

Development of a Policy-Relevant Child Maltreatment Research Strategy

HARRIET L. MACMILLAN, ELLEN JAMIESON,
C. NADINE WATHEN, MICHAEL H. BOYLE,
CHRISTINE A. WALSH, JOHN OMURA,
JASON M. WALKER, and GREGORY LODENQUAI

McMaster University

Child maltreatment is associated with a huge burden of suffering, yet there are serious gaps in knowledge about its epidemiology and approaches to intervention. This article describes the development of a proposed national research framework in child maltreatment, as requested by the Department of Justice, Canada, based on (1) a review of the literature, (2) consultation with experts, and (3) application of evaluation criteria for considering research priorities. The article identifies gaps in knowledge about child maltreatment in Canada and proposes a research agenda to make evidence-based policy decisions more likely. Although this work was driven by gaps in Canada's knowledge about child maltreatment, the international scope of the review and consultation process could make the findings useful to broader research and policy audiences.

Keywords: Child maltreatment, research framework, health policy.

Background

IN 2000, CANADA'S DEPARTMENT OF JUSTICE SOUGHT assistance from the Offord Centre for Child Studies to (1) identify gaps in knowledge regarding child maltreatment in Canada and (2) propose a program of research addressing these gaps in knowledge and

Address correspondence to: Harriet L. MacMillan, Offord Centre for Child Studies, Patterson Building, McMaster University, 1200 Main St. West, Patterson Building, Box 2000, Hamilton, Ontario L8N 3Z5, Canada (email: macmilnh@mcmaster.ca).

The Milbank Quarterly, Vol. 85, No. 2, 2007 (pp. 337–374)
© 2007 Milbank Memorial Fund. Published by Blackwell Publishing.

strengthening our understanding of child maltreatment so that priorities for program development and resource allocation could be set using evidence-based decisions (MacMillan et al. 2001). This article describes the process and findings that led to the development of a proposed research framework for child maltreatment, including the state of evidence in the field as of January 2007.

The lack of information about the effectiveness of programs to help children at risk of or exposed to maltreatment is not unique to Canada; indeed, across the world there is an urgent need to reduce children's exposure to abuse and neglect. Accordingly, even though the research framework described here was driven by gaps in Canada's knowledge about child maltreatment, the fact that it was informed by such a broad range of research sources makes it internationally relevant.

The development of this research strategy used three main sources of information: (1) a review of the available literature; (2) consultation with experts in the field, in Canada and elsewhere; and (3) the creation of a set of criteria for evaluating proposed studies. Because we based our recommendations for future research on this information, we next describe each source in detail.

Areas of Inquiry

In considering the domains of child maltreatment relevant to policy-based research, we selected the following areas of inquiry:

Classification and measurement focuses on research evaluating the adequacy and usefulness of instruments designed to identify, classify, or measure specific types of child maltreatment, as well as such modifiers as frequency, duration, severity, and relationship with perpetrators. These measures are essential to describing the epidemiology of child maltreatment and to evaluating interventions.

The objectives of *epidemiological studies of child maltreatment* are (1) to estimate its scope; (2) to quantify the strength of the association and the impact of the putative risk and protective factors assessed at multiple levels (e.g., individual, familial, neighborhood); (3) to disentangle the interactions among factors (e.g., pathways or causal mechanisms) that affect the probability of the occurrence or recurrence of child maltreatment; and (4) to examine the effects in both general and specific populations, including immediate, short-term, and long-term impairment associated with exposure.

Studies of the *effectiveness of interventions* evaluate efforts to reduce the incidence, recurrence, and/or sequelae associated with child maltreatment. These interventions fall into three categories: (1) the prevention of child maltreatment before it occurs, (2) specific treatments with specific objectives, and (3) case management (the responsibility of child welfare professionals).

Literature Review

We reviewed the literature to establish what is known in each area of inquiry. We searched the databases MEDLINE, CINAHL, PsycINFO, and the Cochrane Library from their start dates to January 2007 to identify studies in English-language peer-reviewed journals relevant to the three areas of inquiry. We identified the specific terms that each database uses for the concepts of child maltreatment (child abuse, child neglect, child sexual abuse) and paired them with the controlled vocabulary terms for our areas of inquiry (measurement, epidemiology, and treatment/intervention). In addition, to find new information we conducted database, hand, and Internet searches for key authors and programs in the field. Details of all search strategies and results are available from the authors.

Although we did not conduct a formal systematic evidence review, we did critically assess these studies, using methods based on the U.S. Preventive Services Task Force (Harris et al. 2001) for the soundness of their methodology, the generalizability of their findings, and their contribution to knowledge in the field. In this way, we also found key or exemplary programs and interventions. Suggestions by the peer reviewers helped us select the cited literature, but in regard to the literature included in this article, we did not consult those persons whom we interviewed for their expert opinion.

Classification and Measurement

One of the main barriers to doing research in the field of child maltreatment is the lack of standardization and agreement regarding the definition of key concepts (Manly 2005). Although there is some agreement that child maltreatment falls into four main categories—physical, sexual, and emotional abuse and neglect—there are no universally accepted

definitions for any of these subtypes (Burke et al. 1998; Goldman and Padayachi 2000; O'Hagan 1995; Straus et al. 1998). Estimates of the burden of suffering associated with maltreatment vary according to the definition used. Furthermore, some investigators have suggested that emotional abuse (sometimes referred to as psychological abuse or maltreatment) underlies all other subcategories of abuse and neglect, which makes it difficult to conceptualize (O'Hagan 1995). Others consider emotional abuse to be a consequence of both physical and sexual abuse and a distinct type of child maltreatment (Kairys, Johnson, and Committee 2002).

One approach to determining the extent of child maltreatment is to measure the incidence of reported child abuse and neglect, and the Canadian Incidence Study (CIS), described in the next section, is an example of such a Canadian study (Trocmé et al. 2001, Trocmé et al. 2005). It is, however, limited to cases reported to child welfare agencies.

Another approach to measuring child maltreatment is to examine its prevalence. Some studies ask adults or parents directly about acts of violence that they or others may have committed against children (Bland and Orn 1986; Straus 1990; Straus et al. 1998). This approach has the advantage of gathering current information about victimization that is less subject to distortions related to time and memory (Finkelhor et al. 1997). Some evidence shows that caregiver reports yield more episodes of parent-to-child conflict than official sources do (Straus 1990; Straus et al. 1998). But because of biases of social desirability and stigma, this approach may tend to underreport (Straus et al. 1998).

In both Canada and other countries (Tonmyr 1998), community-based surveys ask adults about their childhood exposure to abuse (Bagley 1988, 1989; Bagley and Mallick 2000; MacMillan et al. 1997), but this retrospective method is susceptible to recall bias (Brewin, Andrews, and Gotlib 1993). Note that Canada has no prevalence figures for neglect or emotional abuse. In Canada as elsewhere, measurements of these two types of maltreatment are still being developed.

More recent empirical studies ask children directly about their own experiences of victimization. This approach has raised complex methodological, legal, and ethical issues that are starting to be addressed in the literature (Fisher et al. 1996; King and Churchill 2000; Kotch 2000; Runyan 2000; Steinberg et al. 1999). A comprehensive review examining methodological and ethical issues identified fourteen studies published between 1960 and 1999 (all but two from the United States)

that used child self-reports to assess exposure to physical and sexual abuse (Amaya-Jackson et al. 2000). Not only did the definitions of physical abuse and sexual abuse vary greatly, but many studies were unable to distinguish between assault and abuse, a factor that the authors identify as critical. Although the researchers interviewed children as young as five years, they typically used a lower age cutoff of ten to twelve. They concluded that there was “no consensus about the responsibilities of the researcher in terms of informed consent, reporting disclosures about abuse, and follow-up of clinical issues” (Amaya-Jackson et al. 2000, 755). Increasing concerns about human subjects have led to a greater use of computer-assisted technology to maintain privacy and/or anonymity (Langhinrichsen-Rohling et al. 2006).

Hamby and Finkelhor (2000) uncovered a number of conceptual and methodological limitations in the area of juvenile victimization. They offer twenty recommendations for developing instruments, asserting that “carefully crafted measures of juvenile victimization that cover a comprehensive, well-defined set of victimizations in a systematic fashion” (Hamby and Finkelhor 2000, 838) are important to the field’s growth and expansion.

Hamby and Finkelhor (2001) also found that self-report questionnaires provide the most accurate estimates of victimization, as they capture data never reported to official sources, increase the rates of disclosure of sensitive topics, use tested terminology with clear and specific definitions, and frequently provide data on population norms.

The reliability and validity of some child maltreatment questionnaires are well established, although they have been used primarily with adults reporting their own childhood histories and have definitional problems, particularly with respect to neglect. Sexual assault questionnaires focus on a broad range of sexual victimization, but few are designed to ask children about their exposure to sexual victimization. Designing questions that are sensitive and developmentally appropriate to children and adolescents is difficult. The newest youth victimization questionnaires are multidimensional (collecting data on multiple types of victimization) and have the advantages of (1) providing information about the relationships among different types of victimization and (2) more specifically characterizing samples of exposed and nonexposed youth (Hamby and Finkelhor 2001). Developing effective measures is the first step in assessing the scope of child maltreatment and evaluating intervention strategies.

Epidemiology of Child Maltreatment

Several studies have estimated the incidence or prevalence of child abuse in Canada and the United States. The Canadian Incidence Study (CIS) of Reported Child Abuse and Neglect (Trocmé et al. 2001, 2005), a national study of official reports of child abuse and neglect cases, estimated that 135,573 cases of child maltreatment were investigated in Canada in 1998, an annual incidence of 21.52 investigations per 1,000 children. In an estimated 61,201 child maltreatment investigations, 45 percent were substantiated, 22 percent remained suspected, and 33 percent were unsubstantiated, a rate consistent with those documented in most jurisdictions. In the second and most recent nationwide CIS (CIS—2003) (Trocmé et al. 2005), the annual incidence rate increased to 38.33 per 1,000 children: 49 percent were substantiated, 12 percent were suspected, and 38 percent were unsubstantiated. The investigators suggested that one of the main factors responsible for this increase is the rise in the number of cases of exposure to domestic violence and emotional maltreatment (Trocmé et al. 2005).

Data from child protection reports like the CIS in Canada and the U.S. National Child Abuse and Neglect Data System (NCANDS) (U.S. Department of Health and Human Services 1992–2005) provide some information about trends, even though it is still true that official reports of child maltreatment represent only the “tip of the iceberg.” For example, based on NCANDS data, the rate of substantiated cases of child sexual abuse fell 47 percent between 1990 and 2003, followed by a 36 percent decline in physical abuse from 1992 to 2003 (Jones, Finkelhor, and Halter 2006). The number of substantiated cases of child sexual abuse also decreased in Canada by 30 percent, based on the CIS data, although the decline was not statistically significant.

The Ontario Health Supplement (OHSUP) is one of the largest general population surveys to date that measures two subtypes of child maltreatment: physical and sexual abuse (MacMillan et al. 1997). This cross-sectional survey collected information from 9,953 Ontarians aged fifteen and older. As part of the OHSUP, the Child Maltreatment History Self Report (CMHSR) measures the lifetime history of childhood physical and sexual abuse by an adult. Physical abuse includes six items ranging from being pushed, grabbed, or shoved to being physically attacked; sexual abuse includes four items ranging from being the victim of repeated indecent exposure to being sexually attacked. Significantly

more males (31.2 percent) than females (21.1 percent) reported being physically abused, but significantly more females (12.8 percent) than males (4.3 percent) reported sexual abuse.

Although this information about the scope of child maltreatment is useful, we have no Canadian data on the prevalence of child abuse and neglect. The National Longitudinal Survey of Children and Youth (NLSCY), a prospective study, was initiated in 1994 to gather information about the health and well-being of Canadian children, but to date, it includes only one question about violence between adults or adolescents in the home (*Growing Up in Canada* 1996). Respondents are now undergoing the seventh wave of interviewing, and the addition of questions for youth respondents could provide essential information about the scope and long-term impact of and risk indicators for child maltreatment. Thus far, however, the federal government has refused to include such questions in the NLSCY. Canada could learn from the U.S. National Longitudinal Study of Adolescent Health, a prospective cohort study of a national sample of adolescents who are being followed into adulthood. We discuss the details of this study later.

According to Gorey and Leslie, the lack of empirically rigorous trend data on the epidemiology of child maltreatment has important “practical significance for both practice and policy in this field” (1997, 292). Runyan (1998) found that prospective community-based surveys that assess as accurately as possible the epidemiology of child maltreatment are important to the development and implementation of a sound public policy to address this problem. During the late 1990s, Leventhal (1998) proposed that surveys asking about mental health include questions about child abuse and neglect so that the relationship can be examined, and the National Longitudinal Study of Adolescent Health is an example of such a survey.

Determining the impairment associated with exposure to child maltreatment has been the focus of numerous studies. Over the past fifteen years, several researchers have summarized the evidence for the relationship between the exposure to one or more types of child maltreatment and various impairments (Cahill, Kaminer, and Johnson 1999; Cicchetti and Toth 1995; Kaplan, Pelcovitz, and Labruna 1999; Kendall-Tackett, Williams, and Finkelhor 1993). Cicchetti and Toth (1995) provided a useful conceptual framework of developmental psychopathology for considering impairments associated with maltreatment, such as emotional, social, biological, and cognitive functioning.

Felitti and colleagues (1998) were one of the first groups to assess the impact of adverse childhood experiences (ACEs), including child maltreatment, across a broad range of health behaviors and outcomes in adulthood, including such conditions as cancer and heart disease. Increasingly, exposure to child abuse and neglect has been associated with alterations in brain structure and function and biological stress functions (Anda et al. 2006; De Bellis 2001, 2005; De Bellis and Putnam 1994; Heim et al. 2002).

Among the many studies of child maltreatment, those that use prospective, longitudinal designs are able to produce the best evidence related to the outcomes of child maltreatment. Six major prospective, longitudinal studies that were rigorously designed are summarized next.

1. LONGSCAN (Longitudinal Studies in Child Abuse and Neglect Consortium), begun in 1990 to 1991, is a series of longitudinal studies of child maltreatment conducted in four U.S. cities (Baltimore, Chicago, Seattle, and San Diego) and in one state (North Carolina) (Runyan et al. 1998). The project's main objective is to provide a scientific basis for policy decisions, program planning, and service delivery. Children in all sites enter the study at four years of age or younger and are given the same age-specific interviews. The settings from which children and families are recruited vary from foster care to neighborhoods where families are considered to be at high risk for a variety of social and medical problems.
2. The Christchurch Health and Development Study (CHDS) follows a New Zealand birth cohort of 1,265 children (Fergusson and Horwood 2001; Fergusson, Horwood, and Lynskey 1996, 1997; Fergusson and Lynskey 1997). Its goal is to document the prevalence of illness and to examine the social, environmental, and risk factors associated with illness and health. Child maltreatment was not a construct of interest when the study was designed, so questions about abuse were added after the study had been under way for some years. Because these questions were added when the respondents entered later adolescence, it reduced, compared with samples of older adults, the period of recall between the exposure to and the time of asking about such experiences.
3. Brown and colleagues (1998, 1999) conducted a prospective cohort study in New York State designed to examine risk factors for mental health problems in a community sample of children. A total of 776 families with children between the ages of one and eleven were

representatively sampled and interviewed face-to-face. The offspring were later asked about child maltreatment in 1991 to 1993 (Johnson et al. 1999, 2000, 2001).

4. A prospective study by Widom and colleagues (Horwitz et al. 2001; Schuck and Widom 2003; Widom 1989, 1991a, 1991b, 1999; Widom, DuMont, and Czaja 2007; Widom, Marmorstein, and White 2006; Widom and Maxfield 1996; White and Widom 2003) of children involved with the court because of their exposure to maltreatment has provided important information about the relationship between childhood maltreatment and subsequent problems (cognitive, emotional, psychiatric, social, occupational, and general health) in early adulthood (Horwitz et al. 2001). A total of 908 abused or neglected children, as determined by official court records, were sampled, and a control group of 667 was matched on sex, race, age, and (depending on the child's age) either the hospital of birth or school. Detailed information about abuse or neglect incidence, family composition and characteristics, and adult criminal histories were collected through file reviews and interviews.
5. The Dunedin Multidisciplinary Health and Development Study (Caspi et al. 2002, 2003) continues to follow 1,037 children born in Dunedin, New Zealand, between April 1972 and March 1973, collecting data from interviews, clinical assessments, and biological samples. This research has produced insights into interactions between genes and environment. Caspi and colleagues (2002) found that a functional polymorphism in the gene encoding MAOA moderated the effects of maltreatment and that maltreated male children with a genotype conferring high levels of MAOA expression were less likely to have antisocial problems. In 2003, Caspi and colleagues reported that the effect of life events on self-reports of depression was significantly greater in individuals with one or two copies of the short allele of the 5-HTT promoter polymorphism than in "ll" homozygotes. Exposure to child maltreatment predicted adult depression only among "s" allele carriers.
6. The National Longitudinal Study of Adolescent Health (Add Health): in response to a call from the National Research Council Panel on Research on Child Abuse and Neglect, child maltreatment questions were included in the third wave of Add Health interviews for this prospective cohort study of a nationally representative sample of young adults (Hussey, Chang, and Kotch 2006). Wave 1 began in 1994/1995

with a sample of youth in grades 7 through 12, and wave 3 included 15,197 young adults eighteen to twenty-six years of age. Subtypes of child maltreatment measured by the respondents' self-reports included supervision neglect, physical neglect, contact sexual abuse, and physical assault.

Challenges and Future Prospects for Longitudinal Studies

Although these studies provide important information about the relationship between exposure to child maltreatment and subsequent outcomes, they all have limitations in at least one of four areas: definitions, instruments, sample, and prevalence. Definitions of maltreatment and subtypes were not always clearly specified. Often, little information was given about the reliability and validity of the instruments, and the self-report questions used in several studies at times were limited, with the degree of agreement between self-report and official state or parental reports sometimes not indicated. Sampling was problematic as well, with few details about the selection and recruiting methods, systematic differences at baseline, low or unknown retention rates, and nonrandom sample loss. Several studies found that few subjects reported exposure to severe physical or sexual abuse during childhood, thus limiting the study's power to examine prevalence in these subgroups.

Prospective longitudinal studies can also provide important information about causal risk factors for one or more types of child maltreatment. Although we have data on risk factors for child physical and sexual abuse (MacMillan 2000; MacMillan, MacMillan, and Offord 1993), we know much less about risk factors for emotional abuse and neglect, and neglect is often grouped together with physical abuse. Kraemer and colleagues (1997) state that understanding the cause (in this case, of child maltreatment) requires a focused search for causal risk factors (factors that can change the risk of outcome when manipulated). Only those studies using a longitudinal design that gathers information prospectively can show which variables are causal risk factors.

We still need a community-based longitudinal study that collects information about exposure to child maltreatment both prospectively and contemporaneously, rather than relying only on retrospective reports. A Canadian perspective on the issue of child maltreatment is urgently

needed, and Canadian researchers are well positioned to conduct a longitudinal study to collect from children, parents, and child protection records information about children's exposure to maltreatment at different ages. Such studies are essential to determining how best to reduce the risks for child maltreatment and to better understand who suffers the consequences of abuse.

Effectiveness of Interventions

Interventions in the child maltreatment field are typically conceptualized as either prevention or treatment approaches, even though these may overlap. For example, the goal of a child protection service may be to arrange treatment for a child exposed to child sexual abuse and to prevent such abuse from occurring again.

Prevention. The two main categories of prevention are (1) perinatal and early childhood programs, typically aimed at preventing physical abuse and neglect among socially disadvantaged families, and (2) school-based education programs, generally focused on preventing child sexual abuse or abduction (MacMillan 2000; MacMillan et al. 1993).

In the first category, we systematically reviewed eight types of interventions evaluated in controlled trials: (1) home visitation, (2) a comprehensive health care program, (3) intensive contact with a pediatrician combined with home visits, (4) extended parent-child contact following the delivery of treatment, (5) a parent education or support program, (6) free access to health care, (7) use of a drop-in center, and (8) a combination of services including case management, education, and psychotherapy (MacMillan et al. 1994a). The outcomes of interest for our systematic review were official reports of suspected or verified abuse and neglect, hospitalizations, visits to emergency departments, and injury rates. Of the eight interventions, only one specific program of home visitation—the Nurse-Family Partnership (NFP) Program by Olds and colleagues (Olds 2002; Olds et al. 1986, 1997; Olds and Kitzman 1990)—was shown to be effective in preventing child maltreatment.

The NFP is an intensive program of nurse home visitation provided to first-time, socially disadvantaged mothers beginning prenatally and extending until the child is two years old (Olds 2002). The program was first evaluated in a randomized controlled trial in Elmira, New

York, with a sample of predominantly white women (Olds et al. 1986) followed by a trial in Memphis, Tennessee, with black women (Kitzman et al. 1997). Fifteen-year follow-up results from the Elmira study showed significantly fewer reports of child abuse and neglect by those women who received the nurse home visitation program than for the women in the control group (Olds et al. 1997). At two years' follow-up in the Memphis trial, those children whose mothers were in the visited group had fewer health care encounters for injuries and ingestions compared with the children of those women who were not visited (Kitzman et al. 1997).

The Elmira follow-up showed that maltreatment was not reduced among families reporting moderate to severe levels of intimate partner violence (IPV) (Eckenrode et al. 2000). The program's effect on child maltreatment decreased as the level of IPV increased, although in this trial, the program had no impact on the incidence of IPV. IPV's moderating effect was specific to child maltreatment and did not weaken the program's effects on any other outcomes. It is noteworthy, then, that those women visited by a nurse in a Denver trial of the NFP reported significantly less IPV (6.9 percent) during the six-month interval before the four-year interview than did those in the control group (13.6 percent) (Olds et al. 2004).

Olds examined the impact of the Elmira program on families' use of government services, such as welfare and child abuse services, as well as tax revenues resulting from the women's working. By the children's fourth birthday, low-income families visited by a nurse cost the government \$3,313 less than it spent on those in the comparison group. When focused on low-income families, the investment in the service was recovered with a surplus of \$180 within two years after the program ended (Olds et al. 1993). The RAND Corporation conducted an economic analysis of the program using the results of the Elmira fifteen-year follow-up study (Karoly et al. 1998). The analysis found that the savings to government and society estimated for serving families in which the mother had a low income and was unmarried at registration exceeded the cost of the program by a factor of four over the life of the child. The cost of the program was not recovered for families in which the mother was married and not poor. A cost analysis by the Washington State Institute for Public Policy estimated that investment in the program would give a per-family savings of \$17,180 over the life of the child (Aos et al. 2004).

Some researchers have suggested that other types of home visitation programs are effective, including the Hawaii Healthy Start Program and the Healthy Families America Program, both of which use paraprofessional visitors. To date, the studies evaluating these programs either have found no effect on child abuse and neglect (Duggan et al. 2004) or have had methodologic limitations that preclude drawing conclusions about the findings (Daro and Harding 1999; Duggan et al. 1999). Furthermore, a randomized controlled trial conducted by Olds and colleagues comparing nurses with paraprofessionals showed that nurses produce a larger and broader array of beneficial effects than do paraprofessionals in areas such as infant caregiving (Olds et al. 2004).

In the category of education programs, several randomized controlled trials have evaluated school-based education interventions aimed at teaching children how to avoid sexual victimization or abduction (MacMillan et al. 1994b; Rispen, Aleman, and Goudena 1997). Although several sexual abuse prevention programs improve knowledge about child sexual abuse concepts and prevention skills, no study has shown that such approaches actually lower the occurrence of child sexual abuse (MacMillan 2000; MacMillan et al. 1994b). In a cohort study of a nationally representative sample of youths, Finkelhor and colleagues found that at one-year follow-up, children exposed to a school-based sexual abuse prevention program reported that they were more likely to disclose exposure to child sexual abuse (Finkelhor, Asdigian, and Dziuba-Leatherman 1995a, 1995b). Participating in the prevention programs was not associated with a decrease in overall self-reported child sexual abuse. It is important to emphasize that such programs place the burden on children to avoid sexual abuse, rather than on the persons committing the abuse or on society in general.

Treatment. The findings regarding the effectiveness of treatments for children exposed to maltreatment or for families in which it has occurred are generally divided into interventions for (1) physical abuse and/or neglect and (2) sexual abuse. Several reviews describe the programs that have been evaluated (Cohen et al. 2000, 2006; Corcoran 2000; Finkelhor and Berliner 1995; Kaplan, Pelcovitz, and Labruna 1999; Putnam 2003; Runyon et al. 2004; Saywitz et al. 2000; Wolfe and Wekerle 1993), but three reviews in particular provide a systematic overview, including a detailed critical appraisal of the studies (Allin, Wathen, and MacMillan 2005; Barlow et al. 2006; Macdonald, Higgins, and Ramchandani 2006).

Barlow and colleagues (2006) evaluated randomized controlled trials published before May 2005 examining the effectiveness of individual and group-based parenting programs that included at least one measure of abusive or neglectful parenting. They concentrated on seven studies that assessed Parent-Child Interaction Therapy (PCIT) (Chaffin et al. 2004; Terao 1999), cognitive behavior therapy (CBT) (Kolko 1996), the Webster-Stratton Incredible Years Program (Hughes and Gottlieb 2004), clinic-based multisystemic family therapy (Brunk, Henggeler, and Whelan 1987), a stress management training program (Egan 1983), a behavioral child management intervention (Egan 1983), and a group parenting program (Wolfe, Sandler, and Kaufman 1981). As Barlow and colleagues (2006) noted, two studies (Kolko 1996; Wolfe, Sandler, and Kaufman 1981) included an objective measure of abuse such as the incidence or frequency of injuries. (Although this outcome was not referred to in the systematic review, one study considered reports to child welfare at approximately twenty-seven months' follow-up [Chaffin et al. 2004].)

Barlow and colleagues discovered several limitations in the original studies. For example, none of the studies described the approach to conceal allocation, nor did they use an intention-to-treat analysis. Although a detailed discussion of the studies' findings is beyond the scope of this article, the conclusions of the systematic review can be summarized as follows (Barlow et al. 2006):

Wolfe, Sandler, and Kaufman (1981) and Kolko (1996) found no evidence in support of parenting programs to reduce reports of child abuse or of injuries, respectively. (Chaffin found significantly lower rates of re-reports to child welfare in PCIT families (19 percent), compared with community-based treatment families (49 percent), although 36 percent of families in the "Enhanced PCIT" group did have re-reports; Barlow and colleagues did not report on this finding.) Several of the studies provided scant evidence for the effectiveness of parenting programs in improving some outcomes for some parents associated with physically abusive parenting, especially those programs based on models like the PCIT and CBT. The authors suggested that parenting programs with elements targeting specific aspects of abusive parenting (e.g., parental anger) may be more effective than those programs without such elements.

Allin and colleagues (2005) conducted a systematic review of treatment program studies for children exposed to neglect and/or their caregivers published before May 2003. Of the fourteen studies, two RCTs provided support for the effectiveness of two specific play therapy

programs for neglected children: resilient peer treatment (RPT) (Fantuzzo et al. 1996) and imaginative play training (Udwin 1983). In a third RCT, play therapy provided in a specialized nursery plus milieu therapy was not found to be superior to milieu therapy alone (Reams and Friedrich 1994). A prospective cohort did show support for a therapeutic day treatment program in improving child outcomes (Culp et al. 1991).

Two RCTs published after the end date of the systematic review by Allin and colleagues evaluated interventions for children and/or families exposed to physical abuse and/or neglect. A larger study of RPT integrated into Head Start classrooms confirmed earlier findings of improvements for maltreated children (Fantuzzo et al. 2005). A community-based trial compared the effectiveness of standard care from child protection services with standard care plus an intensive nurse home-visitation program in preventing the recurrence of physical abuse and neglect (MacMillan et al. 2005). The investigators found that nurse home visitation was not effective in reducing recurrence, although some post hoc analyses suggested that the program may reduce physical abuse recurring in families new to child protection (less than three months of involvement).

The development of interventions for children exposed to sexual abuse has been a relatively high priority compared with psychosocial treatments for children exposed to other types of maltreatment. Macdonald and colleagues (2006) conducted a systematic review of controlled trials published up to November 2005 assessing the effectiveness of cognitive-behavioral approaches for children exposed to sexual abuse. Ten studies described in twelve articles were eligible for review. As summarized by Macdonald and colleagues (2006), the majority of studies included both males and females. The participants' ages ranged from preschool age to seventeen years, with most studies focusing on school-aged and early adolescent children. Two studies provided group therapy alone to children; Burke (1988) compared a CB treatment with a wait-list control, and Berliner and Saunders (1996) compared a CB treatment with a usual group therapy for sexually abused children. Deblinger, Stauffer, and Steer (2001) compared an experimental treatment composed of separate groups for parents (trauma-focused cognitive behavior therapy [TF-CBT]) and children (interactive) with a supportive group therapy for parents and a group for children at which didactic information was provided.

The remaining treatments were individual in approach; two studies evaluated the effectiveness of TF-CBT compared with nondirective

supportive therapy (Cohen and Mannarino 1996b, 1997, 1998), and one trial compared CBT with supportive treatment (Dominguez 2001). Two studies compared a CB treatment for the child with a CB treatment for the child and parent or family (Deblinger, Steer, and Lippman 1999; King et al. 2000). Celano and colleagues (1996) compared two treatments for children and mothers: CBT (experimental group) and the "usual care" of supportive, unstructured therapy (control group). In the largest trial to date, Cohen and colleagues (2004) compared TF-CBT with supportive child-centered psychotherapy (CCT).

The meta-analysis by Macdonald and colleagues (2006) considered the following outcomes: (1) the child's psychological functioning (depression, posttraumatic stress disorder [PTSD], and anxiety), (2) child behavior problems (sexualized behavior and externalizing symptoms), (3) future offending behavior, and (4) parental skills and knowledge. There was an average decrease in depressive, PTSD, and anxiety symptoms among children but no effect, on average, on sexualized behavior or externalizing symptoms. No study assessed future offending behavior, but three studies showed an increase in parents' behavior management skills. The authors emphasized that the studies of children with PTSD symptoms (and without asymptomatic children) showed a positive outcome on this measure (Cohen et al. 2004; Deblinger, Steer, and Lippman 1999; King et al. 2000). A more recent paper by Deblinger and colleagues (2006) showed that these effects were sustained at six and twelve months' follow-up. The review authors (Macdonald, Higgins, and Ramchandani 2006) noted that those studies that had behavioral symptoms at the time of enrollment as an inclusion criterion seemed to have better results on sexualized and externalizing behaviors, but the evidence is not conclusive. They concluded that "there is a suggestion that these approaches may be beneficial, compared to treatment as usual" (10) but that the quality of current evidence was poor. It would have been interesting to consider the results if greater weight had been given to those studies of the highest methodological quality.

Cohen and Mannarino (1996a, 1997) emphasized the importance of providing treatment to address the parent's emotional distress in response to the sexual abuse of a child, irrespective of the type of treatment provided. Research by Deblinger and colleagues (1996) also supports actively involving parents in treatment.

As Finkelhor and Berliner (1995) emphasized, one of the challenges is differentiating children exposed to sexual abuse who do not need

treatment from those who do show signs, symptoms, or more subtle indicators of impairment. It also is important to identify those children who have symptoms or disorders for which there are effective treatments, such as major depressive disorder.

Cohen and colleagues (2006) highlight some important considerations in their narrative review discussing studies that examined child mental health outcomes for children exposed to one or more types of violence. Historically, interventions for maltreated children have focused on one type of exposure, such as sexual abuse (Cohen et al. 2006). But as the authors stressed, most maltreated children have experienced more than one type of trauma (Cohen et al. 2004). They suggested that treatment models should target symptom clusters and take into account other factors such as developmental level, rather than concentrating on types of abuse and neglect exposures. As an example, TF-CBT is being evaluated as a treatment for children exposed to domestic violence (Cohen et al. 2006), based on the theoretical model that the intervention is not specific to children who have been sexually abused; rather, it is the nature of the symptoms, such as PTSD, that should determine the treatment approach.

One type of intervention often given to children and families that have experienced one or more types of maltreatment is case management. Two issues regarding the effectiveness of case management are pertinent, whether (1) the caseworkers' continued supervision of children in the home or (2) the removal of the children from the home prevents reabuse and/or neglect or promotes more positive outcomes for the child and family. Although literature offers descriptions of case management strategies as well as summaries of innovative programs for children in the child protection system, no rigorous outcome studies have looked at the effectiveness of case management in the child protection field, which is the "usual" treatment for families with substantiated abuse.

It often is assumed that reunifying the child with his or her family after out-of-home care results in optimal outcomes for the child. But in a six-year prospective study, Taussig, Clyman, and Landsverk (2001) found that youth (age seven to twelve years at study inception) who were reunified with their families showed more self-destructive behavior, more internalizing behaviors, and a higher total number of behavior problems in adolescence than did those who were not reunified. Those reunified also showed more substance abuse problems and were more likely to have

been arrested, to have dropped out of school, and to have achieved lower grades in school.

Much is now known about risk indicators for child maltreatment, but an equally important issue is the risk of the recurrence of abuse and neglect. Furthermore, for the management of families in which a child has been maltreated, we have an urgent need for studies that evaluate programs targeting the treatment of conditions in caregivers, including substance abuse, personality disorders, and other types of psychopathology. In their narrative review, Kaplan and colleagues (1999) emphasize the need for evaluating psychotherapeutic and psychopharmacologic interventions for parents.

Associated with this question is the measurement of risk: whether current methods of measuring the risk to the child are adequate for a decision regarding removal. Particularly problematic is the number of false positives found. Moreover, neglect (which involves passive acts) is more difficult to predict than active behavior causing harm is, and emotional harm is more difficult to predict than concrete acts of violence are (Murphy-Berman 1994). Wald and Woolverton (1990) caution against using risk assessment instruments that have not been thoroughly researched before implementing them in child protective agencies, and they suggest that current instruments are inadequate for accurate predictions of harm to the child.

Summary of Preventive and Treatment Interventions. In summary, there is a pressing need to evaluate preventive and treatment interventions for child maltreatment. Although it is encouraging that Olds and colleagues' NFP program prevents child physical abuse and neglect, we need additional types of preventive approaches. Similarly, in the treatment field, the findings of Cohen, Mannarino, and Deblinger, among others, provide important information about treating sexually abused children, but little is known about treating problems following other types of victimization, such as emotional abuse.

Expert Academic Opinion

We interviewed, by telephone or in person, twelve international experts in the field of child maltreatment,¹ having selected them in accordance with peer-reviewed publications on the three areas of inquiry in the field

of child maltreatment and taking into account the need for consultation from a broad range of disciplines. All the experts had conducted child maltreatment research in the areas of epidemiology and/or interventions and had considered the implications of their work with respect to public policy. We particularly sought experts who had conducted work in Canada (one-third) or countries where research has been carried out that could be generalizable to Canada (two-thirds) (e.g., the United States). These experts were from the disciplines of criminology, epidemiology, psychiatry, psychology, social work, pediatrics, and sociology, and their principal academic research was related to child maltreatment. For each of the three areas of inquiry, we asked the experts to identify major gaps in knowledge, to propose needed studies, and to discuss barriers to such research.

Classification and Measurement

According to several experts, one of the biggest challenges in the field of child maltreatment is effectively defining and measuring maltreatment. A number of experts also agreed that determining the reliability and validity of the risk instruments used to assess child maltreatment was of utmost importance. More specifically, two experts recommended developing a true diagnostic classification system that would account for different types and subtypes of maltreatment as well as the severity of the maltreatment.

They agreed, however, on the lack of consensus for what should be classified in each category as a barrier to such a development. One expert described the need for a framework for the classification or measurement of child maltreatment before such a system could be developed. This expert proposed a two-step research plan: a review of both the research and theoretical literature to develop the conceptual framework and then studies to determine the relationships among types of maltreatment. These studies also would determine how various agencies or jurisdictions identify, label, and measure different types of maltreatment. In addition, the experts named the following areas as requiring further research: the classification and measurement of neglect and emotional abuse, the reliability of reporting methods (especially self-reports by children), and the development of a population-based screening instrument whose purpose is to offer services rather than to report.

Epidemiology of Child Maltreatment

The experts agreed that longitudinal studies using appropriate control groups are urgently required for the epidemiology of child maltreatment. Specifically, we need research using a longitudinal design to determine risk factors and outcomes and to examine services and their impact. One expert urged that the CIS continue to estimate the scope of reported maltreatment in Canada. This expert suggested that the CIS include an evaluation of the efficiency of child protection workers' tools, in order to promote the integration of worker training and assessment into research studies.

Experts regarded younger children as a priority, and one underscored the importance of determining which at-risk children and families would be amenable to change. This type of study would use a child welfare assessment to identify a sample of high-risk young children that would then be followed prospectively and longitudinally. Barriers to longitudinal studies were the difficulties of retaining the sample, ethical considerations, and funding. A number of experts advocated further investigating the factors leading to resiliency or increased risk at all levels (e.g., child, parent). The questions asked about this included: Why do some parents maltreat, and how does the variation in parenting ability/capacity relate to maltreatment? What causes families or individuals to be at risk for maltreatment? Who grows up to continue the cycle of abuse? What causes individuals to be impaired because of their maltreatment? One expert proposed a longitudinal study that would collect relevant factors enabling the determination of both short- and long-term sequelae. The proposed study would examine those segments of the population who have been severely abused, a group that most population-based studies often exclude, to determine what risk factors were associated with both the severity of abuse and the outcome. By using a case-control design, it would be possible to compare risk factors and the outcomes of those severely abused with a matched general population group.

Effectiveness of Interventions

The experts we interviewed most frequently identified the impact of both the justice system and child welfare interventions as needing further investigation. One researcher advocated the evaluation of the impact

of justice interventions on youth and noted that the removal of children from their communities was based on only an “intuitive notion” of benefit. Another suggested investigating the efficacy of family support versus foster care.

Barriers to such research included fear of possible reprisal, difficulty in recruiting sixteen- to eighteen-year-olds, the ethical concern of putting youth at risk by asking them questions, the responsibility of reporting exposure to maltreatment, political opposition, and cost. One expert proposed a study (1) examining alternatives to currently used standard models of child protection services and (2) evaluating intensive prevention strategies (e.g., respite care or intensive family support services). Other suggestions were evaluating case management in child welfare, evaluating the impact of mandated reporting, identifying approaches to ensure the best developmental outcome for children in the child welfare system, evaluating communitywide programs aimed at prevention, and developing effective interventions to treat comorbid psychiatric disorders. Several experts believe that multicentered randomized controlled trials provide the most effective design when evaluating interventions, although they can present ethical concerns in their implementation.

Evaluation Criteria for Considering Research Priorities

The third step in our development of a research strategy for child maltreatment was establishing criteria for evaluating proposed studies.

Potential impact is the extent to which findings from a proposed study can improve the health and well-being of children at risk. Several factors are considered: (1) applicability—the number of children who might benefit; (2) strength—the magnitude of effect that the study might produce; (3) proximity—the directness of the effect on children’s health and well-being; and (4) timing—whether the effect will take place now or in the future.

Policy relevance focuses on how well the study objectives fit the mandate, the program’s priorities, and the potential sponsors’ funding guidelines (e.g., justice, health, child welfare).

Scientific plausibility refers to whether the study’s hypotheses and questions are based on existing empirical knowledge and theory. It includes

consideration of the likelihood of success, that is, the provision of useful and unequivocal new knowledge about child maltreatment.

Methodological prerequisites address the adequacy of design, particularly how well the study can meet methodological standards for measurement, sampling, and other relevant issues (e.g., compliance with protocols).

Feasibility concerns the extent to which the proposed study can meet requirements such as ethical standards and funding.

A National Child Maltreatment Research Strategy: Recommendations

The goal is to reduce the burden of suffering associated with child maltreatment. Based on the literature review, consultation with experts in the field, and application of the evaluation criteria for proposed studies, we concluded that the following types of studies were most likely to address this issue.

1. Determining Risk and Protective Factors and Causal Mechanisms Related to Child Maltreatment

Such an investigation has two major elements: (1) determining the factors that increase or decrease the likelihood of child maltreatment and (2) investigating the pathways that follow exposure to child maltreatment.

A prospective, population-based study of children followed into adulthood would contribute to our understanding of the causes of child maltreatment and of the impairment that sometimes follows exposure to abuse and neglect. Such information is critical to prevention and to determining ways to reduce impairment. The measurement of resilience is key: how and why do some maltreated children appear to suffer no or few consequences?

Probably at least two longitudinal studies, ideally with overlapping age panels and stratified by risk, would be necessary to address these issues. These studies should include physical abuse, neglect, sexual abuse, and emotional abuse, and they also should measure physical discipline. As suggested by one of the reviewers of this manuscript, it is important

to standardize the survey methods for obtaining such information, as this could facilitate the comparison of data across different populations. Measurements would be made at strategic time intervals until adulthood and emphasize information from a broad range of sources: self-report data from adults about their parenting behavior (e.g., the use of discipline strategies), self-report data from children regarding their exposure to victimization (beginning at an age when developmentally feasible, for example, ten to twelve years old), and official record data, such as those from hospitals and child protection agencies. Individual, familial, and neighborhood risk and protective factors would be assessed. Preliminary studies need to be undertaken first in order to address methodological and ethical concerns. This research would inform the development of interventions for prevention and treatment.

2. Evaluating the Child Welfare, Justice, and Mental Health Systems to Assess Their Impact on Children Exposed to Maltreatment

Although a variety of interventions are in place for victimized children, few, if any, are based on evidence, and fewer have been subjected to rigorous evaluation. We recommend that the systems themselves (such as foster care and child welfare), as well as the programs within them, be evaluated for their impact on children and families. Furthermore, although maltreated children are often among the most at risk for serious mental health impairment, they, especially children in foster care, can face barriers to accessing services. We recommend that evaluating the availability of mental health services for maltreated children be made a priority for provincial/state and federal governments and that child health organizations advocate the development of funding sources for such services.

Although a randomized controlled trial would likely not be feasible to examine many of the existing interventions/practices in the child welfare, justice, or mental health systems, it would be feasible to conduct rigorous observational studies with matched control groups. An essential preparatory step would be to assess the feasibility of undertaking such research and to develop a reliable and valid measurement system for each type of child maltreatment.

3. Assessing Interventions Designed to Prevent Child Maltreatment

To date, the focus of research has been on preventing physical and sexual abuse. Although little is known about preventing neglect or emotional abuse, these are types of maltreatment increasingly recognized as associated with impairment that equals or surpasses that linked with child physical abuse and sexual abuse (De Bellis 2005; Kairys, Johnson, and Committee 2002).

4. Assessing Interventions for Children and Families in Which Maltreatment Has Occurred

Two major groups of outcomes should be included in any intervention trial: treatment of the impairment associated with maltreatment and prevention of its recurrence. To date, most intervention studies have focused on one or the other but not both, and very few have used a rigorous experimental design to determine effectiveness. Interventions could be provided through the mental health system or the child welfare and justice systems.

The objective is to develop effective interventions in the field of child maltreatment based on the most rigorous evidence possible. Neglect and emotional abuse (including exposure to domestic violence) should be included in the intervention studies developed.

Ethical Considerations

Researchers must balance the requirements of scientifically rigorous inquiry with the need to protect participants. This is especially difficult when the participants are vulnerable, as are children and adolescents exposed to abuse. Ethical questions include, Under what conditions are adolescents capable of providing informed consent? When children and adolescents are in out-of-home placements or are wards of the state, under what circumstances can a guardian or agency/institution provide consent? Can simply asking questions related to maltreatment be harmful to participants or their families? Where should the research take place (e.g., home, school, institution) so as to produce the least possible harm? How can confidentiality be maintained when reporting abuse is mandated? How can researchers provide for participants' treatment

needs? What inducements are appropriate (and not coercive) for child and adolescent participants? If a longitudinal study is undertaken, what are ethical means of finding and contacting youth over time? As noted earlier, there is little agreement in the literature regarding the answers to these questions. Amaya-Jackson and colleagues (2000) suggested that the best approach may vary from study to study.

There is increasing recognition that the ethical challenges of conducting child maltreatment research should not preclude scientific investigation; we need to appreciate the costs of not asking about abuse in research studies (Becker-Blease and Freyd 2006), as well as the limits on scientific inquiry into child maltreatment imposed by not conducting such research. One approach to addressing these complex issues is to convene proceedings with representatives from a broad range of disciplines, including ethics and law. Such a meeting was convened by Drs. Alex Levin and Michelle Shouldice, members of the child abuse program at the Hospital for Sick Children in Toronto, in June 2006.

Knowledge Translation

A requirement of any research strategy committed to influencing policy and practice is the active dissemination and communication of important interim and final results to key audiences. Each project must have a knowledge translation plan. Strategic and user-based approaches must be developed to ensure that the results reach intended audiences in useful formats through appropriate channels. A primary goal is to determine the program and policy implications of the research findings and to share them with sponsors and other relevant policy stakeholders in health, justice, and child welfare. In addition, results with clinical implications must be communicated to professionals providing direct care to exposed or at-risk children. Mechanisms based on techniques being developed in the new field of knowledge translation can expedite the use of helpful information. Only by addressing these important knowledge translation activities can research actually benefit children.

Conclusions

The burden of suffering from child maltreatment is enormous, and the need for solutions is clear. But how can researchers advise policymakers

and clinicians about policy priorities or best practices when knowledge does not exist or is extremely limited? This question is particularly relevant to the field of child maltreatment, in which, relative to other areas of child health, there continues to be a paucity of research. As a recent *Lancet* editorial stated, "Maltreatment is one of the biggest paediatric public-health challenges, yet any research activity is dwarfed by work on more established childhood ills" (Editorial 2003, 443).

Through a careful evidence- and expert-based process, we have developed a strategy to address gaps in knowledge regarding child maltreatment. We presented in this article the scope and types of research required, along with criteria for evaluating the potential success of proposed studies. Although we developed our strategy from a Canadian perspective, we feel that the framework and agenda are internationally relevant.

We strongly recommend that policymakers in Canada and elsewhere resist the temptation to continue implementing surveillance methods or intervention strategies in the child welfare area without emphasizing measurement and evaluation. For an example in the Canadian context, rather than simply including in the NLSCY a few token questions on exposure to child maltreatment, it is important to test approaches that gather information about child victimization across all four main categories of child maltreatment. (The addition of questions to existing surveys should not be a substitute for designing a prospective survey that makes the measurement of child maltreatment a priority, however.) Conducting research to create definitions of child maltreatment that can be measured reliably and accurately should be a priority. This would help determine what to include in surveys already under way as well as those in the future.

In the area of intervention, funding should be committed to help researchers and child welfare service providers together to evaluate existing programs in the child welfare settings and to ensure that no new programs are implemented, even on a pilot basis, without a strong evaluation plan in place. Although some experts might argue that the field of child maltreatment does not lend itself to the use of rigorous designs in determining effectiveness, it is clear from the work of researchers like Olds and colleagues that such approaches are not only possible but also necessary. Once effective interventions are identified, they should be disseminated as designed, and the program's fidelity to them should be

closely monitored. Program and practice decisions should be based on sound science, not only to establish benefit, but also to understand potential harm and to measure cost. It is high time that the gap is reduced, not only to determine what is known about approaches to lowering child maltreatment, but also to reduce the gap between evidence-based information and policy decisions in this field.

Endnote

1. We interviewed the following experts in the field of child maltreatment: Michael D. De Bellis, MD, Professor of Psychiatry and Behavioral Sciences, Duke University; Anthony Doob, PhD, Professor of Criminology, University of Toronto; Jonathan B. Kotch, MD, MPH, FAAP, Professor of Maternal and Child Health, University of North Carolina at Chapel Hill; Kathleen Kufeldt PhD, RSW, Adjunct Professor, Department of Sociology, University of New Brunswick; David Fergusson, PhD, Professor, Department of Psychological Medicine, Christchurch School of Medicine and Health Sciences; David Finkelhor, PhD, Professor, Sociology Department, University of New Hampshire; David Olds, PhD, Professor of Pediatrics, University of Colorado; Desmond K. Runyan, MD, DrPH, Professor of Social Medicine and Pediatrics, University of North Carolina at Chapel Hill; Sheree L. Toth, PhD, Associate Professor of Psychology, University of Rochester; Nico Trocmé, MSW, PhD, Professor, Center for Research on Children and Families, McGill University; Cathy Spatz Widom, PhD, Professor, Psychology Department, John Jay College, City University of New York; and David A. Wolfe, PhD, Professor of Psychology and Psychiatry, University of Toronto.

References

- Allin, H., C.N. Wathen, and H.L. MacMillan. 2005. Treatment of Child Neglect: A Systematic Review. *Canadian Journal of Psychiatry* 50:497–504.
- Amaya-Jackson, L., R.R.S. Socolar, W. Hunter, D.K. Runyan, and R. Colindres. 2000. Directly Questioning Children and Adolescents about Maltreatment: A Review of Survey Measures Used. *Journal of Interpersonal Violence* 15:725–59.
- Anda, R.F., V.J. Felitti, J.D. Bremner, J.D. Walker, C. Whitfield, B.D. Perry, S.R. Dube, and W.H. Giles. 2006. The Enduring Effects of Abuse and Related Adverse Experiences in Childhood: A Convergence of Evidence from Neurobiology and Epidemiology. *European Archives of Psychiatry and Clinical Neuroscience* 256:174–86.
- Aos, S., R. Lieb, J. Mayfield, M. Miller, and A. Pennucci. 2004. *Benefits and Costs of Early Intervention Programs for Youth*. Olympia: Washington State Institute for Public Policy. Summary report available at <http://www.wsipp.wa.gov/rptfiles/04-07-3901.pdf> (accessed March 21, 2007).

- Bagley, C. 1988. *Child Sexual Abuse in Canada: Further Analysis of the 1983 National Survey*. Ottawa: Family Violence Prevention Division, Federal Health and Welfare.
- Bagley, C. 1989. Prevalence and Correlates of Unwanted Sexual Acts in Childhood in a National Canadian Sample. *Canadian Journal of Public Health* 80:295–96.
- Bagley, C., and K. Mallick. 2000. Prediction of Sexual, Emotional, and Physical Maltreatment and Mental Health Outcomes in a Longitudinal Cohort of 290 Adolescent Women. *Child Maltreatment* 5:218–26.
- Barlow, J., I. Johnston, D. Kendrick, L. Polnay, and S. Stewart-Brown. 2006. Individual and Group-Based Parenting Programmes for the Treatment of Physical Child Abuse and Neglect. *Cochrane Database of System Review*, issue 3, article CD005463, DOI:10.1002/14651858.CD005463. pub2.
- Becker-Blease, K.A., and J.J. Freyd. 2006. Research Participants Telling the Truth about Their Lives: The Ethics of Asking and Not Asking about Abuse. *American Psychologist* 61:218–26.
- Berliner, L., and B.E. Saunders. 1996. Treating Fear and Anxiety in Sexually Abused Children: Results of a Controlled 2-Year Follow-up Study. *Child Maltreatment* 1:294–309.
- Bland, R.C., and H. Orn. 1986. Psychiatric Disorders, Spouse Abuse and Child Abuse. *Acta Psychiatrica Belgica* 86:444–49.
- Brewin, C.R., B. Andrews, and I.H. Gotlib. 1993. Psychopathology and Early Experience: A Reappraisal of Retrospective Reports. *Psychological Bulletin* 113:82–98.
- Brown, J., P. Cohen, J.G. Johnson, and S. Salzinger. 1998. A Longitudinal Analysis of Risk Factors for Child Maltreatment: Findings of a 17-Year Prospective Study of Officially Recorded and Self-Reported Child Abuse and Neglect. *Child Abuse and Neglect* 22:1065–78.
- Brown, J., P. Cohen, J.G. Johnson, and E.M. Smailes. 1999. Childhood Abuse and Neglect: Specificity of Effects on Adolescent and Young Adult Depression and Suicidality. *Journal of the American Academy of Child and Adolescent Psychiatry* 38:1490–96.
- Brunk, M., S.W. Henggeler, and J.P. Whelan. 1987. Comparison of Multisystemic Therapy and Parent Training in the Brief Treatment of Child Abuse and Neglect. *Journal of Consulting and Clinical Psychology* 55:171–78.
- Burke, J., J. Chandy, A. Dannerbeck, and J.W. Watt. 1998. The Parental Environment Cluster Model of Child Neglect: An Integrative Conceptual Model. *Child Welfare* 77:389–405.
- Burke, M.M. 1988. Short-Term Group Therapy for Sexually Abused Girls: A Learning Theory Based Treatment for Negative Affect. PhD diss., University of Georgia.

- Cahill, L.T., R.K. Kammer, and P.G. Johnson. 1999. Developmental, Cognitive, and Behavioral Sequelae of Child Abuse. *Child and Adolescent Psychiatric Clinics of North America* 8:827–43.
- Caspi, A., J. McClay, T.E. Moffitt, J. Mill, J. Martin, I.W. Craig, A. Taylor, and R. Poulton. 2002. Role of Genotype in the Cycle of Violence in Maltreated Children. *Science* 297:851–54.
- Caspi, A., K. Sugden, T.E. Moffitt, A. Taylor, I.W. Craig, H. Harrington, J. McClay, J. Mill, J. Martin, A. Braithwaite, and R. Poulton. 2003. Influence of Life Stress on Depression: Moderation by a Polymorphism in the 5-HTT Gene. *Science* 301:386–89.
- Celano, M., A. Hazzard, C. Webb, and C. McCall. 1996. Treatment of Traumagenic Beliefs among Sexually Abused Girls and Their Mothers: An Evaluation Study. *Journal of Abnormal Child Psychology* 24:1–17.
- Chaffin, M., J.F. Silovsky, B. Funderburk, L.A. Valle, E.V. Brestan, T. Balachova, S. Jackson, J. Lensgraf, and B.L. Bonner. 2004. Parent-Child Interaction Therapy with Physically Abusive Parents: Efficacy for Reducing Future Abuse Reports. *Journal of Consulting and Clinical Psychology* 72:500–510.
- Cicchetti, D., and S.L. Toth. 1995. A Developmental Psychopathology Perspective on Child Abuse and Neglect. *Journal of the American Academy of Child and Adolescent Psychiatry* 34:541–65.
- Cohen, J.A., E. Deblinger, A.P. Mannarino, and R.A. Steer. 2004. A Multisite, Randomized Controlled Trial for Children with Sexual Abuse-Related PTSD Symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry* 43:393–402.
- Cohen, J.A., and A.P. Mannarino. 1996a. Factors that Mediate Treatment Outcome of Sexually Abused Preschool Children. *Journal of the American Academy of Child and Adolescent Psychiatry* 35:1402–10.
- Cohen, J.A., and A.P. Mannarino. 1996b. A Treatment Outcome Study for Sexually Abused Preschool Children: Initial Findings. *Journal of the American Academy of Child and Adolescent Psychiatry* 35:42–50.
- Cohen, J.A., and A.P. Mannarino. 1997. A Treatment Study for Sexually Abused Preschool Children: Outcome during a One-Year Follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry* 36:1228–35.
- Cohen, J.A., and A.P. Mannarino. 1998. Interventions for Sexually Abused Children: Initial Treatment Outcome Findings. *Child Maltreatment* 3:17–26.
- Cohen, J.A., A.P. Mannarino, L. Berliner, and E. Deblinger. 2000. Trauma-Focused Cognitive Behavioral Therapy for Children and Adolescents: An Empirical Update. *Journal of Interpersonal Violence* 15:1202–23.

- Cohen, J.A., A.P. Mannarino, L.K. Murray, and R. Igelman. 2006. Psychosocial Interventions for Maltreated and Violence-Exposed Children. *Journal of Social Issues* 62:737–66.
- Corcoran, J. 2000. Family Interventions with Child Physical Abuse and Neglect: A Critical Review. *Children and Youth Services Review* 22:563–91.
- Culp, R.E., V. Little, D. Letts, and H. Lawrence. 1991. Maltreated Children's Self-Concept: Effects of a Comprehensive Treatment Program. *American Journal of Orthopsychiatry* 61:114–21.
- Daro, D.A., and K.A. Harding. 1999. Healthy Families America: Using Research to Enhance Practice. *The Future of Children* 9:152–78.
- De Bellis, M.D. 2001. Developmental Traumatology: The Psychobiological Development of Maltreated Children and Its Implications for Research, Treatment and Policy. *Development and Psychopathology* 13:539–64.
- De Bellis, M.D. 2005. The Psychobiology of Neglect. *Child Maltreatment* 10:150–72.
- De Bellis, M.D., and F.W. Putnam. 1994. The Psychobiology of Child Maltreatment. *Child and Adolescent Psychiatric Clinics of North America* 3:663–77.
- Deblinger, E., J. Lippman, and R. Steer. 1996. Sexually Abused Children Suffering from Posttraumatic Stress Symptoms: Initial Treatment Outcome Findings. *Child Maltreatment* 1:310–21.
- Deblinger, E., A.P. Mannarino, J.A. Cohen, and R.A. Steer. 2006. A Follow-up Study of a Multisite, Randomized, Controlled Trial for Children with Sexual Abuse-Related PTSD Symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry* 45:1474–84.
- Deblinger, E., L.B. Stauffer, and R.A. Steer. 2001. Comparative Efficacies of Supportive and Cognitive Behavioral Group Therapies for Young Children Who Have Been Sexually Abused and Their Nonoffending Mothers. *Child Maltreatment* 6:332–43.
- Deblinger, E., R.A. Steer, and J. Lippman. 1999. Two-Year Follow-up Study of Cognitive Behavioural Therapy for Sexually Abused Children Suffering Post-Traumatic Stress Symptoms. *Child Abuse and Neglect* 23:1371–78.
- Dominguez, R.Z. 2001. Evaluation of Cognitive-Behavioral and Supportive Treatments for Sexually Abused Children: Analyzing the Process of Change Using Individual Growth Curve Analyses. PhD diss., University of Houston.
- Duggan, A., E. McFarlane, L. Fuddy, L. Burrell, S.M. Higman, A. Windham, and C. Sia. 2004. Randomized Trial of a Statewide Home Visiting Program: Impact in Preventing Child Abuse and Neglect. *Child Abuse and Neglect* 28:597–622.

- Duggan, A.K., E.C. McFarlane, A.M. Windham, C.A. Rohde, D.S. Salkever, L. Fuddy, L.A. Rosenberg, S.B. Buchbinder, and C.C.J. Sia. 1999. Evaluation of Hawaii's Healthy Start Program. *Future Child* 9:66–90.
- Eckenrode, J., B. Ganzel, C.R. Henderson Jr., E. Smith, D.L. Olds, J. Powers, R. Cole, H. Kitzman, and K. Sidora. 2000. Preventing Child Abuse and Neglect with a Program of Nurse Home Visitation: The Limiting Effects of Domestic Violence. *JAMA: The Journal of the American Medical Association* 284:1385–91.
- Editorial. 2003. The Neglect of Child Neglect. *Lancet* 361:443.
- Egan, K. 1983. Stress Management and Child Management with Abusive Parents. *Journal of Clinical Child Psychology* 12:292–99.
- Fantuzzo, J., P. Manz, M. Atkins, and R. Meyers. 2005. Peer-Mediated Treatment of Socially Withdrawn Maltreated Preschool Children: Cultivating Natural Community Resources. *Journal of Child and Adolescent Clinical Psychology* 34:320–25.
- Fantuzzo, J., B. Sutton-Smith, M. Atkins, R. Meyers, H. Stevenson, K. Coolahan, A. Weiss, and P. Manz. 1996. Community-Based Resilient Peer Treatment of Withdrawn Maltreated Preschool Children. *Journal of Consulting and Clinical Psychology* 64:1377–86.
- Felitti, V.J., R.F. Anda, D. Nordenberg, D.F. Williamson, A.M. Spitz, V. Edwards, M.P. Koss, and J.S. Marks. 1998. Relationship of Child Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine* 14:245–58.
- Fergusson, D.M., and L.J. Horwood. 2001. The Christchurch Health and Development Study: Review of Findings on Child and Adolescent Mental Health. *The Australian and New Zealand Journal of Psychiatry* 35:287–96.
- Fergusson, D.M., L.J. Horwood, and M.T. Lynskey. 1996. Childhood Sexual Abuse and Psychiatric Disorder in Young Adulthood: II. Psychiatric Outcomes of Childhood Sexual Abuse. *Journal of the American Academy of Child and Adolescent Psychiatry* 35:1365–74.
- Fergusson, D.M., L.J. Horwood, and M.T. Lynskey. 1997. Childhood Sexual Abuse, Adolescent Sexual Behaviors and Sexual Revictimization. *Child Abuse and Neglect* 21:789–803.
- Fergusson, D.M., and M.T. Lynskey. 1997. Physical Punishment/Maltreatment during Childhood and Adjustment in Young Adulthood. *Child Abuse and Neglect* 21:617–30.
- Finkelhor, D., N. Asdigian, and J. Dziuba-Leatherman. 1995a. The Effectiveness of Victimization Prevention Instruction: An Evaluation of Children's Responses to Actual Threats and Assaults. *Child Abuse and Neglect* 19:141–53.

- Finkelhor, D., N. Asdigian, and J. Dziuba-Leatherman. 1995b. Victimization Prevention Programs for Children: A Follow-up. *American Journal of Public Health* 85:1684–89.
- Finkelhor, D., and L. Berliner. 1995. Research on the Treatment of Sexually Abused Children: A Review and Recommendations. *Journal of the American Academy of Child and Adolescent Psychiatry* 34:1408–23.
- Finkelhor, D., D. Moore, S.L. Hamby, and M.A. Straus. 1997. Sexually Abused Children in a National Survey of Parents: Methodological Issues. *Child Abuse and Neglect* 21:1–9.
- Fisher, C.B., A. Higgins-D'Alessandro, J.M. Rau, T.L. Kuther, and S. Belanger. 1996. Referring and Reporting Research Participants at Risk: Views from Urban Adolescents. *Child Development* 67:2086–2100.
- Goldman, J.D.G., and U.K. Padayachi. 2000. Some Methodological Problems in Estimating Incidence and Prevalence in Child Sexual Abuse Research. *The Journal of Sex Research* 37:305–14.
- Gorey, K.M., and D.R. Leslie. 1997. The Prevalence of Child Sexual Abuse: Integrative Review Adjustment for Potential Response and Measurement Biases. *Child Abuse and Neglect* 21:391–98.
- Growing Up in Canada: National Longitudinal Survey of Children and Youth. 1996. Ottawa: Human Resources Development Canada and Statistics Canada, catalog no. 89-550-MPE, no. 1.
- Hamby, S.L., and D. Finkelhor. 2000. The Victimization of Children: Recommendations for Assessment and Instrument Development. *Journal of the American Academy of Child Adolescent Psychiatry* 39:829–40.
- Hamby, S.L., and D. Finkelhor. 2001. *Choosing and Using Child Victimization Questionnaires*. Washington, D.C.: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Harris, R.P., M. Helfand, S.H. Woolf, K.N. Lohr, C.D. Mulrow, S.M. Teutsch, D. Atkins, Methods Work Group, Third U.S. Preventive Services Task Force. 2001. Current Methods of the U.S. Preventive Services Task Force: A Review of the Process. *American Journal of Preventive Medicine* 20(3, suppl.):21–35.
- Heim, C., D.J. Newport, D. Wagner, M.M. Wilcox, A.H. Miller, and C.B. Nemeroff. 2002. The Role of Early Adverse Experience and Adulthood Stress in the Prediction of Neuroendocrine Stress Reactivity in Women: A Multiple Regression Analysis. *Depression and Anxiety* 15:117–25.
- Horwitz, A.V., C.S. Widom, J. McLaughlin, and H.R. White. 2001. The Impact of Childhood Abuse and Neglect on Adult Mental Health: A Prospective Study. *Journal of Health and Social Behavior* 42:184–201.

- Hughes, J.R., and L.N. Gottlieb. 2004. The Effects of the Webster-Stratton Parenting Program on Maltreating Families: Fostering Strengths. *Child Abuse and Neglect* 28:1081–97.
- Hussey, J.M., J.J. Chang, and J.B. Kotch. 2006. Child Maltreatment in the United States: Prevalence, Risk Factors, and Adolescent Health Consequences. *Pediatrics* 118:933–42.
- Johnson, J.G., P. Cohen, J. Brown, E.M. Smailes, and D.P. Berstein. 1999. Childhood Maltreatment Increases Risk for Personality Disorders during Early Adulthood. *Archives of General Psychiatry* 56:600–606.
- Johnson, J.G., P. Cohen, E.M. Smailes, A.E. Skodol, J. Brown, and J.M. Oldham. 2001. Childhood Verbal Abuse and Risk for Personality Disorders during Adolescence and Early Adulthood. *Comprehensive Psychiatry* 42:16–23.
- Johnson, J.G., E.M. Smailes, P. Cohen, J. Brown, and D.P. Bernstein. 2000. Associations between Four Types of Childhood Neglect and Personality Disorder Symptoms during Adolescence and Early Adulthood: Findings of a Community-Based Longitudinal Study. *Journal of Personality Disorders* 14:171–87.
- Jones, L.M., D. Finkelhor, and S. Halter. 2006. Child Maltreatment Trends in the 1990s: Why Does Neglect Differ from Sexual and Physical Abuse? *Child Maltreatment* 11:107–20.
- Kairys, S.W., C.F. Johnson, and Committee on Child Abuse and Neglect. 2002. The Psychological Maltreatment of Children—Technical Report. *Pediatrics* 109:e68.
- Kaplan, S.J., D. Pelcovitz, and V. Labruna. 1999. Child and Adolescent Abuse and Neglect Research: A Review of the Past 10 Years. Part 1: Physical and Emotional Abuse and Neglect. *Journal of the American Academy of Child and Adolescent Psychiatry* 38:1214–22.
- Karoly, L.A., P.W. Greenwood, S.S. Everingham, J. Hoube, M.R. Kilburn, C.P. Rydell, M. Sanders, and J. Chiesa. 1998. *Investing in Our Children: What We Know and Don't Know about the Costs and Benefits of Early Childhood Interventions*. Santa Monica, Calif.: RAND.
- Kendall-Tackett, K.A., L.M. Williams, and D. Finkelhor. 1993. Impact of Sexual Abuse on Children: A Review and Synthesis of Recent Empirical Studies. *Psychological Bulletin* 113:164–80.
- King, N.J., B.J. Tonge, P. Mullen, N. Myerson, D. Heyne, S. Rollings, R. Martin, and T.H. Ollendick. 2000. Treating Sexually Abused Children with Posttraumatic Stress Symptoms: A Randomized Clinical Trial. *Journal of the American Academy of Child and Adolescent Psychiatry* 39:1347–55.
- King, N.M.P., and L.R. Churchill. 2000. Ethical Principles Guiding Research on Child and Adolescent Subjects. *Journal of Interpersonal Violence* 15:710–24.

- Kitzman, H., D.L. Olds, C.R. Henderson Jr., C. Hanks, R. Cole, R. Tatelbaum, K.M. McConnochie, K. Sidora, D.W. Luckey, D. Shaver, K. Engelhardt, D. James, and K. Barnard. 1997. Effect of Prenatal and Infancy Home Visitation by Nurses on Pregnancy Outcomes, Childhood Injuries, and Repeated Childbearing: A Randomized Controlled Trial. *JAMA: The Journal of the American Medical Association* 278:644–52.
- Kolko, D.J. 1996. Clinical Monitoring of Treatment Course in Child Physical Abuse: Psychometric Characteristics and Treatment Comparisons. *Child Abuse and Neglect* 20:23–43.
- Kotch, J.B. 2000. Ethical Issues in Longitudinal Child Maltreatment Research. *Journal of Interpersonal Violence* 15:696–709.
- Kraemer, H.C., A.E. Kazdin, D.R. Offord, R.C. Kessler, P.S. Jensen, and D.J. Kupfer. 1997. Coming to Terms with the Terms of Risk. *Archives of General Psychiatry* 54:337–43.
- Langhinrichsen-Rohling, J., C. Arata, N. O'Brien, D. Bowers, and J. Klibert. 2006. Sensitive Research with Adolescents: Just How Upsetting Are Self-Report Surveys Anyway? *Violence and Victims* 21:425–44.
- Leventhal, J.M. 1998. Epidemiology of Sexual Abuse of Children: Old Problems, New Directions. *Child Abuse and Neglect* 22:481–91.
- Macdonald, G.M., J.P.T. Higgins, and P. Ramchandani. 2006. Cognitive-Behavioural Interventions for Children Who Have Been Sexually Abused. *Cochrane Database of Systematic Reviews*, issue 4, article no. CD001930. DOI: 10.1002/14651858.CD001930.pub2.
- MacMillan, H.L. 2000. Child Maltreatment: What We Know in the Year 2000. *Canadian Journal of Psychiatry* 45:702–9.
- MacMillan, H.L., M. Boyle, C. Walsh, E. Jamieson, J. Walker, and G. Lodenquai. 2001. *Development of a Child Maltreatment Research Strategy for the Department of Justice Canada: Final Report*. Ottawa.
- MacMillan, H.L., J.E. Fleming, N. Trocmé, M.H. Boyle, M. Wong, Y.A. Racine, W.R. Beardslee, and D.R. Offord. 1997. Prevalence of Child Physical and Sexual Abuse in the Community: Results from the Ontario Health Supplement. *JAMA: The Journal of the American Medical Association* 278:131–35.
- MacMillan, H.L., J.H. MacMillan, and D.R. Offord, with the Canadian Task Force on the Periodic Health Examination. 1993. Periodic Health Examination, 1993 Update: 1. Primary Prevention of Child Maltreatment. *Canadian Medical Association Journal* 148:151–63.
- MacMillan, H.L., J.H. MacMillan, D.R. Offord, L. Griffith, and A. MacMillan. 1994a. Primary Prevention of Child Physical Abuse and Neglect: A Critical Review: Part I. *Journal of Child Psychology and Psychiatry, and Allied Disciplines* 35:835–56.

- MacMillan, H.L., J.H. MacMillan, D.R. Offord, L. Griffith, and A. MacMillan. 1994b. Primary Prevention of Child Sexual Abuse: A Critical Review: Part II. *Journal of Child Psychology and Psychiatry, and Allied Disciplines* 35:857–76.
- MacMillan, H.L., B.H. Thomas, E. Jamieson, C.A. Walsh, M.H. Boyle, H.S. Shannon, and A. Gafni. 2005. Effectiveness of Home Visitation by Public-Health Nurses in Prevention of the Recurrence of Child Physical Abuse and Neglect: A Randomised Controlled Trial. *Lancet* 365:1786–93.
- Manly, J.T. 2005. Advances in Research Definitions of Child Maltreatment. *Child Abuse and Neglect* 29:425–39.
- Murphy-Berman, V. 1994. A Conceptual Framework for Thinking about Risk Assessment and Case Management in Child Protective Service. *Child Abuse and Neglect* 18:193–201.
- O'Hagan, K.P. 1995. Emotional and Psychological Abuse: Problems of Definition. *Child Abuse and Neglect* 19:449–61.
- Olds, D.L. 2002. Prenatal and Infancy Home Visiting by Nurses: From Randomized Trials to Community Replication. *Prevention Science* 3:153–72.
- Olds, D.L., J. Eckenrode, C.R. Henderson Jr., H. Kitzman, J. Powers, R. Cole, K. Sidora, P. Morris, L.M. Pettitt, and D. Luckey. 1997. Long-Term Effects of Home Visitation on Maternal Life Course and Child Abuse and Neglect: Fifteen-Year Follow-up of a Randomized Trial. *JAMA: The Journal of the American Medical Association* 278:637–43.
- Olds, D.L., C.R. Henderson Jr., R. Chamberlin, and R. Tatelbaum. 1986. Preventing Child Abuse and Neglect: A Randomized Trial of Nurse Home Visitation. *Pediatrics* 78:65–78.
- Olds, D.L., C.R. Henderson Jr., C. Phelps, H. Kitzman, and C. Hanks. 1993. Effect of Prenatal and Infancy Nurse Home Visitation on Government Spending. *Medical Care* 31:155–74.
- Olds, D.L., and H. Kitzman. 1990. Can Home Visitation Improve the Health of Women and Children at Environmental Risk? *Pediatrics* 86:108–16.
- Olds, D.L., J. Robinson, L. Pettitt, D.W. Luckey, J. Holmberg, R.K. Ng, K. Isacks, K. Sheff, and C.R. Henderson Jr. 2004. Effects of Home Visits by Paraprofessionals and by Nurses: Age 4 Follow-up Results of a Randomized Trial. *Pediatrics* 114:1560–68.
- Putnam, F.W. 2003. Ten-Year Research Update Review: Child Sexual Abuse. *Journal of the American Academy of Child and Adolescent Psychiatry* 42:269–78.
- Reams, R., and W. Friedrich. 1994. The Efficacy of Time-Limited Play Therapy with Maltreated Preschoolers. *Journal of Clinical Psychology* 50:889–99.

- Rispens, J., A. Aleman, and P.P. Goudena. 1997. Prevention of Child Sexual Abuse Victimization: A Meta-analysis of School Programs. *Child Abuse and Neglect* 21:975–87.
- Runyan, D.K. 1998. Prevalence, Risk, Sensitivity, and Specificity: A Commentary on the Epidemiology of Child Sexual Abuse and the Development of a Research Agenda. *Child Abuse and Neglect* 22:493–98.
- Runyan, D.K. 2000. The Ethical, Legal, and Methodological Implications of Directly Asking Children about Abuse. *Journal of Interpersonal Violence* 15:675–781.
- Runyan, D.K., P.A. Curtis, W.M. Hunter, M.M. Black, J.B. Kotch, S. Bangdiwala, H. Dubowitz, D. English, M.D. Everson, and J. Landsverk. 1998. LONGSCAN: A Consortium for Longitudinal Studies of Maltreatment and the Life Course of Children. *Aggression and Violent Behavior: A Review Journal* 3:275–85.
- Runyon, M.K., E. Deblinger, E.E. Ryan, and R. Thakkar-Kolar. 2004. An Overview of Child Physical Abuse: Developing an Integrated Parent-Child Cognitive-Behavioral Treatment Approach. *Trauma, Violence & Abuse* 5:65–85.
- Saywitz, K.J., A.P. Mannarino, L. Berliner, and J.A. Cohen. 2000. Treatment for Sexually Abused Children and Adolescents. *The American Psychologist* 55:1040–49.
- Schuck, A.M., and C.S. Widom. 2003. Childhood Victimization and Alcohol Symptoms in Women: An Examination of Protective Factors. *Journal of Studies on Alcohol* 64:247–56.
- Steinberg, A.M., R.S. Pynoos, A.K. Goenjian, H. Sossanabadi, and L. Sherr. 1999. Are Researchers Bound by Child Abuse Laws? *Child Abuse and Neglect* 23:771–77.
- Straus, M.A. 1990. The Conflict Tactics Scales and Its Critics: An Evaluation and New Data on Validity and Reliability. In *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*, edited by M.A. Straus and R.J. Gelles, 49–73. New Brunswick, N.J.: Transaction Publishers.
- Straus, M.A., S.L. Hamby, D. Finkelhor, D.W. Moore, and D. Runyan. 1998. Identification of Child Maltreatment with the Parent-Child Conflict Tactics Scales: Development and Psychometric Data for a National Sample of American Parents. *Child Abuse and Neglect* 22:249–70.
- Taussig, H.N., R.B. Clyman, and J. Landsverk. 2001. Children Who Return Home from Foster Care: A 6-Year Prospective Study of Behavioral Health Outcomes in Adolescence. *Pediatrics* 108:E10.
- Terao, S.Y. 1999. Treatment Effectiveness of Parent-Child Interaction Therapy with Physically Abusive Parent-Child Dyads. EdD diss., University of the Pacific.

- Tonmyr, L. 1998. *International Studies on the Incidence and Prevalence of Child Maltreatment: Selected Bibliography*. Ottawa: Child Maltreatment Division, Bureau of Reproductive and Child Health, Health Protection Branch, Health Canada, catalog no. H21-143/1998E.
- Trocmé, N., B. Fallon, B. MacLaurin, J. Daciuk, C. Felstiner, T. Black, L. Tonmyr, C. Blackstock, K. Barter, D. Turcotte, and R. Cloutier. 2005. *Canadian Incidence Study of Reported Child Abuse and Neglect—2003: Major Findings*. Ottawa: Minister of Public Works and Government Services.
- Trocmé, N., B. MacLaurin, B. Fallon, J. Daciuk, D. Billingsley, M. Tourigny, M. Mayer, J. Wright, K. Barter, G. Burford, J. Hornick, R. Sullivan, and B. McKenzie. 2001. *Canadian Incidence Study of Reported Child Abuse and Neglect—Final Report*. Ottawa: Minister of Public Works and Government Services.
- Udwin, O. 1983. Imaginative Play Training as an Intervention Method with Institutionalised Preschool Children. *The British Journal of Educational Psychology* 53(pt 1):32–39.
- U.S. Department of Health and Human Services, Children's Bureau. 1992–2005. *Child Maltreatment 1990–2003: Reports from the States to the National Child Abuse and Neglect Data System*. Washington, D.C.: U.S. Government Printing Office.
- Wald, M.S., and M. Woolverton. 1990. Risk Assessment: The Emperor's New Clothes? *Child Welfare* 69:483–511.
- White, H.R., and C.S. Widom. 2003. Does Childhood Victimization Increase the Risk of Early Death? A 25-Year Prospective Study. *Child Abuse and Neglect* 27:841–53.
- Widom, C.S. 1989. The Cycle of Violence. *Science* 244:160–66.
- Widom, C.S. 1991a. Avoidance of Criminality in Abused and Neglected Children. *Psychiatry* 54:162–74.
- Widom, C.S. 1991b. The Role of Placement Experiences in Mediating the Criminal Consequences of Early Childhood Victimization. *The American Journal of Orthopsychiatry* 61:195–209.
- Widom, C.S. 1999. Posttraumatic Stress Disorder in Abused and Neglected Children Grown Up. *The American Journal of Psychiatry* 156:1223–29.
- Widom, C.S., K. DuMont, and S.J. Czaja. 2007. A Prospective Investigation of Major Depressive Disorder and Comorbidity in Abused and Neglected Children Grown Up. *Archives of General Psychiatry* 64:49–56.
- Widom, C.S., N.R. Marmorstein, and H.R. White. 2006. Childhood Victimization and Illicit Drug Use in Middle Adulthood. *Psychology of Addictive Behaviors* 20:394–403.
- Widom, C.S., and M.G. Maxfield. 1996. A Prospective Examination of Risk for Violence among Abused and Neglected Children. *Annals of the New York Academy of Sciences* 794:224–37.

- Wolfe, D.A., J. Sandler, and K. Kaufman. 1981. A Competency-Based Training Program for Child Abusers. *Journal of Consulting and Clinical Psychology* 49:633–40.
- Wolfe, D.A., and C. Wekerle. 1993. Treatment Strategies for Child Physical Abuse and Neglect. A Critical Progress Report. *Clinical Psychology Review* 13:473–500.

Acknowledgments: This research was funded by the Department of Justice, Canada, and the CIHR Institutes of Gender and Health; Aging; Human Development, Child and Youth Health; Neurosciences, Mental Health, and Addiction; and Population and Public Health. Dr. MacMillan is supported by the David R. (Dan) Offord Chair in Child Studies; Dr. Wathen, by a CIHR–Ontario Women’s Health Council Fellowship; and Dr. Boyle, by a Medical Research Council of Canada Scientist Award.