p. 58). These distinctions are important to consider and must be noted when reviewing and comparing different research reports.

Second, in many studies of children with disabilities, children with different types of disability are grouped into broader categories for comparison and statistical purposes. For example, in their prevalence study of child abuse among children with disabilities, Sullivan and Knutson (2000) grouped children into four main disability categories including: behavior (behavior disorders and autism); communication disorders (combined speech, language, hearing and learning disabilities); mental retardation (combined all degrees of mental retardation from mild to profound); and orthopedic and health-related (combined visual impairment, orthopedic disabilities, and health-related disabilities such as asthma and juvenile rheumatoid arthritis). In examining these categories, however, some questions may arise. Did any of the children with autism also have mental retardation? While ~75% of children with autism also have mental retardation (Dawson & Toth, 2006), it would be helpful to know in which category children with both diagnoses were placed. In addition, why are learning disabilities

combined with communication disorders? In what category are children with Attention Deficit Hyperactivity Disorder (ADHD) placed?

Finally, considerations must be given to who is providing the diagnosis for the research study. [Crosse and colleagues \(1993\)](#) relied on disability information provided on the reports written by CPS workers rather than using a diagnosis provided by a doctor or other trained professional. The reliance on case workers to provide disability information limits the study in two important ways. First, the authors themselves recognized that CPS agencies rarely recorded disability status in a systematic fashion. Second, the CPS workers most likely never received special training to recognize and “diagnose” specific disabilities. Concern is raised, then, for missed diagnoses and differential diagnoses based on agency.

[Sullivan and Knutson \(2000\)](#), on the other hand, used the diagnoses provided by a multidisciplinary school team which determined that the child met the criteria for a specific disability and was eligible for special education services. In using this criterion, however, the authors may have missed some students who had not yet received diagnoses, or those students whose disability did not impact their education and thus were not identified in the school database.

2.2. Methodological issues

Just as different types and applications of definitions complicate the study of child abuse, so too is this area burdened by other methodological problems.

Samples of convenience: Samples of convenience are used when the sample includes children served by a particular hospital, intervention program, or other easily accessible setting. The problem is that many such settings serve a biased sample of children and their families, a sample that may differ, often in unforeseen ways, from children and families in the larger population. Although issues involving samples of convenience are widespread within the disabilities field ([Hodapp & Urbano, 2007](#)), such concern may be exacerbated when one is examining abuse and neglect among children with disabilities ([Horner-Johnson & Drum, 2006](#); [Spencer et al., 2005](#)). To investigate a certain population of children, then, many researchers decide to over-select for children with disabilities among those who were abused (e.g., from hospitals), or over-select for children who were abused among those who have disabilities (e.g., from CPS; [Verdugo, Bermejo, & Fuentes, 1995](#)). This concern is important because the research is “extrapolating from highly selected populations to national populations and comparing disability and abuse rates. . . . Extrapolation from selected cohorts to whole populations is open to serious potential for bias” ([Spencer et al., 2005](#), p. 609). Further, selection bias may lead to examining the most extreme cases, while missing others.

To give one example, Ammerman, Hersen, Van Hasselt, Lubetsky, and Sieck (1994) determined the prevalence of abuse among 138 children with disabilities who were hospitalized. Within that sample, 61% had experienced some form of abuse by a caregiver. Can we then conclude that three of every five children with disabilities experience some form of abuse? Probably not. Indeed, fully appreciating the limitations involved in using the hospital as a sample of convenience, Ammerman et al. cautioned against extending their prevalence rates of abuse to other samples of hospitalized (or nonhospitalized) children with disabilities.

Data collection: To study abuse among children with and without disabilities, the most common approaches to data collection include: reviewing reports of child abuse to state agencies (CPS), collecting retrospective self-report data from adults about their youth, collecting questionnaires from the child's caregiver or professionals serving the child, and (more recently) collecting evidence through whole population databases of multiple reporting agencies (Horner-Johnson & Drum, 2006; Spencer et al., 2005; Sullivan & Knutson, 2000; Verdugo et al., 1995).

Aside from data collection from population database studies, the use of different reports of child abuse causes problems with validity and reliability. The first concern is that criteria for reporting child abuse vary by jurisdictions, states, and agencies, making it difficult to compare definitions between studies (Vig & Kaminer, 2002). Further, researchers using reported cases of child abuse are relying on child care professionals, family members, and neighbors to report suspected child abuse; there is no way of knowing which criteria a particular reporter has relied on to report such incidents (Aber & Zigler, 1981).

Another concern is that state agencies do not always collect data on a child's disability status. In the most recent annual publication of child maltreatment data collected via the National Child Abuse and Neglect Data System (NCANDS; US Department of Health and Human Services, Administration on Children, Youth and Families, 2007), only 39 of the 50 states reported information regarding disability. NCANDS authors recognized that children with disabilities were likely undercounted. Further, within the NCANDS report, disabilities were grouped into seven distinct categories: mental retardation, emotional disturbance, visual/hearing impairments, learning disability, physical disability, behavior disorders, and other medical conditions. Unfortunately, no accompanying definitions were provided for each disability category. Equally problematic, Bonner, Crow, and Hensley (1997) found that, while 32 states provided some assistance to state agencies in identifying disabilities among children who were abused, only 7 states required any sort of training in working with children with disabilities. Finally, when agencies do collect information on disability, some only check yes or no as to whether a disability was present, while even fewer document specific disabilities.

Retrospective studies: A third problem relates to retrospective studies, particularly when one is attempting to determine the antecedents of maltreatment. In such studies, samples of children who were already maltreated are examined for relations between the maltreatment and past characteristics of the child or parent (Pianta *et al.*, 1990). For studies of children with disabilities, however, it is often difficult to determine if the child's disability was caused by maltreatment or if instead maltreatment was a consequence of the child's disability. This "cause or consequence" issue characterizes most studies of abuse and neglect among children with disabilities. For some, the easiest way around this dilemma is to use samples of convenience—to focus on the abuse of specific populations of children with disabilities—thus leading to a vicious circle in child abuse research (Bonner *et al.*, 1997).

Another possible way around this problem involves prospective studies. Currently, prospective studies are typically designed for child abuse prevention research. These studies identify parents and children who are "at risk" for child abuse, based on such factors as low socioeconomic status (SES) and single-parent households.

This methodology is problematic in four ways. First, as will be discussed later, risk assessments are short and simplistic. The assessments do not collect data on all of the different risk factors that could be present within a family. Most concerning, because these assessments are performed immediately before or after the child's birth, they do not assess child characteristics or behaviors that could likely lead to abuse. Second, the risk assessments generally do not check for disability, and might miss many families with children with disabilities. Third, most studies are short-term, only following families for the first 6–12 months of the child's life. Abuse may occur after the study is complete, but the authors will be unaware of such abuse if no follow-up procedures are in place. A final problem is that risk assessments will only follow families considered "at risk" for child abuse, thus making it difficult to compare such families to a representative sample of the general population, or to families whose largest risk for abuse is simply having a child with a disability in the family.

Future studies could change prospective research in two ways. First, researchers could increase the factors used in risk assessments and then attempt to follow the large numbers of such families enrolled in longitudinal studies. Second, researchers could follow a large cohort of families, both who are considered to be at risk and those who are not considered to be at risk of abuse. Antecedents of maltreatment could then be identified while also identifying the characteristics that lead to difficulties in the parent-child relationship (Pianta *et al.*, 1990).

Although it may be easy to recommend large-scale, longitudinal, prospective studies, they are generally time-consuming and expensive, requiring resource commitment over many years. The difficulty in performing

such studies may be one reason why so few examine abuse among children with disabilities.

Even in the absence of such prospective studies, however, judicious use of retrospective population-based studies sheds some light on the cause-or-consequence question. Specifically, [Sullivan and Knutson \(1998a, 2000\)](#) found that certain disabilities seemed to constitute risk factors for maltreatment when the children were younger (i.e., communication and health/orthopedic problems), whereas others were both a risk factor and a possible consequence of abuse in later years (i.e., behavior disorder, learning disabilities, mental retardation). Communication disorders and health/orthopedic problems are also conditions that may be diagnosed earlier in life than behavior disorders, learning disabilities, and mental retardation. Further the latter three disabilities could be both causes and consequences of abuse. Despite the evidence provided by [Sullivan and Knutson \(2000\)](#), then, more research is needed to determine the timing of abuse and disability.

One further complication is that disability and child abuse are both dynamic events that often unfold throughout the lifespan. It is difficult, therefore, to determine a specific point in time when the abuse began or when the disability began. A disability could have been present from birth, yet the diagnosis might not have been given until the child was in middle-to-late childhood. For example, autism cannot be accurately diagnosed until age 2 ([Stone et al., 1999](#)). Knowing the date of diagnosis, therefore, still may not accurately tell if the disability was present before the abuse. What it does make clearer, however, is the timing of when the parent was knowledgeable about the child's disability. Although studies are far from perfect, researchers have worked hard to determine whether child abuse is a cause or consequence of various types of child disability, at various ages.

Low rate of reporting: The fourth methodological problem concerns the low rate of reporting of abuse ([Petersilia, 2001](#)). Because child abuse occurs relatively rarely, determining true prevalence rates of abuse among children with disabilities may be difficult. This low rate of reporting comes from both the children with disabilities and from those who work with these children. Low rates of reporting by the children relate to a lack of recognition that they have been abused; difficulties in reporting the abuse (e.g., nonverbal children cannot tell others they are being abused); and fear of reporting the abuse ([Bryen, Carey, & Frantz, 2003](#); [Westcott & Jones, 1999](#)). Children with disabilities are often unintentionally taught to comply with authority and to allow others to handle their bodies. Such teachings could lead to their failure to recognize abuse ([Hibbard, Desch, & the Committee on Child Abuse and Neglect and Council on Children with Disabilities, 2007](#); [Sobsey, 1994](#)). Once the abuse has been recognized, it still may be difficult for children with disabilities to accurately report the abusive events, especially if they are interviewed in inappropriate ways

(e.g., not providing appropriate language on communication boards, asking questions that are too advanced for the cognitive level; Westcott & Jones, 1999).

Those who work with children with disabilities may also miss signs of child abuse. Few caregivers, for example, have been trained to recognize possible signs of abuse or how to respond to suspicions of abuse. From the other side, professionals who are experts in issues of child abuse may attribute certain behaviors or markings, indicative of abuse in most cases, to be a consequence of the child's disability (e.g., self-injurious behavior, repetitive behaviors; Westcott & Jones, 1999; Zigler & Hall, 1990). Two types of misdiagnosis thus arise. In the first case, a child who has been abused—but who also has a condition predisposing to “abuse-like” sequelae—will not be reported as abused. Thus, if a child has osteogenesis imperfecta (brittle bones), a physician could misattribute signs of abuse to the injuries often associated with the child's impairment and not report child abuse to authorities. Conversely, in the case of a child with an undiagnosed condition such as hemophilia, the physician might mistakenly attribute a child's injuries (e.g., multiple bruises) to abuse, and report a nonabusive parent to authorities (Jenny, 2006).

Further, personnel working for CPS rarely receive training related to children with disabilities, so that they do not know appropriate ways to investigate and respond to these children (especially nonverbal children). Just as in the area of dual diagnosis (i.e., mental retardation and mental illness), there may be some degree of “diagnostic overshadowing” concerning the diagnosis of abuse and neglect among children with disabilities. It is important, then, for a multidisciplinary team to be involved in the assessment of abuse allegations for children with disabilities. Individuals from CPS would have to collaborate with individuals knowledgeable about the child's disability to perform interviews and assessments in developmentally appropriate ways.

In summary, all studies of child abuse and neglect contain definitional and methodological limitations that are inherent to this domain of research. Fortunately, most researchers acknowledge such limitations and make efforts to account for them as much as possible. First steps in confronting these limitations include providing precise definitions of the type of child abuse and neglect studied, and also providing definitions and inclusion criteria of disabilities examined. Further steps that researchers have taken include setting strict guidelines as to how abuse is determined, and explaining the source of the diagnosis of abuse and disabilities. By providing such details, future studies can make similar efforts so that data can later be compared.

In the face of such definitional and methodological complications, strong studies of abuse and neglect have been conducted and important information has been learned concerning the population of children who suffer from maltreatment. The following sections will summarize the

important information that has been learned about the demographics of child abuse in children with disabilities and about the risk factors for child abuse and neglect among children with and without disabilities.

3. DEMOGRAPHICS OF CHILD ABUSE IN CHILDREN WITH DISABILITIES

Despite the above-mentioned limitations, most studies designed to estimate the prevalence of abuse among children with disabilities have found an increased rate of maltreatment (Ammerman & Baladerian, 1993; Crosse et al., 1993; Spencer et al., 2005; Sullivan & Knutson, 2000). In fact, Horner-Johnson and Drum (2006) recently conducted a meta-analysis of the prevalence literature published after 1994 concerning abuse of individuals with intellectual disabilities. Although maltreatment estimates varied widely, children and youth with intellectual disabilities had prevalence estimates for maltreatment between 11.5% and 28%, compared to a rate of 1.21% for children without disabilities (based on data from US Department of Health and Human Services, Administration on Children, Youth and Families, 2005).

3.1. Prevalence studies of abuse of children with disabilities

Three comprehensive, population-based studies illustrate that maltreatment is greater among children with disabilities. Crosse et al. (1993) conducted one of the earliest studies of the prevalence of child abuse among children with disabilities. In 1991, they collected prospective data from 35 CPS agencies (a nationally representative sample) that provided information on all cases of substantiated abuse received within a 4- to 6-week period. They then compared children with and without disabilities to determine the difference in the prevalence of abuse across these two populations. Children with disabilities were 1.7 times more likely to experience abuse than were children without disabilities. Crosse et al., however, wrote, stated that these numbers likely underestimated the true percentages. Specifically, the authors relied on CPS workers to assess impairments and provide diagnoses of the children rather than obtaining diagnoses from physicians or other professionals familiar with disabilities. Further, in relying on reports to CPS, this study most likely missed children in residential care settings and most forms of abuse outside of the family. Finally, while this study was prospective in design, Crosse et al. were still unable to determine if the child's disability was present before the abuse, as they had no information about the children prior to the CPS investigation.

In another prevalence study, [Sullivan and Knutson \(2000\)](#) conducted a population-based examination of abuse and neglect among children in Omaha, Nebraska. Their study examined 50,278 children, ages 0–21, who were enrolled in early intervention services or schools during 1994–1995. To determine the prevalence of child maltreatment among these children, Sullivan and Knutson merged the schools' electronic databases with records from the Central Registry of the Nebraska Department of Social Services, and the victimization records from the Omaha Police Department and the Douglas County Sheriff's Office. To determine if a student had a disability, they examined enrollment in special education within the school system. Specific disabilities included behavior disorders, mental retardation, learning disabilities, health-related disorders, speech and language disorders, physical and orthopedic disabilities, hearing impairments, visual impairments, and autism. Sullivan and Knutson found a 31% rate of maltreatment of children with disabilities, as compared to a prevalence rate of 9% for children without disabilities.

As previously stated, there are a few methodological considerations to remember when interpreting data from the study by [Sullivan and Knutson \(2000\)](#). Briefly, the authors may have missed some children with disabilities who were not identified through the school system; they were unable to determine if abuse or disability came first; and the categories of grouping disabilities may be different from those of other studies. But this study also had three important methodological strengths. First, because the study was population based, Sullivan and Knutson eliminated the need to rely on samples of convenience, and any associated selection bias or over-selection of certain conditions (e.g., children with disabilities or children who were abused). Second, by including reports of abuse to law enforcement as well as to CPS, the authors were able to account for abuse outside of the family, as well as familial abuse ([Sullivan & Knutson, 1998a](#)). Finally, because the authors used diagnoses provided by the school system, they were more accurate in their assessment of disabilities.

[Spencer et al. \(2005\)](#) also conducted a whole-population prevalence study of child abuse in West Sussex, England. The authors retrospectively followed all children born between January 1983 and the end of December 2001. Similar to [Sullivan and Knutson \(2000\)](#), to estimate the prevalence of child abuse within the population, Spencer et al. merged records from the West Sussex Child Health Computer (which includes documentation of all children with special needs) with the West Sussex Social Services' child protection register. Disabilities of interest included cerebral palsy, conduct disorder, psychological problems, autism, speech and language disorders, "learning disabilities" (=mental retardation, IQ < 70), and sensory disabilities. Of the 119,729 children examined, 1,853 children (or 1.5%) were entered in the child abuse registry. Similar to findings from previous studies, children with disabilities were found to have increased child abuse

registration. Specifically, children with conduct disorder, psychological problems, speech and language disorders, and learning disabilities were three to seven times more likely to experience abuse than children without disabilities.

Again, methodological considerations must be taken into account when reviewing the [Spencer et al. \(2005\)](#) study. First, because the authors were unable to determine the age of onset of disability, the cause-or-consequence question cannot be addressed in this study. Spencer et al. specifically state that children with cerebral palsy could have the condition as a result of child abuse, as could those with conduct disorders. Second, the authors also acknowledge that reliance on child abuse registration most likely underestimates the true prevalence of child abuse, as unreported cases and those with poor investigations are not included. There were, however, particular strengths associated with this study as well. First, similar to [Sullivan and Knutson \(2000\)](#), this population-based study eliminated the confounding variables associated with convenience sampling and selection bias. Second, the use of the West Sussex Child Health Computer ensured that disabilities were identified by trained personnel. While this allowed definitions of disabilities to remain mostly consistent, the authors acknowledged that diagnostic classification standards may have changed throughout the study time period (e.g., diagnostic criteria for autism). Finally, Spencer et al. also accounted for potential confounding variables, such as the child's birth weight and the parent's SES, when calculating the risk status for each disability.

3.2. Abuse and neglect among specific disabilities

Among children with disabilities who are reported to be abused, most studies have also found that prevalence rates vary based on type of disability. Unfortunately, only recently have databases such as the NCANDS started including disability as a demographic category in data collection. Even now, only 39 states report a child's disability status, and only certain categories of disabilities are reported ([US Department of Health and Human Services, Administration on Children, Youth and Families, 2007](#)). Because of this lack of detailed reporting, most researchers still consider that their studies underestimate the prevalence of abuse among children with disabilities. Still, some studies have parceled out types of disabilities in order to compare prevalence rates.

3.2.1. Specific disabilities

Among all disabilities examined in their study, [Sullivan and Knutson \(2000\)](#) found that maltreatment was most prevalent among children with behavior disorders, speech/language impairments, and mental retardation. Conversely, [Spencer et al. \(2005\)](#) found that children with autism and sensory disorders

were not at increased risk of abuse. Such findings support Sullivan and Knutson, who also found that children with autism were not at as high a risk as most other disabilities. These findings are opposed, however, with reports that among those with autism and Asperger's syndrome treated in a community mental health setting; one in five had experienced physical abuse, and one in six sexual abuse (Mandell, Walrath, Manteuffel, Sgro, & Pinto-Martin 2005). Girls with ADHD are found to be at higher risk of abuse than those without ADHD (some cases were able to show abuse occurred before diagnosis; Briscoe-Smith & Hinshaw, 2006). Sullivan and Knutson reported that children who are deaf and hard-of-hearing are at particular risk of child abuse compared to other disabilities (Sullivan & Knutson, 1998b). Finally, children with severe speech deficits were found to be at higher risk for maltreatment and the worse the speech impairment, the more at risk the child was for abuse (Verdugo *et al.*, 1995). The authors agreed with more recent speculations that these children were most likely more susceptible to abuse because of their inability to report the abuse to others.

3.2.2. Levels of functioning/severity of disability

While children with all types of disabilities are at increased risk of abuse (Levy & Packman, 2004), children with more mild (as opposed to more severe) disabilities are at greater risk (Verdugo *et al.*, 1995). Verdugo *et al.* found that children with only slight developmental problems were at greater risk of maltreatment than were those with more severe disabilities. They concluded that children whose disabilities were less obvious were more likely to be abused. Similarly, Zirpoli, Snell, and Loyd (1987) found a significant relationship between level of functioning and abuse potential. Those whose level of functioning was considered "profound" were not abused as often as those whose level of functioning was considered as severe. These authors suggested that individuals with profound levels of intellectual disability may have limited interaction skills, thus reducing their contribution to the abusive cycle. Finally, in a review of sexual abuse against children and adolescents with intellectual disability, those with mild-to-moderate intellectual disabilities were more likely to have suffered abuse than those with severe intellectual disabilities (Balogh *et al.*, 2001). Vig and Kaminer (2002) commented that children with more mild disabilities may be more susceptible to abuse because the uncertain outcomes of these children are more frustrating to their parents. Conversely, families of children with more severe impairments may have more realistic expectations for their child's progress. Finally, children with more mild disabilities are not as readily detected. These children, then, may be diagnosed later in life, thus receiving disability services later. These same children, however, may display undesirable behaviors that, while related to the disability, may be mistakenly attributed to the child's character.

The main complication in understanding the relation of level of functioning to child abuse occurs when an individual's maladaptive behavior is also examined. In their study, [Zirpoli et al. \(1987\)](#) found that almost twice as many subjects who were "frequently" violent, disruptive, rebellious, or hyperactive were abused than those who were not. Similarly, [Verdugo et al. \(1995\)](#) found that the worse the child's behavior, the worse the maltreatment. More than 60% of children who had been maltreated in their study showed stereotyped behavior, eating problems, a difficult temperament, and self-injurious behaviors. While Zirpoli and colleagues suggested that individuals displaying maladaptive behaviors may be contributing to the abusive cycle, these data again raise the question: what came first, the abuse or the behavior? Experiences of physical and sexual abuse in childhood have been linked to later displays of externalizing behaviors, such as aggression and self-destructive behaviors ([Margolin & Gordis, 2000](#)). It is possible, therefore, that the maladaptive behaviors may be exacerbated by the abuse the individuals have suffered.

3.2.3. Type of abuse and type of disability

While it is clear that children with disabilities are at risk of experiencing all types of abuse at greater rates than children without disabilities, some disabilities may be somewhat more susceptible to certain types of abuse. [Sullivan and Knutson \(2000\)](#) reported that, compared to children without disabilities, children with behavior disorders were 7 times more likely to experience neglect, physical abuse, and emotional abuse, and 5.5 times more likely to experience sexual abuse. Children with speech and language impairments were at 5 times the risk for neglect and physical abuse, almost 3 times the risk for sexual abuse, and almost 7 times the risk for emotional abuse. Finally, children with mental retardation were at 4 times the risk to experience all forms of abuse. Furthermore, compared to children without disabilities, children with learning disabilities, health-related disabilities, autism, and orthopedic disabilities were at least twice as likely to experience most forms of abuse (see also [Jonson-Reid, Drake, Kim, Porterfield, & Han, 2004](#)). Although more abuse clearly occurs in certain disabilities (e.g., behavior disorders) than in others (e.g., autism, visual impairments), children with specific disabilities may also vary slightly in their proneness to experiencing one versus another type of child abuse.

Additional issues relate to types of maltreatment, the recurrent versus single-incident nature of abuse, and the perpetrators of child abuse. [Sullivan and Knutson \(2000\)](#) found that children with disabilities were more likely than children without disabilities to experience multiple forms of maltreatment (63% vs. 54.9%, respectively) and recurring episodes of maltreatment rather than a single episode (71% vs. 29%, respectively). Immediate family members were most often the perpetrators of abuse, accounting for 92.4% of neglect cases, 82.2% of physical abuse cases, and 89.5% of emotional

abuse cases. Even in the area of sexual abuse, immediate and extended family members accounted for 53.1% of the cases. In all categories of disability, children were most likely to experience neglect, followed in order by physical abuse, emotional abuse, and sexual abuse.

3.2.4. Additional demographic issues

In addition to the amount of abuse and other characteristics of the children with disabilities, other demographic factors have also been examined. These include the following:

Age: Children with health or orthopedic and communication disabilities were most likely to be abused between birth and 5 years of age, whereas children with behavior disorders and mental retardation experienced abuse across the age ranges (Sullivan & Knutson, 2000).

Gender: Boys and girls without disabilities are equally likely to experience child abuse. For children with disabilities, however, many studies have found that rates of abuse vary by gender and type of abuse. Specifically, Sobsey, Randall, and Parrila (1997) found that boys with disabilities were twice as likely to experience abuse compared to girls with disabilities (using data from Crosse *et al.*, 1993). More specifically, these authors found that boys with disabilities were at significant risk of experiencing physical abuse and neglect.

Sullivan and Knutson (2000) found that females without disabilities were more likely to experience abuse; for those with disabilities, males were more likely to experience abuse. Their results were similar to those of Sobsey *et al.* (1997) in that males with disabilities experienced physical abuse and neglect more often than females with disabilities. Girls without disabilities, on the other hand, were more likely to experience physical abuse, neglect, and sexual abuse than were boys without disabilities. Both studies also found that females with disabilities were more likely to experience sexual abuse than males with disabilities. It is important to note, however, that the authors of both studies assert that the higher prevalence of males with disabilities (*vs.* females with disabilities) in the population may account for the greater prevalence of males with disabilities in the maltreated sample.

Forms of abuse: Compared to girls with disabilities, boys with disabilities were more likely to experience physical abuse and neglect. Although many more girls with disabilities (62%) than boys with disabilities (38%) were sexually abused, a significantly larger percentage of boys with (*vs.* without) disabilities experienced sexual abuse (Sobsey *et al.*, 1997).

Even in spite of the various definitional and methodological issues, then, the data seem clear that children with disabilities are more likely to experience abuse and neglect than are children without disabilities. Although it remains unclear exactly how often (compared to children without disabilities) such children are abused, almost every study converges on the overabundance of abuse in this population. Children with different types of

disability also seem to differ in how likely they are to be abused; certain disability types may more often experience certain types of abuse, and boys as opposed to girls with disabilities seem more often abused.

4. GOING BEYOND MORE OR LESS ABUSE

Determining the prevalence of maltreatment among children with disabilities constitutes only an initial step in understanding the relation between abuse and disability. More important and more difficult is to understand the reason, the *why* of greater susceptibility. Unfortunately, little is known about why such an increased risk of abuse occurs among children with disabilities.

In contrast to this meager literature about correlates of abuse among children with disabilities, a strong literature examines why abuse occurs in children who do not have disabilities. Within this literature, risk factors leading to abuse have been considered to interact, and to escalate situations to become abusive. Understanding how these risk factors relate to one another may also explain why children with disabilities are at increased risk of abuse. Starting with the ecological approach, then, in this section we explain how multiple risk variables combine to increasingly heighten the predisposition for a child to be abused. Next, we describe these risk characteristics, first for children without disabilities, then for those with disabilities.

4.1. The ecology of child abuse: Theoretical issues

When considering the variables that make a family at risk for child abuse, several factors are combined to influence the way parents respond to their children. Belsky (1980) was a pioneer in creating this ecological approach to child abuse, which was derived in part from Bronfenbrenner's model of the ecology of human development (Belsky & Vondra, 1990; Zigler & Hall, 1990).

The essence of this ecological approach involves a series of nested levels. As Sidebotham (2001) notes, "the basis of an ecological model is that child maltreatment is multiply determined by forces at work in the individual, in the family and in the community and culture, and that these determinants are nested within one another" (p. 103). Within this model, four systems are considered. The first, termed *parents' ontogenic development*, considers how the parent's own childhood and early adult life can influence child abuse potential. For example, potentially abusive parents might themselves have been abused, have unrealistic expectations for their child, suffer from depression, or be ambivalent about having or raising the child. Although

none of these factors are determinative—parents who were victims of child abuse during childhood will not necessarily grow up to abuse their own children (Kaufman & Zigler, 1990; Muller, 1996)—each nevertheless makes it more likely that parents will abuse their children.

The second system involves the *microsystem* or the immediate family and environment of the child. Within this model, the effects of the child on the adult are considered (Bell, 1968), as are transactions over time between children and parents (Patterson, 1982). Aside from interactions involving the child, other family factors also enter in, including parental marital relations, the effects of other children in the home, and specific family-type variables, such as if the family has close versus distant relationships and open versus closed communication styles (Olson, 2000). As the child ages, friends, school, or playgroup peers, and other significant adults are also incorporated into the microsystem (Sidebotham, 2001).

The final two systems relate more to larger environments and to cultural issues. The immediate family environment (microsystem) itself exists within a third system, or *exosystem*. Examples of the exosystem might include whether the parent has a job and the nature of that job, characteristics of the child's neighborhood, and the amount, nature, and efficient functioning of the family's social networks and supports. Finally, the *macrosystem* is the larger cultural context that surrounds the family. This context might involve the beliefs held either in society at large or within one's subcultural group about the appropriate ways to parent children, and whether and in which circumstances parents should use physical discipline.

Within this ecological model, the child's behavior is a partial, but rarely a total, elicitor of abuse. Granted, children's behaviors can powerfully influence adults (Bell & Harper, 1977). The best example might be Patterson's work on interactions between children with conduct disorders and their parents. Within Patterson's (1982) coercion theory, behavioral contingencies are used to explain how parents and children "train" each other to behave in certain ways (Granic & Patterson, 2006). For example, parents might demand compliance of a child who then refuses to comply, leading the parent to become even stricter with the child. In response, the child's misbehavior escalates again. With this interplay of parent-child behaviors, aggression has been shown to emerge, which could sometimes escalate into child abuse (Urquiza & McNeil, 1996).

Even with the example of children with conduct disorders, however, the child's behavior does not constitute the sole cause of child abuse. Instead, the child's behavior is examined more for how it fits within the remaining three systems. For example, if a child's difficult externalizing behavior is combined with a parent who was abused in childhood and who has recently lost a job, then child abuse is much more likely to occur. As Sidebotham, Heron, & The Avon Longitudinal Study of Parents and Children Study Team (ALSPAC) (2003) concluded, "maltreatment requires a stressful

environment, a parent who reacts in a particular way and a child who is in some way different” (p. 348). Although the listing below is provided separately for each system, these systems interact over time, making child abuse increasingly likely.

4.2. Characteristics contributing to child abuse among typically developing children

4.2.1. Parents’ ontogenic development: What the parent brings

Within the literature on abuse of children without disabilities, the most prominent risk factor within parents’ ontogenic development is a parent’s own childhood history of maltreatment (Hall, Sachs, & Rayens, 1998). The intergenerational transmission hypothesis asserts that if a parent was exposed to violence as a child, then that parent may adopt similar aggressive strategies for coping with parent–child conflicts (Isaacs, 1981).

In a similar way, parents who are ambivalent about having a particular child are also more likely to abuse such children. Thus, parents whose children are the result of unintended pregnancies are more likely to abuse their children, as are parents who do not rate their children with many positive characteristics at 4 weeks of age (Sidebotham et al., 2003). In addition, compared to parents who do not have a psychiatric disorder, parents who suffer from clinical depression, mania, or schizophrenia are two to three times more likely to abuse their children (DeBellis, Broussard, Herring, Wexler, Moritz, & Benitez 2001; Walsh, MacMillan, & Jamieson, 2002).

Finally, a parent’s prior experience with caregiving and knowledge about child development are other ontogenic characteristics that could increase the risk of child abuse. If a new parent was never exposed to caring for a child before, the parent may respond aggressively to the demands of caregiving. Similarly, parents who do not understand child development may neglect their child simply because the parents do not understand what is expected of them (Fox, Fox, & Anderson, 1991). Such lack of knowledge may explain the recurrent finding that teenage mothers are at higher risk of abusing their children than are older mothers (Stier, Leventhal, Berg, Johnson, & Mezger, 1993). Finally, a parent’s low IQ, low self-esteem, and poor interpersonal skills are factors within ontogenic development that interact with factors from the other three systems (Kaufman & Zigler, 1990; Paavilainen, Astedt-Kurki, Paunonen-Ilmonen, & Laippala, 2001; Wolfe & Wekerle, 1993).

4.2.2. Microsystem: Immediate child and family factors

Child characteristics: Although children are not the sole cause of their own abusive experiences, they are active agents in their environment (Sellinger & Hodapp, 2005) and can thus serve as elicitors of maltreatment when their

certain characteristics interact with family characteristics (Belsky, 1980). In essence, the child's own behavioral and developmental characteristics may predispose them to abusive situations (Janko, 1994).

Much research has been performed to identify which characteristics of children may predispose them to abuse. Children who are premature have frequently been reported to be at increased risk of abuse (Goldberg, 1979; Sidebotham *et al.*, 2003), though some studies have not found a link between birth weight and child abuse potential (Spencer, Wallace, Sundrum, Bacchus, & Logan, 2006). Most recently, Sidebotham *et al.* (2003) found that children who were born with low birth weight were more than twice as likely to suffer from abuse as were children born of normal birth weight. Similarly, findings from a population-based study showed that low birth weight and premature babies were at greater risk of all four types of abuse compared to babies of normal birth weight (Spencer *et al.*, 2006). Those who have found an association suggest this risk could be due to the premature child's lack of social responsiveness, to the child's aversive cry and appearance, or to the parent's inability to bond with the child (Elmer & Gregg, 1967; Sidebotham *et al.*, 2003). Spencer and colleagues also suggest that mothers who have premature or low birth weight babies may possess certain other characteristics that are indicative of both poor pregnancy outcomes and child abuse.

The child's temperament could also be an influence in abuse. Both children who are hyperactive and children who are lethargic have been reported to be abused more often (Belsky, 1980; Zirpoli, *et al.*, 1987). The hyperactive child may place increased stress on a parent, thus leading to physical abuse; a lethargic child could suffer from neglect.

Other characteristics of children that have been identified include a child's discipline problems, sexual acting out, poor school performance, and permanent or chronic conditions such as developmental disabilities or medical fragility (Meier & Sloan, 1984). Children who are oppositional, aggressive, or coercive are also more likely to receive physical discipline (Jaffee *et al.*, 2004).

Family characteristics: Certain family characteristics interact with child characteristics within the microsystem. For example, parents who are suffering from marital discord may be at greater risk as they may target their aggression toward their child (Belsky, 1980; Tajima, 2000). In addition, increased risk can result when parents are living in lower-income households, single-parent households, and households with many children (Baumrind, 1994; Ethier, Couture, & Lacharite, 2004; Wu *et al.*, 2004). In fact, larger families and families in which the children are closely spaced are at greater risk of child abuse. Such increased risk of abuse could be due to the increased financial stress associated with raising so many children.

4.2.3. Exosystem and macrosystem

Within the exosystem, a parent's under- or unemployment and social isolation are two characteristics that increase the risk of abuse (Belsky, 1980; Sobsey, 2002). In addition to the potential for lower self-esteem (especially for unemployed fathers), having adequate money, food, housing, and health care are all important factors that interact with the high-risk abuse status (Janko, 1994).

Child abuse also often occurs in families that are socially isolated and that lack many formal or informal supports (Grietens, Geeraert, & Hellinckx, 2004; Sidebotham, Heron, Golding, & the ALSPAC Study Team, 2002). Families who are isolated do not have others to turn to as a means of escape from the stresses of child rearing. Further, these families have little help with child care and often lack material assistance (O'Brien, 2001).

Even though all of the considered characteristics within the microsystem and exosystem can interact to lead to child abuse, it is also important to consider these factors within the larger context of the macrosystem. The culture in which a family lives plays an important role in how parents will respond to stressful and trying situations. Most parents within the United States live in communities in which corporal punishment is an acceptable way of disciplining a child. Belsky (1980) argues that as long as societies accept and even promote violence (through television, lack of consequences), then child abuse will never be fully eliminated.

4.3. Characteristics contributing to abuse among children with disabilities

In considering the above set of characteristics, one can see that many of them occur even more frequently in children with disabilities. Moreover, these child characteristics are also likely to interact with parent and family characteristics to lead to abuse within families of children with disabilities.

4.3.1. Parents' ontogenic development

Two important parental ontogenic risk factors are commonly found in parents of children with disabilities. The first involves depression. Several studies have now found increased rates of depression (and other psychiatric conditions) among parents who abuse their children (Walsh et al., 2002). Depression, in turn, occurs more often among mothers of children with disabilities compared to mothers of children without disabilities. In a recent meta-analysis of studies comparing depression scales for mothers of children with versus without disabilities, Singer (2006) found differences between mothers in the two groups, usually on the order of small-to-moderate-sized effects (median effect size = .39). Stated another way, ~29% of mothers of

children with disabilities scored in the “clinical” range on commonly used depression measures (e.g., Beck, Brief Symptom Inventory, Center for Epidemiologic Studies Depression Scale), compared to 19% of mothers of children without disabilities. Of note, depression among mothers of children with disabilities is often found to occur early in the child’s life (Glidden & Schoolcraft, 2003). Similarly, child abuse occurs more often in the child’s younger, rather than older, years (US Department of Health and Human Services, Administration on Children, Youth and Families, 2007).

Another ontogenic risk factor involves the lower IQ’s of some mothers of children with disabilities. Reviewing the literature on parents with mental retardation, Holburn, Perkins, and Vietze (2001) found that approximately one-fourth of the children of parents with mental retardation also had mental retardation. Furthermore, when both parents had mental retardation, the risk of their child having mental retardation was doubled. Finally, when parents with mental retardation were of lower SES, the children were at a higher risk for developmental delay (especially delayed expressive language) than those children born to middle-class families (Espe-Sherwindt, & Crable, 1993). Because lower IQ and educational attainment are risk factors of child abuse, children with disabilities from mothers with lower IQs may be at increased risk.

4.3.2. Microsystem: Immediate child and family factors

Child characteristics: As described above, a child’s difficult temperament can influence the risk of abuse. Many children with disabilities display challenging and/or unmanageable behavior (e.g., self-injurious behaviors, aggression, hyperactivity; Soeffing, 1975). In fact, Ammerman (1990) stated that child characteristics that increased parental stress challenged coping skills (e.g., hyperactivity), or disrupted the parent–child bond (e.g., child irritability), were likely to lead to abusive situations. Each of these behaviors is generally found at increased rates among children with disabilities. Indeed, Ammerman and Patz (1996) substantiated this finding by studying characteristics of children with and without disabilities on the Child Domain of the Parenting Stress Index. They determined that certain child qualities, such as adaptability to changes in the environment, moodiness, and irritability, predisposed children to higher rates of potential abuse.

Another risk factor often seen among children with disabilities is that of prematurity. Children who are born premature are at risk of developing disabilities, such as cerebral palsy (Escobar, Littenberg, & Petitti, 1991). Furthermore, children who are born premature often display certain characteristics of children with disabilities that elicit negative reactions from caregivers, such as prolonged crying. These behaviors could lead to abuse, as could behaviors that result in insecure attachments between the mother and child. These insecure attachments could be because of illness, or the child’s

deficits in attachment forming behaviors, such as eye-gaze or responsiveness (Ammerman, Lubetsky, & Stubenbort, 2000; Sidebotham et al., 2003).

When considering such risk factors among children with disabilities that may contribute to child abuse, it is also important to recognize that certain of these characteristics occur more often in some disabilities than in others (Dykens, 1995). Different genetic disorders predispose children to display certain characteristics at different levels. For example, compared to other children with mental retardation, children with Prader–Willi syndrome show higher rates of temper tantrums and obsessive–compulsive disorders (Dykens, Leckman, & Cassidy, 1996; Walz & Benson, 2002). These behaviors are part of the difficult temperament traits that could lead to abuse. In fact, Van Lieshout, De Meyer, Curfs, and Fryns (1998) found that, within a group of children with Prader–Willi syndrome, the child’s negative personality characteristics and parents’ degree of anger were highly correlated. When the child with Prader–Willi syndrome displayed less agreeableness, less conscientiousness, less emotional stability, less openness, and greater irritability, both parents were likely to exhibit greater anger and less warmth toward the child. The child’s behaviors were also found to relate to parental consistency, marital discord, and family stress.

In another example, Johnston et al. (2003) found that the behavior problems displayed by children with fragile X syndrome were a major factor contributing to the overall stress experienced by their mothers (see also Van Lieshout et al., 1998). In both Prader–Willi syndrome and fragile X syndrome, then, certain etiology-related characteristics may predispose these children to greater risks of abuse. Such effects of the child’s etiology-related behavior on others—in this case related to child abuse—have been considered important for many types of parental and familial outcomes (Hodapp, 1997, 1999).

On the other hand, some children with genetic disorders display personality and behavioral characteristics that may decrease the risk of child abuse. For example, children with Down syndrome often display personalities that might be characterized as positive and socially oriented; these children also generally display lower rates of maladaptive behavior (Dykens & Kasari, 1997; Meyers & Pucshel, 1991; Stores, Stores, Fellows, & Buckley, 1998). In turn, when compared to parents of children with other intellectual disabilities, parents of children with Down syndrome usually experience less child-related stress (Fidler, Hodapp, & Dykens, 2002). These parents also report that they feel more rewarded by their child (Hodapp, Ly, Fidler, & Ricci, 2001; Noh, Dumas, Wolf, & Fisman, 1989), particularly until the teen years (possibly not thereafter; Hodapp et al., 2001). This “Down syndrome advantage” may well be a protective factor from child abuse.

Family characteristics: In line with findings relating higher rates of child abuse to marital discord and single-parent households, one sees that both may occur more often among families of children with disabilities. First, children with disabilities are more likely to live in single-parent-headed

households rather than with married parents. [Fujiura \(1998\)](#) reported that single-parent-headed households comprised 40% of the households with children with disabilities in his survey (all with children aged 15 years and older), compared to only 21% of single-parent-headed households among families of children without disabilities (see [Fujiura & Yamaki, 2000](#) for similar findings with younger children).

Similarly, in her study of over 10,000 families surveyed in the 1981 National Health Interview Survey, [Mauldon \(1993\)](#) found that parents were more likely to divorce if their child had a disability or chronic health condition. In considering divorce among families with children with disabilities, however, two recent studies lead one to be cautious about these findings. First, [Risdal and Singer \(2004\)](#) performed a meta-analysis of all studies of divorce among parents of children with versus without disabilities. Although their conclusion was that divorce was more likely among families of a child with a disability, the effect sizes were modest. Compared to families of children without disabilities, families of children with disabilities were about 6% more likely to divorce (20% vs. 14%). Second, divorce rates may differ by diagnostic group. In a recent large-scale study using statewide administrative records, rates of divorce among families of children with Down syndrome were slightly lower than divorce rates of families of children with other birth defects or of a comparison group of children without disabilities ([Urbano & Hodapp, 2007](#)). Moreover, when divorce did occur within the families with children with Down syndrome, it was more likely to occur before the child had reached 2 years of age.

4.3.3. Exosystem and macrosystem

As stated above, parents with children with disabilities are often of lower SES ([Fujiura, 1998](#)). Parents living in lower SES neighborhoods often lack community resource centers and do not have alternative child care ([Pianta et al., 1990](#)). Partly as a result, many mothers of children with disabilities are reluctant to work full time ([Kelly & Booth, 2002](#)).

Further, [Sidebotham et al. \(2003\)](#) found that children who suffer from poor health in the first 30 months of life were more likely to be maltreated. They attributed such increased child abuse levels to the stress, parents experience in looking after their sick child and making numerous hospital visits. Many children with disabilities (e.g., Down syndrome) experience increased illnesses early in life ([So, Urbano, & Hodapp, 2007](#)). Stress can also arise due to the need to provide increased care and supervision for children with disabilities. If parents do not have social supports to help care for the child or to discuss problems with, then they may experience increased stress (which may, in turn, lead to increased levels of abuse).

Older studies examined the types of support characteristics available to parents of children with disabilities. Although most parents of children with

disabilities reported having support, the social support networks of these parents were usually smaller than those of parents of children without disabilities (Kazak & Marvin, 1984). Similarly, a more recent study has found that parents of children with disabilities are likely to rely on family members and professionals before friends (Shin, 2002). As a result, such networks may be “denser,” that is, most individuals within the support network know and interact with one another (Byrne & Cunningham, 1985). Although little research has been conducted recently to determine if the social support of parents of children with disabilities remains smaller and denser, White and Hastings (2004) reported that informal support was associated with parental well-being, regardless of the number of formal supports.

Dense social networks have both good and bad characteristics. On the positive side, such strongly bonded networks do provide parents with informational, emotional, and tangible supports. Heller, Hsieh, and Rowitz (2000) found that parents of children with disabilities who received emotional support (e.g., providing advice, being a confidant, giving encouragement) from the child’s grandparents reported lower levels of depression. This finding was still present after the authors controlled for other formal and informal resources. In a study of families of children with spina bifida, informal supports such as a supportive family climate, the parents’ marital relationship (Vermaes, Janssens, Bosman, & Gerris, 2005), and the proportion of family members in the network (Barakat & Linney, 1992) were all associated with better psychological adjustment.

At the same time, however, such dense social networks can themselves be sources of stress for the parents. Dense networks tend to foster less frequent access to other resources or to different opinions, and fewer opportunities to discuss stressful events (Granovetter, 1973). It is also very difficult to get outside of the network. In addition, in those cases in which social networks are both dense and small, stress can arise due to the network’s difficulty in providing the increased care and supervision needed by many children with disabilities. White and Hastings (2004) also caution that parents who rely on small informal support networks are also vulnerable to future stress. Specifically, if the informal support sources are threatened (e.g., grandparents die, friends move away), then parents may find it difficult to ask others for support out of fear that they will be unable to reciprocate the help. In turn, parents might be forced to turn to professionals to locate alternate sources of support.

In considering the abuse of children with disabilities, then, it seems as if heightened levels of many different risk factors may lead to higher prevalence rates. Although no single risk factor may by itself determine the risk of child abuse among children with disabilities, many risk factors seem increased. Following Belsky’s model, in Table 7.2 we summarize the higher levels of various risk factors within the ontogenic, microsystem, and macrosystem–exosystem. If each elevated risk factor combines—in a multiplicative

Table 7.2 Characteristics within families with children with disabilities that may increase abuse potential

Risk factor	Is risk elevated in families with children with disabilities?
Ontogenic Development	
Parental history of abuse	Unknown
Ambivalence toward child	Unknown (possibly)
Less knowledge about caregiving	Likely (given child's specific problems)
Mother's depression	Increased risk
Mother's other psychiatric problems	Unknown
Teenage mothers	Unknown
Mothers with lower IQ	Increased risk
Mother's low self-esteem	Increased risk (=relation to depression)
Microsystem	
Prematurity	Increased risk
Difficult temperament	Increased risk
Hyperactivity	Increased risk
Lethargic children	Increased risk
Low SES	Increased risk
Divorced parents	Increased risk
Single-parent families	Increased risk
Larger families (more children)	Unknown
Macrosystem/Exosystem	
Small social networks	Increased risk
Dense social networks	Increased risk
Unemployment	Increased risk for some mothers (fathers unknown?)

way—with all others, then it seems almost inevitable that children with disabilities experience higher-than-normal rates of child abuse.

5. REMAINING ISSUES FOR RESEARCH

Although it seems likely that Belsky's ecological model can be profitably applied to the abuse of children with disabilities, currently much of our argument is speculative. Given that a particular risk factor predisposes

children to greater amounts of abuse when the child does not have disabilities, so such factors should work similarly when the child does have disabilities. But in order to test this hypothesis, researchers need to tackle four additional questions.

5.1. Correlates or antecedents?

Many risk factors are likely present more often in children with versus without disabilities (see [Table 7.2](#)). Such factors span the gamut of levels, from what parents bring to the interaction, to child, parent, or family factors, to factors present in the family's surrounding support system. In all cases, we refer to each variable as a "risk factor," with the assumption that the presence or higher level of each variable helps to put the child at greater risk for child abuse.

For certain of these variables, however, the direction of causality remains unclear. As previously stated, one solution relates to larger scale longitudinal studies. Applying Hierarchical Linear Modeling (HLM) and other statistical techniques to data from participants examined on multiple occasions, one begins to know "what causes what"—which correlate seems most likely to have served as the antecedent, which the outcome. At present, such studies rarely occur when examining abuse among children without disabilities, and are almost nonexistent when considering abuse among children who have disabilities.

A second, related concern is the distinction between "risk indicators" and "risk mechanisms" ([Rutter, Pickles, Murray, & Eaves, 2001](#)). Risk indicators constitute markers for increased risk, but by unknown mechanisms, whereas risk mechanisms specify those processes by which an outcome occurs. Thus, lower SES, which serves as a marker for a host of poor outcomes, does not by itself explain why such poor outcomes occur. In contrast, risk mechanisms tell us which behaviors might be operating to cause the child's increased risk. At present, many of the correlates of child abuse are markers, not mechanisms. The child's prematurity, low family SES, smaller (or denser) social support networks, or low parental education levels may all be related to higher rates of child abuse, but we do not yet understand why. Granted, one can speculate about each of these risk factors, but the exact mechanisms remain unclear as to why each relates to greater amounts of child abuse.

5.2. Same or different amounts of each risk factor?

Regardless of how one conceptualizes child abuse risk factors, a second question involves the prevalence of such factors within children with disabilities and their families. As [Table 7.2](#) indicates, many of these factors have yet to receive sustained study. Beyond maternal depression, are

mothers more, less, or similarly likely to suffer from other psychiatric disorders? What, exactly, are the feelings of mothers toward their newborn children with disabilities, and are all risk factors more common among families of children with disabilities?

Like many basic questions in disabilities, no firm answers exist. The problems likely arise from two directions. From one side, the field has many studies using samples of convenience. Researchers in Down syndrome, Williams syndrome, Prader–Willi syndrome, and fragile X syndrome, for example, often utilize parent groups as their source of subjects. Although helpful—even necessary—in order to attain large numbers of participants, parent groups generally consist of parents and families who are White, well-educated, and of middle class or higher SES (Hodapp & Dykens, 2001).

From the opposite direction, epidemiologists have delineated general characteristics of families of children with disabilities, but this information is generally less focused on specific disabilities. Parents of children with disabilities are thus slightly more likely to be divorced (Risdal & Singer, 2004), depressed (Singer, 2006), and headed by single-parent families (Fujiura, 1998; Mauldon, 1993). But all of these findings arise from either meta-analyses of small-scale studies using samples of convenience or, conversely, from large-scale epidemiological studies. Such large-scale studies often use federal surveys, which usually lump together children with various disability and health conditions. As a result, little information is available concerning which specific disability conditions might show which types of outcomes, for child abuse or for many other outcomes.

5.3. What percentage of the variance is accounted for by each risk factor?

Table 7.2 presents a fairly long list of risk factors relating to parental history, child characteristics, parental and family characteristics, and outside support. Shown in such a list-like form, each separate variable seems equally important, equally predictive of higher rates of child abuse. But each predictor variable may not be equal. Indeed, when weighing the importance of any set of predictors, one is metaphorically sizing pie pieces. Some predictors matter more—they account for bigger slices of the pie—whereas others constitute smaller slices (they matter less).

At present, we are still at the stage of identifying which variables matter. Although a few large-scale studies have examined the strength of effects of one versus another risk factor (e.g., Sidebotham *et al.*, 2003), most do not. Instead, most studies show only that a particular characteristic constitutes a risk factor for abuse. The relative strength of that risk factor is rarely considered.

An additional, related issue concerns how such individual risk factors relate one to another. Within epidemiology, it is commonly noted that risk factors are often correlated (Costello & Angold, 2006). Thus, the family that is

of lower SES is also the family in which parents have less education, are more likely to be divorced and to show health, support, or other problems. It is therefore not enough to identify individual risk factors, as risk factors tend to relate to one another in ways that greatly increase risks of negative outcomes.

A final issue concerns the possible presence of risk factors that might be unique to parents of children with disabilities, and their connections to other risk factors. Few parents of children without disabilities have had much experience with the special education system, Individualized Education Plans, or garnering services for their child. Similarly, if indeed maternal depression occurs more often during the early years when the child's disability manifests itself and is diagnosed (e.g., [Glidden & Jobe, 2006](#); [Glidden & Schoolcraft, 2003](#)), then maternal depression must be considered as a risk factor that may be time-sensitive to the age of the child. How different risk factors go together at specific time points remains virtually unexamined.

In thinking about the relative strengths and interactions of various risk factors, we begin to acquire a more nuanced view of families and their risks for abusing their children with disabilities. Not all families are at higher risk of abusing their children with disabilities; only some families are at greater risk. As we come to identify those characteristics that constitute risk factors and to appreciate the strength of each individually and collectively, we can begin to predict which particular families will be most at risk. We can then screen families and intervene effectively.

5.4. How should screening and intervention be performed?

Although abuse prevention and intervention programs exist for children without disabilities and their families, few such programs exist for children with disabilities [Fisher \(2007\)](#). Still, we can learn much from the burgeoning field that examines the nature and efficacy of child abuse interventions.

A first issue involves risk assessment. Hawaii's Healthy Start Program, one of the best known prevention programs, aims to prevent child abuse through first conducting a population-based screening and assessment of families of newborns. By screening new families, workers are able to identify those at risk before abusive situations occur. The risk assessment measures risk for abuse in 15 areas: parents not married; unemployed partner; inadequate income; unstable housing; lack of telephone; less than high school education; inadequate emergency contacts; marital or family problems; history of abortions; abortion unsuccessfully sought; history of substance abuse; history of psychiatric care; history of depression; and inadequate prenatal care ([Duggan et al., 1999](#)).

Once families at risk are identified, they are invited to participate in the second phase of the program, home visiting. During this phase, home visitors work with the family members to help them cope with the challenges of raising a child through identifying family strengths and reducing

environmental risks (Duggan *et al.*, 1999). While this program is a wonderful first step in the identification of families at risk, Hawaii's Healthy Start Program, unfortunately, will miss most families with children with disabilities. As displayed in Table 7.2, many of the 15 risk variables measured through this program occur at an increased rate among families of children with disabilities; however, many of the most prevalent risk factors among families with disabilities (e.g., characteristics of the child) are not measured through this risk assessment. Granted, most are missed because this assessment is performed directly after the birth of the child, when most characteristics are not yet present. Unfortunately, most disabilities are not yet identified as well. Aside from a few genetic disorders (e.g., Down syndrome) and certain obvious physical conditions (e.g., spina bifida, cleft palate), most disabilities are not diagnosed until the child is older and out of the hospital. If these mothers do not qualify as at-risk based on the 15 identified factors, then these new mothers will not receive the early intervention they need.

Similarly, few child abuse prevention and intervention programs have been developed and tested specifically for children with disabilities and, unfortunately, many studies use disability status as an exclusion criterion (Fisher, 2007). Yet with mounting evidence that families of children with disabilities are at increased risk of abuse related to factors in the child, parent, and family, it is disheartening that so few studies have been designed to reduce the risk of abuse among this population. Noting this lack of risk-reduction studies, Kendall-Tackett, Lyon, Taliaferro, and Little (2005) stated that welfare services should provide specialized assistance to families of children with disabilities and that disability status should be considered in studies evaluating maltreatment interventions. Unfortunately, studies specifically targeting families with children with disabilities continue to be sparse.

In order to target more children with disabilities, new risk assessments must be developed that include child characteristics along with parent and family characteristics. Also, intervention studies should be designed to target the specific characteristics identified for increased abuse potential among children with disabilities. Finally, specialized programs should be developed and tested that work with both parents and their children with disabilities.

6. CONCLUSION

Despite a host of definitional and methodological problems, it now seems clear that children with disabilities suffer abuse at alarming rates. Compared to children without disabilities, almost every study shows that children with disabilities are more prone to all types of abuse. Children with

specific types of disability may suffer more and specific types of abuse, gender rates may vary, and recurrent (vs. one-time only) abuse and abuse from parents and other family members predominate. But the overall message involves an increased risk of child abuse among children with versus without disabilities.

The goal now becomes twofold. First, we must answer the “why question,” to delve more deeply into why children with disabilities are so often abused. Using Belsky’s (1980) ecological framework of child abuse to organize the various strands, we see higher-than-expected amounts of almost every risk factor, at every level. Children with disabilities more often display behavioral problems, difficult temperaments, and other “abuse-inducing” characteristics; parents are slightly more likely to be of low SES, single-parent families, and to show depression; and smaller and denser social support networks seem common. Our first, still mostly unresolved task, then, involves better understanding whether these risk factors operate similarly in families of children with and without disabilities, with the ultimate goal of determining what percentage of the variance is accounted for by each of these many variables.

On better understanding risk factors, our second task becomes the screening and intervention of the most at-risk families of children with disabilities. In contrast to the general strategy of excluding children with disabilities from abuse studies, our job now is to understand better how to identify and to intervene effectively to both prevent and treat abuse in these families. In short, given the available information, it should no longer be surprising that children with disabilities are at increased risk of abuse and neglect. Rather, it is surprising that so little is being done to prevent this abuse and neglect from occurring. If we truly are a civilized society—a society that protects its most vulnerable members—we need to learn more and to intervene more effectively to prevent and treat the abuse of children with disabilities.

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REFERENCES

- Aber, J. L., & Zigler, E. (1981). Developmental considerations in the definition of child maltreatment. *New Directions for Child Development*, 11, 1–29.
- Ammerman, R. T. (1990). Etiological models of child maltreatment: A behavioral perspective. *Behavior Modification*, 14, 230–254.

- Ammerman, R. T., & Baladerian, N. J. (1993). *Maltreatment of children with disabilities*. Chicago, IL: National Committee to Prevent Child Abuse.
- Ammerman, R. T., Hersen, M., Van Hasselt, V. B., Lubetsky, M. J., & Sieck, W. R. (1994). Maltreatment in psychiatrically hospitalized children and adolescents with developmental disabilities: Prevalence and correlates. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33, 567–576.
- Ammerman, R. T., Lubetsky, M. J., & Stubenbort, K. F. (2000). Maltreatment of children with disabilities. In R. T. Ammerman & M. Hersen (Eds.), *Case studies in family violence* (2nd ed., pp. 231–258). New York: Kluwer Academic/Plenum Publishers.
- Ammerman, R. T., & Patz, R. J. (1996). Determinants of child abuse potential: Contribution of parent and child factors. *Journal of Clinical Child Psychology*, 25, 300–307.
- Balogh, R., Bretherton, K., Whibley, S., Berney, T., Graham, S., Richold, P., et al. (2001). Sexual abuse in children and adolescents with intellectual disability. *Journal of Intellectual Disability Research*, 45, 194–201.
- Barakat, L. P., & Linney, J. A. (1992). Children with physical handicaps and their mothers: The interrelation of social support, maternal adjustment, and child adjustment. *Journal of Pediatric Psychology*, 17, 725–739.
- Baumrind, D. (1994). The social context of child maltreatment. *Family Relations*, 43, 360–368.
- Bell, R. Q. (1968). A reinterpretation of direction of effects in studies of socialization. *Psychological Review*, 75, 81–95.
- Bell, R. Q., & Harper, L. V. (1977). *Child effects on adults*. Hillsdale, NJ: Erlbaum.
- Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist*, 35, 320–335.
- Belsky, J., & Vondra, J. (1990). Lessons from child abuse: The determinants of parenting. In D. Cicchetti, & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 153–202). New York, NY: Cambridge University Press.
- Bonner, B. L., Crow, S. M., & Hensley, L. D. (1997). State efforts to identify maltreated children with disabilities: A follow-up study. *Child Maltreatment*, 2, 52–60.
- Briscoe-Smith, A. M., & Hinshaw, S. P. (2006). Linkages between child abuse and attention-deficit/hyperactivity disorder in girls: Behavioral and social correlates. *Child Abuse and Neglect*, 30, 1239–1255.
- Bryen, D. N., Carey, A., & Frantz, B. (2003). Ending the silence: Adults who use augmentative communication and their experiences as victims of crime. *Augmentative and Alternative Communication*, 19, 125–134.
- Byrne, E. A., & Cunningham, C. C. (1985). The effects of mentally handicapped children on families—a conceptual review. *Journal of Child Psychology and Psychiatry*, 26, 847–864.
- Cederborg, A. C., & Lamb, M. E. (2006). How does the legal system respond when children with learning difficulties are victimized? *Child Abuse and Neglect*, 30, 537–547.
- Costello, E. J., & Angold, A. (2006). Developmental epidemiology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Theory and method* (2nd ed., Vol. 1, pp. 41–75). New York, NY: John Wiley & Sons, Inc.
- Crosse, S. B., Kaye, E., & Ratnofsky, A. C. (1993). *A report on the maltreatment of children with disabilities*. Rockville, MD: Westat (Contract No. 105–89–1630) from the National Center on Child Abuse and Neglect), US Department of Health and Human Services.
- Dawson, G., & Toth, K. (2006). Autism spectrum disorders. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (2nd ed., Vol. 3, pp. 317–357). New York, NY: John Wiley & Sons, Inc.
- DeBellis, M. D., Broussard, E. R., Herring, D. J., Wexler, S., Moritz, G., & Benitez, J. G. (2001). Psychiatric co-morbidity in caregivers and children involved in maltreatment: A pilot research study with policy implications. *Child Abuse and Neglect*, 25, 923–944.

- Duggan, A. K., McFarlane, E. C., Windham, A. M., Rhode, C. A., Salkever, D. S., Fuddy, L., et al. (1999). Evaluation of Hawaii's Healthy Start Program. *The Future of Children, 9*, 66–90.
- Dykens, E. M. (1995). Measuring behavioral phenotypes- Provocations from the new genetics. *American Journal on Mental Retardation, 99*, 522–532.
- Dykens, E. M., & Kasari, C. (1997). Maladaptive behavior in children with Prader-Willi syndrome, Down syndrome, and nonspecific mental retardation. *American Journal on Mental Retardation, 102*, 228–237.
- Dykens, E. M., Leckman, J. F., & Cassidy, B. (1996). Obsessions and compulsions in Prader-Willi syndrome. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 37*, 995–1002.
- Elmer, E., & Gregg, G. S. (1967). Developmental characteristics of abused children. *Pediatrics, 40*, 596–602.
- Escobar, G. J., Littenberg, B., & Petitti, D. B. (1991). Outcome among surviving very low birthweight infants: A meta-analysis. *Archives of Disabled Child, 66*, 204–211.
- Espe-Sherwindt, M., & Crable, S. (1993). Parents with mental retardation: Moving beyond the myths. *Topics in Early Childhood Special Education, 13*, 154–174.
- Ethier, L. S., Couture, G., & Lacharite, C. (2004). Risk factors associated with the chronicity of high potential for child abuse and neglect. *Journal of Family Violence, 19*, 13–24.
- Fidler, D. J., Hodapp, R. M., & Dykens, E. M. (2002). Behavioral phenotypes and special education: Parent report of educational issues for children with Down syndrome, Prader-Willi syndrome, and Williams syndrome. *The Journal of Special Education, 36*, 80–88.
- Fisher, M. H. (2007). Disability in Child Abuse Intervention: A Literature Analysis. Submitted for publication.
- Fox, R. A., Fox, T. A., & Anderson, R. C. (1991). Measuring the effectiveness of the star parenting program with parents of young children. *Psychological Reports, 68*, 35–40.
- Fujiura, G. T. (1998). Demography of family households. *American Journal on Mental Retardation, 103*, 225–235.
- Fujiura, G. T., & Yamaki, K. (2000). Trends in demography of childhood poverty and disability. *Exceptional Children, 66*, 187–199.
- Giovannoni, J. (1990). Definitional issues in child maltreatment. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 3–37). New York, NY: Cambridge University Press.
- Glidden, L. M., & Jobe, B. M. (2006). The longitudinal course of depression in adoptive and birth mothers of children with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 3*, 139–142.
- Glidden, L. M., & Schoolcraft, S. A. (2003). Depression: Its trajectory and correlates in mothers rearing children with intellectual disability. *Journal of Intellectual Disability Research, 47*, 250–263.
- Goldberg, S. (1979). Premature birth: Consequences for the parent-infant relationship. *American Scientist, 67*, 214–220.
- Granic, I., & Patterson, G. R. (2006). Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review, 113*, 101–131.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*, 1360–1380.
- Grietens, H., Geeraert, L., & Hellinckx, W. (2004). A scale for home visiting nurses to identify risks of physical abuse and neglect among mothers with newborn infants. *Child Abuse and Neglect, 28*, 321–337.
- Hall, L. A., Sachs, B., & Rayens, M. K. (1998). Mothers' potential for child abuse: The roles of childhood abuse and social resources. *Nursing Research, 47*, 87–95.
- Heller, T., Hsieh, K., & Rowitz, L. (2000). Grandparents as supports to mothers of persons with intellectual disability. *Journal of Gerontological Social Work, 33*, 23–34.

- Hibbard, R. A., Desch, L. W., & the Committee on Child Abuse and Neglect and Council on Children with Disabilities (2007). Maltreatment and children with disabilities. *Pediatrics*, *119*, 1018–1025.
- Hodapp, R. M. (1997). Direct and indirect behavioral effects of different genetic disorders of mental retardation. *American Journal on Mental Retardation*, *102*, 67–79.
- Hodapp, R. M. (1999). Indirect effects of genetic mental retardation disorders: Theoretical and methodological issues. In L. M. Glidden (Ed.), *International review of research in mental retardation* (Vol. 22, pp. 27–50). San Diego, CA: Academic Press.
- Hodapp, R. M., & Dykens, E. M. (2001). Strengthening behavioral research on genetic mental retardation syndromes. *American Journal on Mental Retardation*, *106*, 4–15.
- Hodapp, R. M., Ly, T. M., Fidler, D. J., & Ricci, L. A. (2001). Less stress, more rewarding: Parenting children with Down syndrome. *Parenting Science and Practice*, *1*, 317–337.
- Hodapp, R. M., & Urbano, R. C. (2007). Developmental epidemiology of mental retardation/developmental disabilities: An emerging discipline. In L. M. Glidden (Series Eds.) & R. C. Urbano & R. M. Hodapp (Vol. Eds.), *International review of research in mental retardation* (Vol. 33, pp. 3–24). San Diego, CA: Academic Press.
- Holburn, S., Perkins, T., & Vietze, P. (2001). The parent with mental retardation. In L. M. Glidden (Ed.), *International review of research in mental retardation* (Vol. 24, pp. 171–210). San Diego, CA: Academic Press.
- Horner-Johnson, W., & Drum, C. E. (2006). Prevalence of maltreatment of people with intellectual disabilities: A review of the recently published research. *Mental Retardation and Developmental Disabilities*, *12*, 57–69.
- Isaacs, C. (1981). A brief review of the characteristics of abuse-prone parents. *Behavior Therapist*, *4*, 5–8.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Tomas, M., Price, T. S., & Taylor, A. (2004). The limits of child effects: Evidence for genetically mediated child effects on corporal punishment by not on physical maltreatment. *Developmental Psychology*, *40*, 1047–1058.
- Janko, S. (1994). *Vulnerable children, vulnerable families: The social construction of child abuse*. New York: Teachers College Press.
- Jenny, C. (2006). Evaluating infants and young children with multiple fractures. *Pediatrics*, *118*, 1299–1303.
- Johnston, C., Hessel, D., Blasey, C., Eliez, S., Erba, H., Dyer-Friedman, J., et al. (2003). Factors associated with parenting stress in mothers of children with fragile X syndrome. *Journal of Developmental and Behavioral Pediatrics*, *24*, 267–276.
- Jonson-Reid, M., Drake, B., Kim, J., Porterfield, S., & Han, L. (2004). A prospective analysis of the relationship between reported child maltreatment and special education eligibility among poor children. *Child Maltreatment*, *9*, 382–394.
- Kaufman, J., & Zigler, E. (1990). The intergenerational transmission of child abuse. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 129–150). New York, NY: Cambridge University Press.
- Kazak, A. E., & Marvin, R. S. (1984). Differences, difficulties, and adaptation: Stress and social networks in families with a handicapped child. *Family Relations*, *33*, 67–77.
- Kelly, J. F., & Booth, C. L. (2002). The early child care study of children with special needs. In L. M. Glidden (Ed.), *International review of research in mental retardation* (Vol. 25, pp. 71–106). San Diego, CA: Academic Press.
- Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The battered child syndrome. *Journal of the American Medical Association*, *181*, 17–24.
- Kendall-Tackett, K., Lyon, T., Taliaferro, G., & Little, L. (2005). Why child maltreatment researchers should include children's disability status in their maltreatment studies. *Child Abuse and Neglect*, *29*, 147–151.

- Levi, B. H., & Brown, G. (2005). Reasonable suspicion: A study of Pennsylvania pediatricians regarding child abuse. *Pediatrics*, *116*, e5–e12.
- Levy, H., & Packman, W. (2004). Sexual abuse prevention for individuals with mental retardation: Considerations for genetic counselors. *Journal of Genetic Counseling*, *13*, 189–205.
- Lynch, M. A. (1985). Child abuse before Kempe: An historical literature review. *Child Abuse and Neglect*, *9*, 7–15.
- Mandell, D. S., Walrath, C. A., Manteuffel, B., Sgro, G., & Pinto-Martin, J. A. (2005). The prevalence and correlates of abuse among children with autism served in comprehensive community-based mental health settings. *Child Abuse and Neglect*, *29*, 1359–1372.
- Margolin, G., & Gordis, E. B. (2000). The effects of family and community violence on children. *Annual Review in Psychology*, *51*, 445–479.
- Mauldon, J. (1993). Children's risks of experiencing divorce and remarriage: Do disabled children destabilize marriages? *Population Studies*, *46*, 349–362.
- Meier, J. H., & Sloan, M. P. (1984). The severely handicapped child and child abuse. In J. Blacher (Ed.), *Severely handicapped young children and their families* (pp. 247–272). Orlando, FL: Academic Press.
- Meyers, B. A., & Pucshel, S. M. (1991). Psychiatric disorders in persons with Down syndrome. *Journal of Nervous and Mental Disease*, *179*, 609–613.
- Mitchell, L. M., & Buchele-Ash, A. (2000). Abuse and neglect of individuals with disabilities: Building protective supports through public policy. *Journal of Disabilities Policy Studies*, *10*, 225–243.
- Muller, R. T. (1996). Family aggressiveness factors in the prediction of corporal punishment: Reciprocal effects and the impact of observer perspective. *Journal of Family Psychology*, *10*, 474–489.
- Noh, S., Dumas, J. E., Wolf, L. C., & Fisman, S. N. (1989). Delineating sources of stress in parents of exceptional children. *Family Relations*, *38*, 456–461.
- O'Brien, J. (2001). Planned respite care: Hope for families under pressure. *The Australian Journal of Social Issues*, *36*, 51–65.
- Olson, D. H. (2000). Circumplex model of marital and family systems. *Journal of Family Therapy*, *22*, 144–167.
- Paavilainen, E., Astedt-Kurki, P., Paunonen-Ilmonen, M., & Laippala, P. (2001). Risk factors of child maltreatment within the family: Towards a knowledgeable base of family nursing. *International Journal of Nursing Studies*, *38*, 297–303.
- Patterson, G. R. (1982). *Coercive family processes*. Eugene, OR: Catalia.
- Petersilia, J. R. (2001). Crime victims with developmental disabilities: A review essay. *Criminal Justice and Behavior*, *28*, 655–694.
- Pianta, R., Egeland, B., & Erickson, M. F. (1990). The antecedents of maltreatment: Results of the mother-child interaction research project. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 203–253). New York, NY: Cambridge University Press.
- Risdal, D., & Singer, G. H. S. (2004). Marital adjustment in parents of children with disabilities: A historical review and meta-analysis. *Research and Practice for Persons with Severe Disabilities*, *29*, 95–103.
- Rutter, M., Pickles, A., Murray, R., & Eaves, L. (2001). Testing hypotheses on specific environmental causal effects on behavior. *Psychological Bulletin*, *127*, 291–324.
- Sellinger, M. H., & Hodapp, R. M. (2005). Effets indirects des syndromes génétiques: Les réactions parentales aux phénotypes comportementaux (Indirect effects of genetic syndromes: Parental reactions to behavioral phenotypes). *Enfance*, *3*, 218–226.
- Shin, J. Y. (2002). Social support for families of children with mental retardation: Comparison between Korea and the United States. *Mental Retardation*, *40*, 103–118.
- Sidebotham, P. (2001). An ecological approach to child abuse: A creative use of scientific models in research and practice. *Child Abuse Review*, *10*, 97–112.

- Sidebotham, P., Heron, J., & the ALSPAC Study Team (2003). Child maltreatment in "children of the nineties": The role of the child. *Child Abuse and Neglect*, 27, 337–352.
- Sidebotham, P., Heron, J., & Golding, J., & the ALSPAC Study Team (2002). Child maltreatment in the "Children of the Nineties": Deprivation, class, and social networks in a UK sample. *Child Abuse and Neglect*, 26, 1243–1259.
- Singer, G. H. S. (2006). Meta-analysis of comparative studies of depression in mothers of children with and without developmental disabilities. *American Journal on Mental Retardation*, 111, 155–169.
- So, S. A., Urbano, R. C., & Hodapp, R. M. (2007). Hospitalizations for infants and young children with Down syndrome: Evidence from inpatient person-records from a statewide administrative database. Submitted for publication.
- Sobsey, D. (1994). *Violence and abuse in the lives of people with disabilities. The end of silent acceptance?* Baltimore, MD: Paul H. Brookes.
- Sobsey, D. (2002). Exceptionality, education, and maltreatment. *Exceptionality*, 10, 29–46.
- Sobsey, D., Randall, W., & Parrila, R. K. (1997). Gender differences in abused children with and without disabilities. *Child Abuse and Neglect*, 21, 707–720.
- Socular, R. R. S., Fredrickson, D. D., Block, R., Moore, J. K., Tropez-Sims, S., & Whitworth, J. M. (2001). State programs for medical diagnosis of child abuse and neglect: Case studies of five established or fledgling programs. *Child Abuse and Neglect*, 25, 441–455.
- Soeffing, M. (1975). Abused children are exceptional children. *Exceptional Children*, 42, 126–133.
- Spencer, N., Devereux, E., Wallace, A., Sundrum, R., Shenoy, M., Bacchus, C., et al. (2005). Disabling conditions and registration for child abuse and neglect: A population-based study. *Pediatrics*, 116, 609–613.
- Spencer, N., Wallace, A., Sundrum, R., Bacchus, C., & Logan, S. (2006). Child abuse registration, fetal growth, and preterm birth: A population based study. *Journal of Epidemiological Community Health*, 60, 337–340.
- Stier, D. M., Leventhal, J. M., Berg, A. T., Johnson, L., & Mezger, J. (1993). Are children born to young mothers at increased risk of maltreatment? *Pediatrics*, 91, 642–648.
- Stone, W. L., Lee, E. B., Ashford, L., Brissie, J., Hepburn, S. L., Coonrod, E. E., et al. (1999). Can autism be diagnosed accurately in children under 3 years? *Journal of Child Psychology and Psychiatry*, 40, 219–226.
- Stores, R., Stores, G., Fellows, B., & Buckley, S. (1998). Daytime behaviour problems and maternal stress in children with Down's syndrome, their siblings, and non-intellectually disabled and other intellectually disabled peers. *Journal of Intellectual Disability Research*, 42, 228–237.
- Sullivan, P. M., & Knutson, J. F. (1998a). The association between child maltreatment and disabilities in a hospital-based epidemiological study. *Child Abuse and Neglect*, 22, 271–288.
- Sullivan, P. M., & Knutson, J. F. (1998b). Maltreatment and behavioral characteristics of youth who are deaf and hard-of-hearing. *Sexuality and Disability*, 16, 295–319.
- Sullivan, P. M., & Knutson, J. F. (2000). Maltreatment and disabilities: A population-based epidemiological study. *Child Abuse and Neglect*, 24, 1257–1273.
- Tajima, E. A. (2000). The relative importance of wife abuse as a risk factor for violence against children. *Child Abuse and Neglect*, 24, 1383–1398.
- Trokell, M., Wadimmba, A., Griffith, J., & Sege, R. (2006). Variation in the diagnosis of child abuse in severely injured infants. *Pediatrics*, 117, 722–728.
- US Department of Health and Human Services, Administration on Children, Youth and Families. (2005). *Child Maltreatment 2003*. Washington, DC: US Government Printing Office.

- US Department of Health and Human Services, Administration on Children, Youth and Families. (2007). *Child Maltreatment 2005*. Washington, DC: US Government Printing Office.
- Urbano, R. C., & Hodapp, R. M. (2007). Divorce in families of children with Down syndrome: A population-based study. *American Journal on Mental Retardation, 112*(4), 261–274.
- Urquiza, A. J., & McNeil, C. B. (1996). Parent-child interaction therapy: An intensive dyadic intervention for physically abusive families. *Child Maltreatment, 1*, 134–144.
- Van Lieshout, C. F. M., De Meyer, R. E., Curfs, L. M. G., & Fryns, J. P. (1998). Family contexts, parental behaviour, and personality profiles of children and adolescents with Prader-Willi, fragile-X, or Williams syndrome. *Journal of Child Psychology and Psychiatry, 39*, 699–710.
- Verdugo, M. A., Bermejo, B. G., & Fuertes, J. (1995). The maltreatment of intellectually handicapped children and adolescents. *Child Abuse and Neglect, 19*, 205–215.
- Vermaes, I. P. R., Janssens, J. M. A. M., Bosman, A. M. T., & Gerris, J. R. M. (2005). Parents' psychological adjustment in families of children with Spina Bifida: A meta-analysis. *BMC Pediatrics, 5*, 32. Retrieved April 1, 2007 from biomedcentral.com.
- Vig, S., & Kaminer, R. (2002). Maltreatment and developmental disabilities in children. *Journal of Developmental and Physical Disabilities, 14*, 371–386.
- Walsh, C., MacMillan, H., & Jamieson, E. (2002). The relationship between parental psychiatric disorder and child physical and sexual abuse: Findings from the Ontario Health Supplement. *Child Abuse and Neglect, 26*, 11–22.
- Walz, N. C., & Benson, B. A. (2002). Behavioral phenotypes in children with Down syndrome, Prader-Willi syndrome, or Angelman syndrome. *Journal of Developmental and Physical Disabilities, 14*, 307–321.
- Westcott, H. L., & Jones, D. P. H. (1999). Annotation: The abuse of disabled children. *Journal of Child Psychology and Psychiatry, 40*, 497–506.
- White, N., & Hastings, R. P. (2004). Social and professional support for parents of adolescents with severe intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 17*, 181–190.
- Wolfe, D. A., & Wekerle, C. (1993). Treatment strategies for child physical abuse and neglect: A critical progress report. *Clinical Psychology Review, 13*, 473–500.
- Wu, S. S., Ma, C., Carter, R. L., Ariet, M., Feaver, E. A., Resnick, M. B., et al. (2004). Risk factors for infant maltreatment: A population-based study. *Child Abuse and Neglect, 28*, 1253–1264.
- Zigler, E., & Hall, N. W. (1990). Physical child abuse in America: Past, present, and future. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 38–75). New York, NY: Cambridge University Press.
- Zirpoli, T. J., Snell, M. E., & Loyd, B. H. (1987). Characteristics of persons with mental retardation who have been abused by caregivers. *The Journal of Special Education, 21*, 31–41.