

Children’s Eyewitness Memory: A Modern History and Contemporary Commentary

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This article provides a modern historical overview of child eyewitness research, as well as an evaluative commentary on the field, with special emphasis on children’s eyewitness memory and suggestibility in child sexual abuse cases. Four historical periods are reviewed: the 1970s, 1980s, 1990s, and 2000s (to date). Examples of legal cases that inform scientific research are described, discussion of relevant laws is presented, and a review of selected studies is offered. It is concluded that although we have learned a great deal about children’s eyewitness memory and suggestibility over the last few decades, simple answers are evasive and much more research is needed.

“Would you believe a child witness?” When I first asked that question (Goodman & Michelli, 1981), there was virtually no modern scientific research on children’s eyewitness memory to guide psychologists, legal professionals, policy makers, or the lay public. Today, after nearly three decades of research, many researchers are still hard at work, providing a scientific basis for the answer not only to that question but also to the related question, “Under what conditions should you believe a child witness?” The answers to these questions are much more complicated than one might initially expect, because they relate to deep theoretical issues in the study of human memory, social influence, and development.

I was asked to provide, in this article, a historical overview of child eyewitness research. Previously—in the 1980s—I reviewed turn-of-the-19th century studies (Goodman, 1984), which had largely been ignored or forgotten by 1980. My task now is to provide a nearer-term history—that is, a history of modern studies of child

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witnesses, from my perspective as a researcher who has been actively engaged in child witness research for more than 30 years. I divide the history into four epochs: the 1970s, 1980s, 1990s, and 2000s.

In the modern era of child testimony research, the study of child witnesses turns, in many ways, on controversies concerning child sexual abuse. Therefore, I structure this review around three broad, interrelated topics:

1. cases of child sexual abuse that helped to shape (or should help to shape) the field's research efforts, including some of the sensational cases that drew public attention;
2. laws that helped to shape psychological research, and research on child sexual abuse that helped to shape the laws;
3. child witness research that has had an impact on eyewitness and developmental psychology, and on the nation's views of children, especially child sexual abuse victims.

As will be evident from this review, the study of child witnesses is a vibrant research area with implications for both theory and applications. But the field has faced, and continues to face, many challenges, one of the greatest of which is to balance the need to acknowledge, prevent, and deal effectively with true victimization of children while also detecting and limiting false allegations by children (Davis, 1998). These are highly emotional personal and legal issues that often encourage dichotomous thinking. Thus, integration of the two sets of important needs is still a primary objective.

The field has been dominated by researchers who emphasize the dangers of children's false reports and memory errors (e.g., Bruck, Ceci, & Principe, in press, whose *Handbook* chapter on "children and the law" focuses primarily on false reports). This is likely because the child witness field derives in part from the study of adult eyewitness testimony, which has been largely influenced by memory-malleability and false-identification research (Loftus, 1979). But there is much more to child eyewitness memory research than that. For instance, the field also investigates effects of trauma on children's memory, techniques to facilitate accurate reports, and conditions that promote versus inhibit children's disclosure of abuse. These topics, and others, are inspired not only by important theoretical issues, but also by actual cases of child sexual abuse. By way of introduction to some of the many issues involved, I turn to one such case next.

1970s: Cases, Laws, and Research

"Orange County authorities arrested a former Catholic priest Tuesday (9/24/02) on suspicion of sexually abusing a teenage girl in the 1970s after the man allegedly confessed to

an undercover deputy posing as his out-of-wedlock daughter. . . . Plesetz's arrest caps a four-month investigation into crimes authorities said occurred from 1972 to 1974, when Plesetz was a pastor at St. Edward Catholic Church in Dana Point. It comes as advocates for victims of priest abuse criticize law enforcement for not filing criminal charges in most cases. The alleged victim, identified in the criminal complaint as 'Janet M.,' first met the priest when she was a 13-year-old singer in the church choir. Prosecutors charge that Plesetz repeatedly abused her—acts that ended when she became pregnant. Authorities became aware of the incident in June, when Janet M. filed a complaint with the Orange County Sheriff's Department. Jim Amormino, a sheriff's spokesman, said he didn't know why she decided to come forward. 'I don't know if she lived that long with anger or what had happened,' he said.' (Lobdell & Hanley, 2002)

As this newspaper article reminds us, unbeknownst to most of the world, all too many Catholic priests (a conservative estimate is approximately 3–6% of Catholic priests in the U.S.) during the 1970s were sexually victimizing children, mostly boys but also girls, and silencing the victims with threats, excuses, gifts, and promises (Bottoms, Shaver, Goodman, & Qin, 1995; O'Conner, Penrod, Lynch, Schlesinger, & Galietta, 2004). The abuse often became known to church authorities, and the priests were then discretely moved to other dioceses. Even in the 1980s, such cases were rarely reported to the police (Bottoms et al., 1995; Bottoms, Shaver, & Goodman, 1996). The arrest of Plesetz, decades after the abuse occurred, was only possible because, much later, the statute of limitations in child sexual abuse cases was changed in some states so that the legal "clock" starts to tick once the victim comes forward, no matter how long ago the alleged crime occurred. Of course, Catholic priests were not by any means the only ones involved in child sexual abuse. The prevalence of this societal ill was largely hidden, not just by the Catholic Church but more generally by a society "in denial," one that had been told, in explicit and implicit terms, not to believe children. In the 1970s, society was aghast to learn, from research by a few brave investigators, of the extent of child sexual victimization (e.g., Finkelhor, 1984; Russell, 1986).

How prevalent was child sexual abuse in the 1970s? It is difficult to know for sure, as it is difficult to know right now. The federal government requires each state to submit, on a yearly basis, the number of child maltreatment allegations reported to child protective services (CPS). In 1974, there were 60,000 reports to CPS of child maltreatment nationwide, with only a small fraction being for child sexual abuse (CAPTA, 1974). In 2004, there were nearly 3.5 million investigations of child maltreatment nationwide, with about 10% of these investigations concerning child sexual abuse (U.S. DHHS, 2006). But these reports give us only a glimpse of the actual prevalence of child–sexual–abuse prevalence. Several sociologists in the 1970s discovered, by conducting random in-person or telephone interviews, that the prevalence of child sexual victimization was much higher than official reports suggested, and that most child sexual abuse (about 96%) is never reported to authorities (e.g., Finkelhor, 1984; Russell, 1986). Even in university populations,

where one might expect a lower prevalence of child maltreatment, it is commonly found that about 25% of women and about 10% of men have experienced some form of sexual abuse during their childhoods (Epstein & Bottoms, 1998; Finkelhor, 1984).

The dawning realization of the extent of child sexual abuse and the adoption of mandatory reporting laws including for child sexual abuse resulted in legal changes. Previously, in many states, children younger than 9 to 14 years (depending on the state's laws) had been *presumed incompetent* to testify. Thus, a prosecuting attorney with a child victim/witness case had to convince the judge that the child was a competent witness (e.g., had an uncoached memory). In the 1970s, there was a wave of change: Children were now typically *presumed competent* to testify unless proven incompetent (Lyon, 2000). Moreover, pre-1970s, in many states, children's claims of sexual abuse had to be corroborated by physical evidence or another eyewitness, both of which are unlikely given that most child sexual abuse does not leave physical evidence and is conducted in private. In the 1970s, many corroboration laws were lifted.

During the 1970s, there were only a few empirical studies of child witnesses published in psychological journals. It was easy to read the entire research literature in a day or two! Helen Dent in England published some landmark work on eyewitness identification and the effects of question type on children's eyewitness accuracy (e.g., Dent & Stephenson, 1979), but she had been told that it was not an important issue, and thus turned her attention elsewhere (Dent, personal communication, April, 1993). Elizabeth Loftus and colleagues published a single study showing the danger of using definite articles (e.g., "the," as in "Did you see *the* bear?" versus "Did you see *a* bear?"), which can be suggestive when one is interviewing a child (Dale, Loftus, & Rathbun, 1978). Marin, Holmes, Guth, and Kovac (1979) reported age differences in children's accuracy as bystander witnesses to a real-life event. Although they did not tackle the issue of children's eyewitness memory for traumatic events or aim their studies at child sexual abuse, these researchers were ahead of their time, and their studies are still well worth reading today.

1980s: Cases, Laws, and Research

In the 1980s, at Porter-Gaud, an exclusive private school in Charleston, SC, the principal and a teacher were sexually abusing boys in their charge. This was common knowledge among the boys, but few reported it. One boy who did disclose the teacher's acts of molestation to the school authorities was repeatedly rebuked by them. It was not until he was an adult that he went to the police, which encouraged other boys, now men, to come forward. In the course of the investigation, the principal committed suicide, and the teacher eventually pled guilty to abusing 13 boys over a four-decade period. He later admitted in a deposition that he probably

molested more than 40 boys at the school (Bartelme, 2004). Such case examples suggest how possible it was to get away with child sexual abuse at the time and how difficult it was for children to disclose it and be taken seriously.

Disclosure of child sexual abuse is not easy to study scientifically, and it has received much less attention than it deserves (but see Pipe, Lamb, Orbach, & Cederborg, *in press*). Instead, the focus in the field of children's eyewitness memory research has been on children's suggestibility and false reports. This focus gained momentum in the 1980s due to sensational preschool and custody cases that received national attention. In Bakersfield, CA, for instance, several boys accused a then recently divorced man, John Stoll, of child sexual abuse, and the accusers included his own son. Videotaped records of the forensic interviews of the children either never existed or cannot now be found, but concerns were raised about suggestive interviewing. Almost 20 years later, several of the boys (now men) claim they knowingly made false reports. However, the man's son holds to his accusations (http://www.injusticebusters.com/04/Stoll_John.shtml). Similarly, in the highly sensational McMartin preschool case in Manhattan Beach, CA, involving teachers who were accused of sexually abusing hundreds of children—a case that held the nation's attention for several years—one of the children (now an adult male) also says he knowingly lied (Nathan, 2005). What should we make of these recantations, and what can we learn from such cases and in particular from the later retractions?

It may be that children made false allegations from the start and knew it all along, as they now state. If so, this implies that they did not form false memories, unlike what many researchers have claimed (e.g., Ceci & Bruck, 1993). Instead, the children were lying to please or placate adults. The highly suggestive interviewing allegedly or actually used in these cases may have promoted lies, but not false memories, at least in the children who later, as adults, retracted their claims. The theoretical implications are important because these retractions could mean that children's memory malleability was not as great as were the adult social pressures applied to the children. Of course, some of the children who still hold to their original allegations of child sexual abuse may be suffering from enduring false memories. No one knows for sure.

Another possibility in some cases is that retractors are now distorting the past. Recent research indicates that men are more likely than women to define certain acts of child sexual abuse as nonabusive and have less accurate memories for child sexual abuse experiences, downplaying or distorting what happened (Alexander et al., 2005; Widom & Morris, 1997). In the cases I mentioned above, all of the retractors were men.

One problem for the field when considering real cases is that psychology seems to offer a "double-edged sword," providing plausible arguments for both sides of a legal debate. To the extent that there is bias in psychology, when considering real cases, it often shows up in the particular factors one emphasizes in one's research

and expert testimony. (In court cases, of course, psychologists are often paid by one side of a case rather than the other.) For instance, on the one hand, because children typically disclose child sexual abuse to their mothers (Berliner & Conte, 1995), because the perpetrator is usually known by the child (Finkelhor, 1984), and because there are often delays in reporting the crime (Goodman et al., 1992; Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003), it can typically be argued that the mother led the child to make a false report, that the child and/or mother had ulterior motives in making the accusations, and that the child's memory may have been distorted or coached, or become faded with time. Prosecutors report that such defenses are often used in child sexual abuse cases (Goodman, Quas, Bulkley, & Shapiro, 1999). On the other hand, one can argue that children do not always disclose abuse readily, may at times require some leading questions to tell accurately and completely what happened, and may retract their allegations even if they were true (e.g., Malloy, Quas, & Lyon, in press; Saywitz, Goodman, Nicholas, & Moan, 1991; Summit, 1983). These were important issues for discussion and debate in the 1980s.

Given societal attention to child sexual abuse brought about by the sensational cases of the 1980s, research on child witnesses began to blossom. Publications were still few, but several labs were becoming highly active in studying the accuracies and inaccuracies of children's memory and suggestibility as relevant to child sexual abuse cases. In my laboratory, we conducted the first scientific studies of children's memory for stressful medical procedures, as analogs to memory for child abuse. Initially, memory for relatively mild stressful events, such as for inoculations and venipunctures, was studied. Memory and resistance to suggestion were better when the children were more stressed (Goodman, Hirschman, Hepps, & Rudy, 1991). Later in the 1980s, such research branched out to other laboratories and included memory for many other stressful medical procedures, such as injuries seen in the emergency room and radiological techniques involving genital catheterization (e.g., Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1997; Merritt, Ornstein, & Spiker, 1994; Peterson & Bell, 1996).

Debate ensued about whether children's memory is helped or hindered when a stressful event is experienced. In an influential review paper in *Psychological Bulletin*, Ceci and Bruck (1993) concluded that stress hinders children's eyewitness memory. However, a number of the studies they cited were never published in scientific journals. Today, research psychologists seem more inclined to conclude that memory is better for negative than for emotionally neutral events, and maybe even better than memory for emotionally positive events (e.g., Berntsen, 2002; Christianson, 1992), findings supported by sophisticated neuroscience research (e.g., Canli, Zhao, Brewer, Gabrieli, & Cahill, 2000; Phelps, 2004). During the late 1980s, individual differences in memory for stressful events began to be identified (e.g., parental attachment; Goodman et al., 1997) indicating that some children,

like some adults, have better memory for stressful events, but others do not (see also Edelman et al., 2005).

In the 1980s, my laboratory found that children, at least by the age of 4 or 5 years, could be surprisingly resistant to false abuse suggestions, such as "How many times did he hit you?" or "He took your clothes off, didn't he?" Still, 3-year-olds, especially young 3-year-olds, were noticeably more suggestible than older children. Karen Saywitz and I showed that when 5- and 7-year-olds were touched genitally by a doctor during a routine medical examination, few children disclosed the touch unless asked leading questions, whereas about 8% of the children who had not been touched genitally by the doctor made a false affirmation when asked these same questions. Moreover, the older children were especially likely to withhold genital touch information (Saywitz et al., 1991), probably because it was embarrassing to talk about.

Our research was considered controversial at the time, in part, because so many people were narrowly, but understandably, focused on the sensational preschool and custody cases that were sweeping the country. While those sensational cases were absorbing the attention of the nation and of many researchers, thousands of children in less controversial cases were being interviewed, and their credibility potentially tainted, by the national debate on the less typical but high-profile cases. The controversy culminated in a contentious conference in 1989, organized by Stephen Ceci, with the input of such researchers as Elizabeth Loftus, both of whom have served as prominent defense expert witnesses and/or consultants. At this time, the *McMartin* case was looming large, and potential expert witnesses in that case were being closely scrutinized by those at the conference. I felt on the hot seat at this meeting, being one of the more visible researchers who wanted to keep in mind that many reports of child sexual abuse were obviously true, as indicated by objective evidence and perpetrators' confessions, and being the main researcher at that time who had found that even young children could, under some circumstances, maintain accuracy even in the face of misleading abuse-related questions, findings that were being cited by the prosecution in many court cases, including *McMartin* pretrial hearings. At other conferences as well, prior to this one, people whose research findings went against the strong pro-defense bias in the eyewitness memory field were publicly attacked, sometimes with the goal of weakening their credibility in court and maintaining the dominance in the field of memory malleability/suggestibility researchers.

Of course, the sensational cases of the 1980s deserved debate. False reports have severe consequences for the innocent people who are accused, for children who may come to falsely believe they have been abused, and for actual child victims in other cases whose credibility is then doubted. And it makes sense, both legally and professionally, to have well-informed consultants on both sides of the issue. Nevertheless, most charges of child sexual abuse, then and now, are not

false, as far as one can tell from the bulk of the evidence, and even in the 1980s, the issues under consideration in the more typical cases were not simply the ones being emphasized in the most sensational cases.

Toward the end of the 1980s and the beginning of the 1990s, research started to show, as had research in the early 1900s (e.g., Binet, 1900; Stern, 1910), that there were particular conditions under which children could be accurate or inaccurate. Although most of this research was not published until the mid 1990s, and thus is reviewed in the next section, I will mention a few studies here.

Around 1989, at the same time my research was showing the conditions under which normal children could resist false suggestions about abuse, several of us began to study dramatic and increasingly prevalent claims of so-called “satanic ritual abuse” (SRA; Bottoms et al., 1996). It quickly became apparent that many if not all such claims involved false reports, not only by children but also by adults. For example, some of the false SRA claims included that demonically possessed individuals had formed cults that had infiltrated American preschools and the FBI. These satanists allegedly sexually abused young children because they hated anything innocent and pure. Other claims accompanying SRA allegations included that 50,000 children had been kidnapped, sexually abused, and killed by satanists. The FBI could find no trace of the missing children or the thousands of dead bodies, to which the accusers replied that the cults were breeding, for sacrifice, infants whose births were never recorded and using unusually sophisticated methods of disposing of the dead bodies.

When we looked into such claims in a huge national study, we—like the FBI—could find no evidence for these extreme allegations, but we did find plenty of evidence for highly leading and coercive interviews with children, use of psychotropic drugs and hypnosis on depressed women, and promotion of satanic ritual abuse ideas by religious organizations and poorly trained clinicians (Bottoms et al., 1996). Fortunately, by the mid-1990s, the child protection and legal fields, along with most educated adults, had moved away from worries about SRA claims.

Overall, the research of the 1980s strongly pointed to the need to discover the conditions under which children’s eyewitness memory maintains accuracy and the conditions under which it loses its footing and slips into inaccuracy.

1990: Cases, Laws, and Research

For child witness research, the decade of the 1990s was particularly important. At the start of the decade, my laboratory published several of our studies indicating that there were reliable age differences in children’s susceptibility to suggestion but also indicating children’s surprising resistance to false suggestions of abuse (e.g., Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; Rudy & Goodman, 1991). It became increasingly clear, however, that there were conditions under which

children were susceptible to false suggestion, even about child abuse. Federal authorities, for instance, shared a case with me in which two young girls had been kidnapped by their father in a custody dispute and taken to live with his sister (the children's aunt), who was a Christian fundamentalist. The aunt believed the children's mother was a satanist because she was a Buddhist. The aunt proceeded to interview the children while depriving them of food and physically punishing them if they did not agree with her suggestions that the mother had sexually abused them. Eventually the children implicated their own mother. Fortunately, the aunt audio recorded her interviews of the children, and when the authorities caught up with the aunt and heard the interviews, the mother was vindicated, and the children were returned to her. Clearly, such coercive interviewing of children can result in false reports.

Legal change occurred as a result of increased concerns about coercive interviewing and child suggestibility. For example, during the 1990s, many of the sensational cases that led to convictions were overturned on appeal often because of inappropriate interviewing, and at least one new legal trend for child witnesses emerged, specifically "taint hearings" as a result of the Kelly Michaels case. These are hearings in which a judge can decide that children have been so suggestively interviewed that their memories are forever tainted, that is, their autobiographical memories so distorted or erased that they cannot get back to the truth of what occurred. If so, the judge can rule that the children will not be permitted to serve as witnesses in court.

The Kelly Michaels case in New Jersey has been written about extensively because of the egregious interviewing of the young child witnesses during the investigation (Lyon, 1995; Rosenthal, 1995). Kelly Michaels was a preschool teacher who was accused and convicted of child sexual abuse based on young children's testimony, but the interviewing by social workers was arguably quite coercive. In support of an appeal of Michael's conviction, numerous psychologists signed an amicus brief that explained the problem of children's suggestibility (Bruck & Ceci, 1995). What they may not have realized, because circulators of the brief generally failed to mention it, was that the legal issue to which the amicus brief was being applied concerned taint hearings. It was unclear from published scientific data available in the early 1990s whether misleading questioning led to permanent usurption of children's autobiographical memory (later research indicated it typically does not; Huffman, Crossman, & Ceci, 1997), how judges would determine whether a child's memory was forever tainted, and whether taint hearings would be overused by attorneys trying to impeach the credibility of actual child victims. Thus, several of us decided against signing the amicus brief. In the end, taint hearings did not catch on as a national trend. Even in New Jersey, later laws put restraints on taint hearings. In any event, a defense attorney can always challenge the competence of a child witness through a competence hearing, and having an "independent memory" has traditionally been one basis on which to

challenge a child's competence to testify. No special concept of "tainting" was deemed necessary.

Another major legal issue of the 1990s concerned the right of defendants to confront their accusers in open court during a trial. In the early 1990s, the U.S. Supreme Court ruled in *Maryland v. Craig* that if, in a child sexual abuse case, the victim was so traumatized that he or she could not reasonably communicate (e.g., could not answer questions) at trial, the child could testify via closed-circuit television, as long as a judge made a case-by-case determination. The original case involved allegations of child sexual abuse against a preschool teacher, Sandra Craig. She was convicted, but the U.S. Supreme Court heard the case on appeal because of the issue of face-to-face confrontation, as guaranteed by the 6th Amendment of the U.S. Constitution. A core question was "Should child victims have to face the accused in open court?" They are not put through this ordeal in numerous other countries (e.g., Israel, Norway).

I co-authored a brief with Murray Levine, Gary Melton, and David Ogden arguing that, under certain circumstances and on a case-by-case basis, traumatized children should be permitted to testify via closed-circuit television. Part of our argument was based on a study of actual child victim/witnesses who had testified in child sexual abuse cases (Goodman et al., 1992). In that study, children who expressed greater fear of the defendant before trial later had the most trouble answering the prosecutors' questions. The U.S. Supreme Court's ruling indicated that to preserve the truth-seeking function of a trial, child victim/witnesses needed to testify under conditions that were not so stressful as to make the children unable to perform, and that the 6th Amendment right to confrontation had to bend to that need. Regarding Sandra Craig's conviction, the case was remanded back to the lower courts, and Ms. Craig was set free.

Although this ruling could have had a major effect on child victim/witnesses' treatment when a case goes to trial, in fact, as far as I know, it has not had a profound influence. Prosecutors prefer to put the child on the stand so that the child's testimony can have a greater emotional impact (Goodman et al., 1999). Our later research confirmed that, although children are less suggestible when questioned via closed-circuit television than in open court, jurors are less likely to believe children unless the children testify in open court (Goodman et al., 1998).

Of more lasting importance for child sexual abuse victims in the legal system, as it turned out, was the creation, nationwide, of child forensic interviewing centers, known as Child Advocacy Centers (CACs), except in California, where they are sometimes called Multidisciplinary Interview Centers (MDICs). One of the earliest (and still the largest) child interview centers was established in Huntsville, Alabama, around 1985, and it became a model for other such centers around the country. Many of these centers started in response to the sensational cases involving highly suggestive interviewing of children, but also because research indicated that one of the biggest stressors for child abuse victims was repeated interviewing by

multiple professionals in the legal system (e.g., police, social workers, attorneys, judges: e.g., Tedesco & Schnell, 1987). The goal of these centers is to consolidate the interviewing of children so that they do not have to be repeatedly interviewed by various authorities, and also to ensure that children are interviewed by highly trained professionals (often social workers) who attempt to be as nonleading as possible. The interviews are typically videotaped and observed by police, district attorneys, and CPS workers from behind a one-way mirror. The observers can have their questions asked by the interviewer, saving the children from multiple interviews.

Reactions to the sensational cases included not only legal changes, such as the establishment of interviewing centers, but also a surge of research on eliciting false reports in a laboratory context. Society, which had started to accept child sexual abuse as a social problem, recoiled at the thought that children might be easily lured into false reports, and that innocent citizens were being falsely accused. The sensational cases set the stage for researchers to gain considerable attention for showing just how suggestible children can be. Of course, ethically, it is difficult to conduct a study involving the elicitation of false reports of child abuse, so researchers had to rely largely on false reports of nonabusive events, with resultant concerns about ecological validity in the application of the findings.

Several important and impressive studies were undertaken. One of these was conducted by Leichtman and Ceci (1995). The research is widely referred to as the Sam Stone study. The most important condition in the study was one in which the children were given repeated suggestions that a man named Sam Stone was very clumsy. When Mr. Stone briefly visited the classroom, he was not clumsy at all. For 4 weeks, the children were repeatedly interviewed with strong suggestions that Mr. Stone had soiled a teddy bear and ripped a book. Later, when asked "open-ended questions" (actually, the questions included "I heard something about a teddy bear" and "I heard something about a book," which are suggestive), about 70% of the 3-year-olds mentioned that Mr. Stone had done at least one of these two things. When the children were challenged about their answers, their false report rate fell considerably, although false reports were not eliminated completely.

Similarly, in a set of innovative and influential studies by Poole and Lindsay (1995, 2001), called the Mr. Science experiments, children (3 to 8 years old) participated in science demonstrations. In Session 1, immediately after the science demonstrations, the children answered open-ended questions about their experiences with "Mr. Science." In Session 2, conducted 3 months later and after parents read a misleading story to each child, the children again answered open-ended questions as in Session 1, plus yes-no questions. Source monitoring questions were also included. In the 2001 study, a third session, similar to Session 2, was introduced after a 1-month delay. Poole and Lindsay report that at Session 2, the children made many errors, including ones that incorporated the misinformation provided by the parents (e.g., 41% of the 3- to 4-year-olds reported spontaneously

things mentioned in the story that Mr. Science had actually not done). Although errors decreased for those children who experienced Session 3, perhaps because the source monitoring questions bolstered the children's later memory performance, the error rate was still of note (see also Garven, Wood, Malpass, & Shaw, 1998).

I do not doubt that children can be coerced or tricked into false reports, including false reports of abuse, or that children sometimes lie to get attention. And it is important for scientists to demonstrate such effects. From a scientific perspective, however, there are several things to note about some of these types of studies. First, in some of the experiments, the children's answers were scored in unusual ways. For example, in some studies, the percentage of children who made "one or more errors" was used as the dependent measure or highlighted in the article (e.g., Leichtman & Ceci, 1995; Poole & Lindsay, 1995, 2001). In principle, this scoring scheme could cause a child who answered 99% of the questions accurately to be scored, in effect, as 100% wrong.

Second, in the Leichtman and Ceci study, we cannot tell from the data whether the children's recantation of their false claims, when they were challenged, is just another form of suggestibility or whether the children knew their claims were false and were willing to state the truth when challenged. Experimental conditions, in which the children were interviewed about true events they really witnessed and then challenged in the same way, are needed. If the children caved in and started to make false reports when challenged, we could perhaps presume that the children who took back their accusations against Sam Stone were just demonstrating further suggestibility.

Third, in some of the studies, the instructions to the children likely contributed to their errors. For example, in at least one of the Mr. Science experiments, the children were told to describe what they saw and heard. However, in the children's minds, what they "heard" might have legitimately referred to what their parents read from the book. That is, the instructions, while perhaps fairly clear to adults, may not have been clear to children, especially young ones. These issues are examples of the complexities encountered when trying to conduct and evaluate research in this topic area.

Another important set of studies conducted around the same time concerned false memory in children, deriving from Elizabeth Loftus' work on false memory in adults (Loftus & Pickrell, 1995). In these studies, children were repeatedly interviewed about true events (e.g., a trip to Disneyland) and false events (e.g., the child getting his/her hand stuck in a mouse trap). The analyses failed to reveal a significant increase over time. The rate of false assent was relatively high to start with—which is of course concerning in itself. But it is equally important to know that the repeated interviewing did not increase the rate of false reporting (Ceci, Huffman, Smith, & Loftus, 1994), as was later implied in some reviews of this research (e.g., see Ceci & Bruck, 1999). In contrast, in a second study, when children were told to pretend, to realize that this was just a game, and that their

mother had said the events occurred, the result was an increase in false affirmations over time (Ceci, Loftus, Leichtman, & Bruck, 1994). Hopefully, such instructions are not used in a real forensic context (Lyon, 1999). In fact, analyses of actual interviews indicate invitations to pretend that child sexual abuse occurred are rare (Schreiber et al., 2006). In any case, and of great interest, the false report rate in the Ceci et al. (1994) study was lowest for negative events. This fits with our own observation that children are particularly resistant to abuse-related suggestions, which also concern negative events (e.g., Rudy & Goodman, 1991).

Another reaction of researchers to societal concerns about child suggestibility and egregious interviewing has been to develop standardized interview protocols. The standardized protocols generally rely on a "funnel technique" in which free recall/open-ended questions are employed as much as possible. But some specific questioning is also allowed. The Stepwise Interview by John Yuille was published in the 1990s (Yuille, Hunter, Joffe, & Zaparniuk, 1993). Also, work began on what was to become the most highly researched protocol, the NICHD protocol, developed by Kathleen Sternberg, Michael Lamb, Yael Orbach, and their colleagues (Lamb, Orbach, Sternberg, Hershkowitz, & Horovitz, 2000). The NICHD protocol incorporates training in free recall responding, perhaps inspired by Saywitz's work on narrative elaboration (Saywitz, Snyder, & Nathanson, 1999). Also in the 1990s, the Cognitive Interview, first developed for interviewing adults, was revised for children (Geiselman, Saywitz, & Bornstein, 1993; McCauley & Fisher, 1995). These protocols have become standard in some legal jurisdictions. Although they are based on child memory and child eyewitness research, the research has largely not concerned memory for embarrassing information. It is still unknown how well the protocols balance the need to detect maltreatment with the need to prevent false reports.

During the 1990s, researchers were also pursuing studies of children's memory for stressful events (e.g., Bahrick, Parker, Fivush, & Levitt, 1998; Goodman et al., 1997). One notable program of research was carried out by Carole Peterson and her colleagues (e.g., Peterson & Bell, 1996). They have studied children's memory for injuries that brought children to a hospital emergency room, as compared with the same children's memory for the emergency room visit itself. Over the years, these researchers have tested children's memory over delays as long as 5 years. One of their many findings is that the children's memory is better for the injury itself than for the emergency room treatment. This may again attest to the strength of memory for distressing, harmful events, although there are numerous differences between the two categories of events that may complicate such results and prevent clear inferences. Peterson's studies have continued to provide intriguing findings in the 2000s.

The child witness field emerged from the 1990s with important new knowledge about children in court, children's suggestibility, forensic interviewing of children, and children's memory for stressful events.

The 2000s: Cases, Laws, and Research

The new millennium started off with several cases that validated the extensiveness of the problem of child sexual abuse (e.g., the Priest abuse cases) and several cases that validated the accuracy of children as witnesses. For example, in a Southern California case, two 5-year-old girls (Samantha Runnion and a friend) were playing outside their apartment complex when a man approached and asked if they had seen his puppy. He then grabbed Samantha, dragged her to his car with her screaming for help, and drove off. Sadly, this story did not end well. Samantha's body was found the next day in the desert. She had been sexually assaulted, beaten, and suffocated. Her 5-year-old friend, who had witnessed the abduction, was able to give the police a detailed description of the kidnapper and his car. She even helped the police develop an accurate composite picture of the man's face. When caught, the evidence against the man was overwhelming (including DNA evidence), validating the young child's report. Of great interest to me, several years earlier, this same man had been accused of child sexual abuse by two 9-year-old girls. The case went to trial, but the jurors did not believe the children, and the man was acquitted. This reminds me of the question asked at the start of the history I am recounting, "Would you believe a child witness?" Apparently, the jurors in the case I just mentioned did not. If the man had been convicted, 5-year-old Samantha Runnion would still be alive today. The two girls from the earlier case were permitted to testify in the later murder trial, despite the earlier acquittal. The perpetrator has now been convicted and sentenced to death. Such cases end up sadly for virtually all concerned.

The Runnion case and its predecessor raise the question of the types of evidence that should be admitted at trial in child sexual abuse prosecutions. Should the children from the former case have been permitted to testify in the new trial? Although controversial, in child sexual abuse prosecutions, sometimes information about a defendant's past acts of abuse can be admitted. Another type of controversial evidence that is regularly admitted (under certain conditions) into court in child sexual abuse cases is hearsay. In the current decade, laws concerning hearsay have evolved.

Consider, for example, the U.S. Supreme Court's recent *Crawford v. Washington* (2004) decision, which dealt with hearsay. Although the legal case at issue did not concern child victims or child abuse per se, the ruling has important implications for children in sexual abuse cases. This is so because hearsay (e.g., a mother recounting at trial the child's first disclosure; a videotaped forensic interview of a child victim being shown at trial) often plays a crucial role in child sexual abuse trials (Golding, Sanchez, & Sego, 1997; Myers, Redlich, Goodman, Prizmich, & Imwinkelreid, 1999; Ross, Warren, & McGough, 1999). In the *Crawford* decision, the Court decreed that if an out-of-court statement was obtained in a context considered "testimonial," then hearsay cannot be admitted at trial. "Testimonial,"

although not thoroughly defined in the ruling, has been taken to mean interviews by authorities such as police or social workers.

If the context was not testimonial, then regular exceptions to hearsay apply. These exceptions include "excited utterances" and "statements made for the purpose of medical diagnosis or treatment." In addition, in many jurisdictions, a "special hearsay exception" exists for out-of-court statements made by sexually abused children, meaning that hearsay can be admitted with greater latitude in child sexual abuse trials than in many other types of trials. Yet, researchers do not know if, for example, "excited utterances" by children are more accurate, or how children respond when interviewed by medical professionals, who might be viewed as having particularly high authority, perhaps making suggestibility more likely. In the 2000s, it is anticipated that the U.S. Supreme Court will refine its views of hearsay, as well as rule on other laws that may pertain to child sexual abuse trials.

In the current decade, child witness research is still going strong. Whereas the sensational preschool cases of the 1980s and 1990s created a hospitable environment for emphasizing children's memory inaccuracies and suggestibility, the Priest abuse cases of the 2000s created a somewhat more hospitable environment for researchers to form a more balanced view. (Generally, it seems harder to publish studies showing children's lack of suggestibility as opposed to their susceptibility to suggestion, even when the studies are equally meritorious from a scientific perspective.) And, given that children's memory accuracy and resistance to suggestion varies depending on many factors, it is perhaps not surprising that some of the findings described earlier, for example, those from the 1990s, can be turned on their heads in the 2000s. One example: Is it possible for misleading interviews at times to help children resist suggestion? The answer appears to be "yes."

In a recent study, Quas and colleagues. (e.g., Malloy, Quas, Melinder, D'Mello, & Goodman, 2005) investigated developmental differences in the effects of interviewer bias and repeated interviewing on children's memory and suggestibility. Three- and 5-year-olds were interviewed once or repeatedly about an experience the children had encountered while playing, and the interviews were conducted by either a highly biased or a control (more neutral, but still leading) interviewer. One would expect children to make more errors when they were interviewed multiple times by biased interviewers who gave misleading instructions and asked misleading questions. However, it was actually the children who were interviewed once by the biased interviewer after a long delay who made the most errors. The children, who were interviewed repeatedly regardless of interviewer bias, were more accurate and less likely to make false claims (i.e., that they had played with a man, when in fact, they had not). These findings suggest that interviewer bias is particularly problematic when children's memory has weakened. In contrast, repeated interviews that occur a short time after a to-be-remembered event do not *necessarily* increase children's errors, even when interviews include misleading questions and interviewer bias.

In the present decade, researchers also began to tackle with new interest the issue of disclosure of child sexual abuse (see Pipe et al., in press). In a review article, London, Bruck, Ceci, and Schuman (2005) concluded that although children do not readily disclose child sexual abuse on their own, when asked directly about it, most are forthcoming about the abuse incidents. Moreover, they strongly implied that truly abused children do not recant. However, the review was based primarily on studies of children whose cases not only came to the attention of authorities but also whose cases were substantiated. Typically, children's disclosures are an important element of substantiation. Moreover, the children were probably interviewed several times and possibly encouraged to continue to disclose, with the interview that was studied not necessarily being the first one. Thus, these studies likely underestimate the extent to which children deny sexual abuse when questioned, because children who deny such abuse when questioned at not substantiated as abused (Lyon, in press). London et al. also concluded that the rate of recantation of abuse claims is quite low.

Subsequent research challenges some of these conclusions. For instance, Malloy, Lyon, and Quas (in press) examined the prevalence and predictors of recantation among over 200 substantiated cases of child sexual abuse. A 23.1% recantation rate was observed, which is higher than that implied by the London et al. (2005) review. Moreover, it was found that child sexual abuse victims who were more vulnerable to familial influences were more likely to recant (see also Lawson & Chaffin, 1992). The alternative hypothesis, put forth by London et al. that the recantations resulted from initially false allegations, was not supported by the actual data.

The findings by such researchers as Quas and Malloy (e.g., that blatant misinformation given soon after an event can actually at times bolster children's accuracy; that recantation rates of true abuse may be higher than formerly believed) remind us how careful one must be in forming conclusions about children's memory accuracy, suggestibility, false memory formation, and abuse disclosure. Although we have learned a great deal over the decades about child witnesses, perhaps the most important lesson is that simple answers are rarely justified. This might be the case in psychology more generally, but in the case of child eyewitness testimony, the importance of legal applications of the findings has sharpened the scientific debate and made the complexity of both the findings and the real-life situation to which they apply more salient.

What Lies Ahead?

There is still a great deal for child witness researchers to discover and explore. As should be apparent from the present history, high-profile legal cases have influenced the scientific study of children's eyewitness memory and societal views of child witnesses. Similarly, new cases may determine, at least in part, the future

course of this field of study and future views of child victims. Despite that unknown, here I mention six broad areas in need of research.

First is the issue of children's disclosures. Because most children disclose sexual abuse to their mothers and such interviews are rarely videorecorded, more research is needed on maternal interviewing and mothers' reports of such interviews (Bruck, Ceci, & Francoeur, 1999; Goodman, Sharma, Thomas, & Consideine, 1995). Moreover, parents differ considerably in how they react to disclosure, with some parents being highly supportive, but others being highly punitive and accusatory toward the child (Goodman et al., 1992). Understanding the effects on children's mental health and subsequent statements of such parental reactions would be valuable.

The second broad area concerns children's memory and suggestibility. The effects not only of cognitive developmental factors but also of socio-emotional factors should be of considerable interest to child witness researchers. For instance, the influence of family and motivational factors on child memory and suggestibility needs more research. Also regarding children's memory and suggestibility, the development of techniques to aid accurate memory, especially in very young children, such as 3-year-olds, is sorely needed.

Third, there is little research on the child forensic interview centers I mentioned earlier, known as CACs or MDICs, so we do not know how well they are serving their intended purpose. Although one current research project is investigating the success of CACs as indicated by families' reactions and the case outcomes (Simone, Cross, Jones, & Walsh, 2005), we do not know how successful the professional interviewers are at avoiding leading questions.

Fourth, we have more to learn about the effects of trauma and psychopathology on child witness memory. Recent research seems to indicate that, if anything, greater traumatization is associated with more, not less, accurate long-term memory for child sexual abuse when adults are interviewed about childhood victimization (e.g., Alexander et al., 2005). However, the field needs to know if such findings generalize to children. Moreover, such accuracies in memory could be accompanied by inaccuracies about surrounding but still pertinent forensic information. To the extent that various symptoms of psychopathology influence memory, we need research to understand the effects of such symptoms on memory development.

In all of this work, issues of ecological validity remain important if we hope to apply the findings to real cases. In an otherwise sad development in sexual abuse perpetration, there is now often evidence useful for scientific study in records of actual assaults in the form of videotapes, photographs, and computer files, permitting researchers to examine children's memory accuracy and disclosures in real cases in which "ground truth" (what really occurred) is documented (e.g., Bidrose & Goodman, 2000; Sjöberg & Lindblad, 2002). Thus, a fifth area concerns such ecologically valid research, especially if internal (scientific) validity can also be preserved.

Finally, there are also a host of theoretical issues to be addressed. Additional research that tests theoretical explanations for why young children are more suggestible and have less accurate memories than adults is still a priority. Source Monitoring Theory (Johnson, Hashtroudi, & Lindsay, 1993) and Fuzzy Trace Theory (Brainerd & Reyna, 2002) have both been heavily relied upon in recent years. Ghetti's work on metacognitive heuristics, based on research by Stark and Bless (1994), offers another theoretical approach of interest (Ghetti & Alexander, 2004).

Conclusion

In this article, although I have featured sensational cases that made the news, what is less apparent are the thousands of "ordinary" cases involving child victims or witnesses that do not garner media attention. These cases may involve a father who engages his child in pornography, a drug-addicted mother who in effect sells her child for occasional misuse by a molester, a grandfather who "humps" his grandchild when babysitting her, a neighbor who fondles a mentally retarded child, and so on. Anyone who works with CPS knows how many such cases there are. These "ordinary" abuse cases need more research attention. Such cases typically do not involve egregious interviewing by law enforcement officers or social workers. And yet because one usually never knows exactly what happened and exactly how the child was first interviewed, research on children's suggestibility may still be relevant and applied to such cases. I know from experience that, when defense attorneys are asked, they will often admit that over 90% of their clients are obviously guilty. Nevertheless, it is almost always possible to argue that in child sexual abuse cases you cannot believe the victim. Although the dilemma of when to believe children still haunts us in the 2000s, we have learned a great deal about children's eyewitness testimony thanks to the tireless work of child witness researchers. I am eager to see what the next 30 years will bring.

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