

## **From Post-Mortem to Preventive Medicine: Next Steps for Research on Child Witnesses**

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*We propose five directions for future child witness research, inspired by recognition of the day-to-day realities of the legal system and the opportunities of psychology to react proactively to challenges child witnesses face. These directions include (1) the refinement of developmentally sensitive questioning aids that increase completeness without increasing suggestibility, (2) the development of approaches to non-disclosure and recantation, including understanding of the reasons underlying non-disclosure and the potential for building rapport and increasing trust, (3) the construction of interventions that meet mental health needs of child-victim witnesses without creating false memories or tainting testimony, (4) a focus on details of children's narratives that are often lacking, including temporal information and emotional reactions, and (5) expanding our attention beyond child sexual abuse allegations in criminal court and considering the many contexts in which child witnesses are questioned, including areas in which preferences rather than memories are elicited.*

The high profile preschool sexual abuse allegations of the late 1980s and early 1990s sharpened the focus of a relatively new field in developmental psychology devoted to examining the reliability of child witnesses (Goodman, this issue). The

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primary issue has been whether young children can be led by biased interviewing into making (and believing) false allegations of sexual abuse, and researchers have testified as expert witnesses in court, critiquing the investigative methods of social workers, the police, and psychologists (Bruck, Ceci, & Principe, *in press*). To some extent, debates over these issues continue, both among psychologists (Goodman, *this issue*) and participants in the legal process (e.g., Lyon, 2002a).

The debates have spurred interest among a generation of child witness researchers, and increased the attention paid investigative methods by legal policymakers. At the same time, disagreements over young children's allegations of sexual abuse should not obscure promising future directions for child witness researchers. The field is very broad, and there are a number of underexplored areas in which innovative research can thrive.

Two themes motivate the potential we envision for the future. First, researchers should keep abreast of what typically occurs in cases involving child witnesses, rather than rely on cases they read about in the media or through individual requests for legal consultation. This will increase the generalizability and hence relevance of their research, and will provide opportunities for identifying recurrent yet unpublicized difficulties child witnesses encounter. Determining what "typically occurs" is itself a fruitful area for observational research. Second, psychologists should not be merely reactive, criticizing deficiencies in how others have questioned children, but should be proactive, by developing, testing, and implementing improved interviewing techniques. Hence our title, emphasizing a shift from post-mortem criticism of completed investigations to a model in which psychologists work with interviewers in developing evidence-based techniques. Under this model, psychologists are engaged with the day-to-day realities of child witnesses in the legal system, and observational and laboratory research are mutually reinforcing.

Future directions will evolve out of the history of child witness research since the 1980s. First, dramatic demonstrations of how preschool children's reports can go wrong led to the recognition that within a very narrow age range—from 3–6 years of age—children's vulnerability to suggestion undergoes major changes (e.g., Leichtman & Ceci, 1995), which in turn spurred a search for mechanisms of suggestibility and how they can be understood in terms of cognitive and social development (e.g., Welch-Ross, 2000). On the applied side, the methods used by the suggestibility researchers to obtain effects spurred efforts to determine how common such methods are in the field, and whether interviewers<sup>1</sup> behavior can be changed. One particularly promising future direction is expanding work on developmentally sensitive questioning aids that take account of the mechanisms underlying suggestibility (e.g., Lamb & Brown, 2006).

Second, focus on false allegations led researchers to question justifications abuse investigators have made for the use of suggestive techniques, leading to a resurgence of interest in the observational research on the prevalence, dynamics,

and disclosure of child maltreatment (e.g., London, Bruck, Ceci, & Shuman, 2005). The fact that true cases are often undetected due to the reticence of victims suggests that another promising future direction is to identify methods of encouraging ambivalent witnesses to reveal embarrassing and stigmatizing information. Whereas suggestibility research has focused primarily on how children's reports are shaped by the motivations of interviewers, research on non-disclosure and recantation will focus on how children's own motivations and the motivations of family members shape children's narratives. Historically, work with reluctant individuals has been the province of clinical psychologists, whose methods for building trust may teach us about interviewing strategies.

Third, suggestibility findings heightened concern that if child witnesses engage in therapy while involved in lengthy legal proceedings to treat post-traumatic symptoms, therapists will use questionable techniques, creating false allegations or distorting genuine memories (Lynn, Lock, Lofus, Krackow, & Lillienfeld, 2003). These children constitute a high-risk population and if not referred to clinicians, their mental health needs would remain unidentified and unmet, already a serious problem in the United States in which only half the children with mental health problems actually receive services (Burns et al., 1995). This is particularly alarming when children are seriously depressed and suicidal, when they begin victimizing other children, or when untreated symptoms become chronic and resistant to treatment. Numerous reviews and meta-analyses of child treatment outcome studies conclude that efficacious treatments exist (e.g., Saywitz, Mannarino, Berliner, & Cohen, 2000; Kazdin & Weisz, 2003). Withholding treatments that work from children in need to protect testimony from contamination creates an ethical dilemma. The solution is greater cross-pollination of the child witness and treatment outcome fields to produce research paradigms that neither field could successfully develop alone. One new avenue of research is to identify viable intervention strategies for children involved in both the legal and mental health systems to test their efficacy for forensic and therapeutic goals.

Fourth, researchers are in the process of rediscovering the original focus of eyewitness research; the likelihood of distortions or omissions in details rather than wholly false reports (e.g., Loftus, 1979). The emphasis may be expanded because research can demonstrate how to improve children's testimony as much as reveal its deficiencies, and because distortions and omissions are a concern in true reports as well as false reports. The areas to explore are as broad as psychology itself, so we will focus on a few: children's ability to recall temporal information, including sequence and enumeration, and their ability to articulate their emotional reactions to abuse.

Fifth, the original emphasis on allegations of sexual abuse has expanded to include other kinds of cases involving child witnesses, including other types of child abuse, children's exposure to domestic violence, and other crimes within the

family. Similarly, children's testimony in these areas is often not only factual but also attitudinal, which raises the need for research on how children's desires and values can best be elicited, and whether they are easily influenced.

*From Young Children's Errors to Improving Children's Performance*

Beginning with Gail Goodman and her colleagues' work in the 1980s, researchers focused much of their energies on exploring the suggestibility of preschool children. Goodman's finding that even the youngest children were usually resistant to questions about abuse-like behaviors (e.g., Goodman & Reed, 1986) spurred research demonstrating that if the pressures on the child were increased, false reports also increased, even if the events in question were negative and painful. Coercive methods used by investigative interviews in the highly publicized day-care sexual abuse cases were modeled by laboratory researchers, spurring a second wave of suggestibility research (Bruck, Ceci, & Hembrooke, 1998).

Moving beyond leading questions, this research examined the effects of telling (as opposed to asking) preschool children about non-events, applying authority and peer pressure, inducing negative stereotypes regarding the alleged perpetrator, and encouraging children to imagine and confabulate events and event details. A series of now-classic studies in the 1990s demonstrated the potentially dramatic effects of these techniques (Bruck, Ceci, Francouer, & Barr, 1995; Ceci, Huffman, Smith, & Loftus, 1994; Ceci, Loftus, Leichtman, & Bruck, 1994; Garven, Wood, Malpass, & Shaw, 1998; Leichtman & Ceci, 1995; Lepore & SESCO, 1994; Poole & Lindsay, 1995). Indeed, the research demonstrated that if children were young enough, even methods once asserted to be innocuous and facilitative, such as yes/no questioning with anatomically detailed dolls, could lead to high rates of error (Bruck, Ceci, Francouer, & Renick, 1995).

The fact that most research finds age differences in suggestibility, with preschool children the most suggestible (Ceci & Bruck, 1993), led researchers to examine abilities that develop rapidly over the preschool years and which might underlie suggestibility. One candidate is children's understanding of their own and others' mental states. During the preschool years children develop an understanding of the means by which knowledge is acquired and the possibility that beliefs are false. They become better able to distinguish between events they have personally experienced and events about which they have been told, or heard, or imagined, a process known as source monitoring. Researchers have identified links between age trends in suggestibility and the acquisition of source monitoring abilities (Robinson & Whitcombe, 2003; Welch-Ross, 2000).

This research, in turn, has inspired attempts to improve children's performance through various forms of source monitoring training (Bright-Paul, Jerrold, & Wright, 2005; Thierry, Goh, Pipe, & Murray, 2005). A natural progression of

research has emerged: discovery of age differences has led to greater understanding of the mechanisms by which suggestibility operates, and this in turn has led to efforts to reduce suggestibility through manipulation of the mechanisms.

One of the most promising future directions is to further develop and test interview instructions that are easy to learn and quick to implement—given the realities of investigative interviewing and the time limits and short tenures of investigative interviewers in the field. The need for interview instructions evolved from research finding that children rarely answered “I don’t know” to closed-ended questions (Dent & Stephenson, 1979), often failed to signal incomprehension (Carter, Bottoms, & Levine, 1996; Perry et al., 1995; Saywitz, Snyder, & Nathanson, 1999), and deferred to interviewers in part because they assumed the interviewer was knowledgeable (Ceci, Ross, & Toglia, 1987; Kwock & Winer, 1986). These difficulties likely have their roots in children’s emergent abilities to monitor their knowledge and comprehension, and to understand the origins of knowledge in others.

Instructions that have some effect include teaching the child that it is acceptable to say “I don’t know” (Gee, Gregory, & Pipe, 1999; Saywitz & Moan-Hardie, 1994), to say “I don’t understand” (Peters & Nunez, 1999; Saywitz, Snyder, & Nathanson, 1999), and that the interviewer doesn’t know the answers to his or her questions (Mulder & Vrij, 1996; Saywitz & Nathanson, 1993). Some form of feedback is generally required, both to encourage the child to use the response, and to discourage the child from overusing the response (e.g., from answering “I don’t know” indiscriminately) (e.g., Saywitz & Moan-Hardie, 1994).

One concern is that overloading children with instructions will decrease the efficacy of instructions, necessitating research into their use in combination. A second concern is that interviewing under less than optimal conditions will render instructions less effective, necessitating field testing. A third problem is that very young children are less likely to benefit from instructions, because they are not capable of the metacognitive processes necessary (Ellis, Powell, Thomson, & Jones, 2003). Instructions have their greatest potential with grade school children who have recently acquired the necessary metacognitive skills. If preschool children lack some ability, grade school children likely need support in using that ability.

Researchers should not be ashamed to focus their energies on improving the performance of grade-school children. Although the cases that received the greatest publicity and spawned the early researchers’ interests were preschool sexual abuse cases, most child witnesses in such cases are school-aged, despite the fact that in sexual abuse, external evidence increases the need to put the victim on the stand, regardless of age. Research on child sexual abuse prosecutions in the 1990s found that only 20% of sexual abuse cases reaching the charging stage of criminal prosecution involved preschool children (Goodman, Taub, Jones, & England, 1992; Gray, 1993; Stroud, Martens, & Barker, 2000), and cases involving

young children are less likely to survive the screening process (Stroud, Martens, & Barker, 2000). In a review of several years of criminal prosecution of child sexual abuse in a large urban county, we are finding that in over 250 cases that went to trial in the late 1990s, with over 400 child witnesses, only 5% were 6 years old or younger, and 5 years was the youngest age at which any child qualified to testify (Lyon & Friedman, 2006).

Several legal barriers exist to keep most young children off the stand, at least in the United States. Most courts in the United States require that children demonstrate an understanding of their obligations under the oath, which, particularly given questioning practices, disqualifies most preschool children (Lyon, 2000). Moreover, most child witnesses testify in open court, regardless of legal reforms allowing for shielding child witnesses in cases where the child would be traumatized by facing the accused. These reforms are rarely utilized, for reasons which range from prosecutorial desires to let the jury see the child first-hand to defense insistence upon the right to confrontation to technological limitations (Goodman, Quas, Bulkley, & Shapiro, 1999).

Indeed, an emphasis on examination of preschool children, with their special vulnerabilities to suggestion, risks skewing our understanding of child witnesses' capabilities. In the 1990s, researchers emphasized the "dramatic age differences" between 3-year olds and 6-year olds (Leichtman & Ceci, 1995), as well as the consensus among studies that preschool children are the most vulnerable to suggestion (Ceci & Bruck, 1993). This was a healthy reaction to claims, primarily in the legal literature, which misinterpreted Goodman's research as demonstrating that preschool children are no more suggestible than adults (Lane, 1987).

More recently, some researchers have argued that age differences may have been exaggerated (Bruck & Ceci, 2004), because some studies fail to find age differences. However, we would caution that just as it was a mistake to overclaim young children's invulnerabilities, it is a mistake to overclaim older children's failings. For example, one will find an absence of age effects if one counts the number of false details in older children's recall (rather than calculate percentages), because older children will produce a far higher number of details overall (Poole & Lindsay, 2001). Alternatively, one may find a lack of age differences if one first controls for a measure of suggestibility that is itself correlated with age (Finnila, Mahlberga, Santtilaa, & Niemib 2003). Different approaches to analysis should not obscure the very real differences between preschool children and older children in witnessing abilities.

#### *From Suggestive Techniques in the Lab to Examining and Improving Interviews in the Field*

Original demonstrations of children's potential suggestibility did not address the issue of how frequently the techniques studied were used in actual cases.

Researchers simply did not know what typical interviews were like, because actual interviews had never been systematically explored (Bruck & Ceci, 1995). Some of the more recent demonstrations have explicitly acknowledged uncertainty regarding the use of the interview techniques in routine abuse investigations (Garven, Wood, & Malpass, 2000; Garven, Wood, Malpass, & Shaw, 1998).

A new area of research emerged in which researchers examined actual interviews and tallied frequencies of various sorts of suggestive influences. The research had obvious legal implications. If the techniques were common, then systemic change was called for, rather than the isolated criticism by expert witnesses of interview techniques in individual cases. On the other hand, if the techniques were uncommon, then the results of suggestibility research should only be presented in those limited situations where it was clear that interviewing went astray. The courts require that before expert testimony be admitted, there be a demonstration that the evidence “fit” the facts of the case. If the interviewing used in the research, however, was more coercive than the interviewing in the case at hand, expert testimony on the suggestibility of children should be excluded (Lyon, 2002a). Such a result seems sensible in light of evidence that jurors are not adept at recognizing when expert testimony is inapplicable to a particular case (Kovera, Gresham, Borgida, & Gray, 1997).

The research on actual interviewing revealed clear deficiencies in interview quality. Generally speaking, there was little effort directed at instructing children on the ground rules of interviewing, building rapport with the children, and practicing narrative responses before moving to the topic of interest, despite empirical support showing these techniques improve children’s reports. Moreover, investigators tended to ask recognition questions (yes/no and forced-choice) rather than recall or cued-recall questions (Cederborg, Orbach, Sternberg, & Lamb, 2000; Lamb, Sternberg, & Esplin, 2000; Sternberg, Lamb, Davies, & Westcott, 2001; Warren, Woodall, Hunt, & Perry, 1996). Most troubling was the fact that approximately 5–15% of the questions clearly evinced a preference for a particular answer, thus revealing the bias of the questioner (Cederborg, Orbach, Sternberg, & Lamb, 2000). On the other hand, the techniques favored by the dramatic demonstrations of preschooler’s suggestibility, such as telling children that events had occurred, providing children details from authority figures or other child witnesses, and encouraging confabulation and imagination, were used much less frequently (Schreiber et al., 2006; Warren, Woodall, Hunt, & Perry, 1996; Warren, Nunez, Garven, Walker, & Woodall, 2000).

As with all field research, the research has its own limitations. One primary problem is that the truth is unknown. So, for example, when a researcher finds that 10% of the questions are what one might call “leading,” one cannot say to what extent the 10% reflects misleading questions (which presumably will impair the child’s performance), or correctly leading questions (which will not affect accuracy adversely).

An innovative solution is to combine the strengths of observational research on actual interviewing practices with the strengths of laboratory research, by giving actual child interviewers free rein to interview children about events under the experimenters' control (Gilstrap, 2004; Gilstrap & Ceci, 2005). In some ways, the results confirmed what had been learned in the field studies: the most aggressive techniques were relatively rare (such as asking children to imagine events), whereas recognition questions were common, interviewers taking information they had learned "might" have occurred (from information supplied by the experimenters) and building them into yes/no questions (Gilstrap, 2004). In other ways, the results suggested that the field studies might overstate concerns, because at least half of the questions that preferred a particular response preferred a correct response (probably due to correct inferences by the interviewers), and because the researchers had difficulty in finding a link between the questions they classified as suggestive and decreases in accuracy (Gilstrap & Ceci, 2005). Most provocatively, the research suggested that children's answers may have a larger effect on interviewer's questions than vice versa (Gilstrap & Papierno, 2004), thus generating a new source of concern about the external validity of laboratory studies in which the questions are rigidly scripted, and opening up a new area for research.

The turn in child interview research from anecdote-driven to empirically-driven methods has had a number of beneficial effects. First, laboratory research will have greater applicability to real-world interviews as researchers examine the costs and benefits of more common approaches such as yes/no questions (Fritzley & Lee, 2003; Peterson & Biggs, 1997; Peterson, Dowden, & Tobin, 1999), forced-choice questions (Peterson & Grant, 2001), and repeated questions (Howie, Sheehan, Mojarrad, & Wrzesinska, 2004; Poole & White, 1991). Second, laboratory research will be reinvigorated by examination of potential sources of error uncovered by field research, such as misquoting a child's report (Roberts & Lamb, 1999) or the use, early in an interview, of a single, strong suggestion (Gilstrap & Ceci, 2005).

Third, it has spurred greater attempts at operationalization of vague terms such as "leading," "suggestive," and "misinformation," given awareness of the importance of question-type in assessing interview quality. As just one example: are yes/no questions "leading"? In their field research, Lamb and his colleagues originally classified yes/no questions as "leading," (Lamb, 1996) but have subsequently classified them as "option-posing" (Lamb, Sternberg, & Esplin, 2000). Conversely, Ceci and Bruck's review of 100 years of literature on children's witnesses usually treated yes/no questions as non-leading (Ceci & Bruck, 1993), whereas Ceci has subsequently argued that they should be considered leading (Ceci & Friedman, 2000). In the future, researchers will wish to exercise more care in the use of terms like "leading" and "suggestive" because of their elusive definitions and their question-begging connotations.

But certainly the most significant advantage of greater attention to interviewer practice is the increased focus on research designed to improve interviewing. Great progress has been made in developing evidence-based approaches to forensic interviews building on the Step-Wise interview (Yuille, Hunter, Joffe, & Zaparniuk, 1993), the Cognitive Interview as modified for use with children (Geiselman & Padilla, 1988; McCauley & Fisher, 1995; Saywitz, Geiselman, & Bornstein, 1992) and the Narrative Elaboration procedure (Saywitz & Snyder, 1996; Saywitz, Snyder & Lamphear, 1996; Camparo, Wagner, & Saywitz, 2001). The most sustained effort in this regard is that conducted by Michael Lamb and his colleagues, developers of the NICHD Structured Interview Protocol (Pipe, Lamb, Orbach, & Esplin, 2004).

There are several notable components of this protocol, each of which evolved from different areas of research. First, as discussed above, interview instructions guide the child through the ground rules for the interview, including the acceptability of responses indicating ignorance, miscomprehension, and disagreement with the interviewer. Second, during narrative elaboration the child practices providing narrative responses to recall and cued-recall questions about non-abuse topics. The technique has been shown to increase productivity of children's responses to open-ended questions (Roberts, Lamb, & Sternberg, 2004; Sternberg et al., 1997) without reducing accuracy (Camparo, Wagner, & Saywitz, 2001, Dorado et al., 2001; Saywitz & Snyder, 1996). Third, the interviewer asks open-ended questions, both in introducing the abuse topic and in eliciting further details of the event. Lamb and his colleagues have found that most children who disclose abuse in response to their protocol can do so without resorting to questions that would raise concerns among suggestibility experts (Lamb et al., 2003). Moreover, children disclosing abuse provide more details to open-ended questions than to the yes/no and forced-choice questions preferred by many interviewers (Sternberg et al., 2001).

Ironically, a primary result of the research on improving interviews is that it has revealed how common techniques are likely to suppress details from children who have in fact been abused. Whereas much of the motivation was to avoid false allegations of abuse, perhaps the greatest beneficiaries are true allegations that would otherwise be undermined as insufficiently detailed. Furthermore, the beneficial effects of narrative practice and open-ended follow-up questions are multiplied several-fold among grade school children, the most common child witnesses (Lamb, Sternberg, & Esplin, 2000).

An example of how children's failure to elaborate in responding to yes/no and other closed questions leads to juror skepticism can be found in the Alex Avila case, discussed by Goodman (this issue), in which the defendant was convicted and sentenced to death for the abduction, rape, and murder of a 5-year-old girl. Two years before the murder, Avila had been acquitted of molesting two 9-year-old girls, in spite of the testimony of both girls describing abuse, child pornography

found in his room, and his admissions that he had touched one of the girl's vaginal area a number of times (but only to apply suntan lotion). In that trial, the jury was not convinced by the testimony of the two girls because of the lack of detail, as one juror later explained, "Everything was yes, yes, yes." (Riverside Press Enterprise 8-15-02 (2002 WL 21279565). The transcript is replete with complex yes/no questions asked the children by both the prosecution and defense (Lyon, 2002a).

### *From False Positives to False Negatives*

Policymakers are accustomed to a swinging pendulum when it comes to child protection. Excessive removal of children leads to a backlash against child protection, resulting in less intervention. A child then dies in the home, apparently ignored by child protection, which then results in knee-jerk removal of children from their homes. Similarly, the prosecutorial excesses of the 1980s led to greater skepticism about child witness reliability, which has spurred judicial moves to cut back on the liberalization of evidentiary rules regarding children's allegations of abuse (Idaho v. Wright, 1990; Tome v. United States, 1995).

Whereas potentially false convictions of sexual abuse have received a great deal of attention (e.g., Gross, Jacoby, & Matheson, 2005), approximately 90% of sexual abuse reported by adults in large-scale population surveys was never reported to authorities (Freyd et al., 2005). Furthermore, reporting to authorities does not always result in prosecution. A recent meta-analysis of processing of sexual abuse cases found that whether cases are presented to the district attorneys by the police, and in turn accepted for prosecution, varies widely among jurisdictions (Cross, Walsh, Simone, & Jones, 2003). Prosecution, in turn, does not guarantee a guilty verdict. Although the vast majority of cases ultimately filed are plea-bargained (typically through a no-contest plea), the small percentage of cases that reaches trial results in acquittals about 25% of the time (Cross, Walsh, Simone, & Jones, 2003). A fruitful area for future research is an examination of the factors that may have affected verdicts in abuse prosecutions through analysis of children's testimony and other evidence in the case.

Most adults reporting abuse to surveys also state that they never told anyone—not even friends or family members—about the abuse while they were children (Freyd et al., 2005). Moreover, most disclosures of substantiated cases of sexual abuse occur years after abuse began, leading reviewers to conclude that secrecy is a common characteristic of abused children (London, Bruck, Ceci, & Shuman, 2005; Lyon, 2002b; Paine & Hansen, 2002). How children can be convinced to give up this secret is the subject of some dispute. Some reviewers have argued that most abused children will disclose abuse if asked, which makes non-disclosure in the face of questioning strong evidence against abuse (London, Bruck, Ceci, & Schuman, 2005). The argument relies on the fact that most children in

substantiated samples of child sexual abuse disclose their abuse. However, this fact says as much about how abuse is suspected and substantiated as it does about the willingness of children to disclose. To the extent that suspicions and substantiation are dependent upon disclosure, substantiated samples will disproportionately contain children uncommonly forthcoming about their abuse. Research on children suspected and substantiated as abused through means other than disclosure (such as sexually transmitted diseases) consistently demonstrates that only about half of abused children will disclose abuse when first questioned (Lyon, *in press*).

What is not known is how best to encourage non-disclosing abuse victims to acknowledge abuse. The few studies that have followed non-disclosing abused children over time find that most children eventually disclose (Chaffin, Lawson, Selby, & Wherry, 1997; Farrell, Billmire, Shamroy, & Hammond, 1981; Ingram, Everett, Lyna, White, & Rockwell, 1992; Shapiro, Schubert, & Myers, 1993), but the subsequent interviews are neither documented nor structured, and may have been highly suggestive. A model study would examine disclosure and non-disclosure of children with external evidence of abuse interviewed with a structured protocol.

Laboratory research has shown that children can indeed be induced to keep secrets about wrongdoing (Bottoms, Goodman, Schwartz-Kenney, & Thomas, 2002; Ceci & Leichtman, 1992; Pipe & Wilson, 1994) and that more direct questioning leads to more disclosure (Pipe & Wilson, 1994). Because direct questioning increases the risk of false positives, other approaches must be developed. Eliciting a promise to tell the truth has been found to reduce reluctance to disclose (Talwar, Lee, Bala, & Lindsay, 2004), and there is evidence that it does not increase false positives (Lyon & Dorado, 2006). A fruitful area for further research is examination of the influences that determine whether children will keep secrets, including pressures from authority figures, shame, and embarrassment, and the possibilities for convincing children to disclose information important to their welfare. If methods are found that increase true disclosures without increasing false positives, they can then be tested in the field.

One potentially fruitful avenue of research is to mine the clinical literature for ideas about how to relate to and communicate with resistant children and then to subject clinical techniques to an empirical test of their effects on memory and resistance. Clinical studies have shown that maltreated children have more difficulty establishing rapport with professionals than other children with mental health problems, even when severity of symptomatology is controlled (Eltz, Shirk, & Sarlin, 1995). They are at higher risk for problematic interpersonal relationships (e.g., Cicchetti, 1987; Shirk, 1988). Moreover, researchers find sexually abused preschoolers to be more controlling and less responsive to examiners than control groups (Toth, Cicchetti, Macfie, & Emde, 1997). However, efforts to develop rapport in child witness studies are cursory interchanges that are not designed to

overcome high levels of fear or inordinate concerns about safety, trust, embarrassment, or betrayal.

Trusting the interviewer is a pivotal issue for children's disclosure, yet we know little about how children decide whom to trust and whom not to trust, especially children who have been maltreated, threatened, or disbelieved by adults in the past. Clinicians rarely assume patients are eager to raise painful or embarrassing topics. Efforts to normalize ambivalence and side-step resistance, rather than confront it head-on, are common trust-building techniques (e.g., "People often have mixed feelings. Part of the person wants to do something, talk about something, another part doesn't." or "People often have good reasons for doing what they do. You said you don't want to talk today. You probably have a good reason, too."). Similar to studies showing positive effects of social support on children's reports (Bottoms, *in press*) or comparing interview protocols in the field (Lamb, Sternberg, & Esplin, 2000), normalizing and empathic comments could be phrased in non-leading fashion, employed when open-ended questions are met with silence, and their effects tested (Saywitz & Esplin, *in press*). Efforts to normalize reasons for acquiescing to suggestive questions (e.g., fear of adult anger, or disapproval) were found to be associated with improved recall and reduced suggestibility (Saywitz & Moan-Hardie, 1994).

Understanding recantation is another fruitful area for future research. Most children who have disclosed abuse to authorities, are willing to disclose again, and can usually do so without excessive prompting (Lamb et al., 2003). When a child recants, however, there is disagreement over whether the initial allegation should be believed. Some have argued that recantation is strong evidence that abuse did not occur, because recantation is very rare among cases most likely to be true allegations (London, Bruck, Ceci, & Shuman, 2005). However, a recent investigation examining a dependency court sample over time found a high rate of recantation (almost one-fourth of cases), and found that recantation was related to indices of filial dependency (abuse by a household member, non-supportive mother, young child) but not to indices of truth or falsity (Malloy, Lyon, & Quas, *in press*). As with the research on non-disclosure, however, research on recantation in which the contents of the interview are known is needed.

Surprisingly, recantation has not been studied in the lab. We do not know how easy it is to convince a child to report that a real event never occurred. In the field, researchers have documented the efforts of defense attorneys to undermine children's credibility through cross-examination (Goodman, Taub, Jones, & England, 1992; Gray, 1993). Only recently has research examined cross-examination tactics in the lab in order to test its effects on accuracy (Zajac & Hayne, 2003, 2006). Despite the legal maxim that cross-examination is "the greatest legal engine ever invented for the discovery of truth," (Wigmore, 1905), the research suggests that children's accuracy declines in the face of such questioning.

*From Polarization to Integration of Forensic and Therapeutic Research*

In the 1990s there was growing concern in scientific, media, and legal circles about the dangers of memory-recovery techniques used in therapy, like hypnosis, to create false memories of abuse in non-abused patients (Lynn, Lock, Lofus, Krackow, & Lillienfeld, 2003). Yet despite the grave concerns, there is virtually no research on how to meet child witness mental health needs without tainting their reports. The number of child victims with mental health problems in need of treatment is not insignificant (Saywitz, Mannarino, Berliner, & Cohen, 2000). While some children show no detectable negative effects of abuse, others show highly adverse reactions, including suicidal ideation, anxiety, depression, aggressivity, and post-traumatic stress (e.g., Kendall-Tackett, Williams, & Finkelhor, 1993). Studies have estimated that up to 50% of sexual abuse victims exhibit symptoms of Post-Traumatic Stress Disorder (e.g., McLeer et al., 1998). Moreover, children with pre-existing mental health problems are at higher risk for abuse than children in non-clinical samples (e.g., Sullivan & Knutson, 2000).

Given the pace of the legal system, children are often referred to treatment while still involved in protracted legal proceedings. This is true for those who make clear disclosures that are readily substantiated and who are then referred to treatment for post-traumatic symptoms, and true for children whose forensic interviews are inconclusive (i.e., evidence consistent with abuse but not strong enough to substantiate or reject adult concerns). The latter are referred to treatment to monitor high-risk behaviors (e.g., sexual overtures to other children), suspicious behaviors (e.g., age-inconsistent sexual behavior) as well as psychiatric symptoms (e.g., nightmares, sleep disorder, anxiety, flashbacks).

An array of treatments are available in the community, from psychotropic medication to play therapy, but they were not designed to preserve or protect the reliability of children's statements. They vary widely in the level of empirical support available for their efficacy with regard to symptom reduction and in terms of how much their efficacy depends on discussion of the facts of the case, thus how great or how little the risk of contamination or false accusation. For example, psychopharmacological interventions for Post-Traumatic Stress Disorder may involve no discussion of the facts of the case whatsoever, however, there is little empirical support for their efficacy at this time (Cohen, Berliner, & Mannarino, 2003). The child therapies with the most empirical support from well-controlled, treatment outcome studies using randomized-controlled trials across multiple sites are the trauma-focused cognitive behavioral techniques (TF-CBT) (e.g., Cohen, Deblinger, Mannarino & Steer, 2004); however, they typically involve some discussion of the traumatic event. The fact that efficacious therapies exist makes it that much harder to justify withholding treatment from children who demonstrate serious symptoms when forensic and therapeutic goals conflict.

We believe that a productive line of research would be one that explores whether evidence-based treatments can be conducted with child witnesses in ways that are unbiased, non-leading, and still effective. Below we suggest a few evidence-based treatments as candidates for future research that vary greatly in terms of how much they rely on detailed case discussion. First, techniques that teach children how to cope with negative affect generally might be particularly useful when forensic interviews have been inconclusive, such as emotional expression skills training (e.g., Joseph & Strain, 2003). Children learn to label, communicate, and cope with their feelings rather than avoid them.

During therapy, children practice new coping skills in regard to distressing situations they identify themselves, hence the discussion need not necessarily be about abuse; although the child may bring up the topic of abuse spontaneously or in response to open-ended probes about what makes them happy or sad. There is no reason to think that such a discussion requires suggestive techniques to be effective. Simply asking children to recall an event again and again with open-ended questions does not necessarily have a detrimental effect on memory, and may even help children consolidate memory over short delays (e.g., Memon & Vartoukian, 1996; Fivush, Peterson, & Schwarzmueller, 2002; Poole & White, 1991). In fact, when suspicions of abuse are unfounded, emotional expression skills training may enable children to more definitively reject vague concerns by adults regarding the possibility that a child has been abused. Studies are needed to determine whether therapists can explore past events in a non-leading format using open-ended questions and still effectively teach new coping skills that generalize outside the therapy office. Studies that integrate treatment outcome designs with child witness paradigms could set guidelines for therapists when children raise forensically sensitive material in therapy (Saywitz & Esplin, in press).

Techniques such as gradual exposure and systematic desensitization are typically utilized only in cases where allegations are substantiated. This is because they require greater discussion of the traumatic event, although not speculation or fantasy. Often children learn to cope with painful memories by learning to avoid topics, conversations and other reminders that evoke anxiety. When avoidance succeeds in reducing anxiety, it is positively reinforcing in and of itself. To address the avoidance, children generate a list of anxiety-provoking (feared/upsetting) stimuli and are asked to recall items on the list, describing the scene clearly. The therapist asks the child what he/she was thinking or feeling at the time and what happened next. The goal is to sit with the anxiety during retelling until it dissipates, without resorting to avoidant strategies, using newly learned coping strategies instead (e.g., muscle relaxation) (Deblinger & Helfin, 1996). These techniques enjoy high levels of empirical support (Kendall, Aschenbrand, & Hudson, 2003). Researchers could examine how to implement exposure-based techniques with recall of traumatic events unrelated to abuse and known to have occurred, like memories of earthquakes, terrorist attacks, or car accidents.

One final example is cognitive coping skills training, an integral component of TF-CBT, but farther along the continuum of techniques that could influence memories. Children learn to dispute negative, maladaptive, intrusive thoughts related to abuse and change them into more positive ones. Abuse-related attributions are challenged (e.g., confusion about causes for abuse, over-personalized explanations for who is responsible [e.g., self-blame], misperceptions about sexuality and body image). For example, children might role play what advice they would give friends to convince them that their negative thoughts are not true. Children's recall could be studied in paradigms where their attributions about confusing or ambiguous staged events are challenged to develop guidelines and precautions for therapists treating children awaiting trial. With the advent of evidence-based child therapies and forensic interview protocols (Kazdin & Weisz, 2003; Pipe, Lamb, Orbach, & Esplin, 2004), the time is right for partnership, rather than polarization, of forensic and clinical researchers.

#### *From Non-Events to Event Details*

When concerns that allegations of sexual abuse might be wholly untrue arose in the 1990s, critics argued that the suggestibility research demonstrated merely that details could be distorted, not that wholly false narratives could be created (Terr, 1994). Subsequent research on the creation of false memories has put that argument to rest (Loftus, 2004). In the future, researchers may return to the issues explored in the earliest research on eyewitness memory, in which a primary focus is the elicitation of details about an experienced event (Loftus, 1979).

The research on structured protocols, as noted above, has shown that as a general matter, open-ended questions will elicit more details per question than option-posing questions. However, in order to fill the gaps of a narrative, it may be necessary for interviewers to move toward more direct questioning. Hence, there is a need for further research on what sorts of abuse details it is reasonable to assume that child victims will remember, and how particular details can be maximized. The possible areas of research are as broad as developmental psychology itself. Here we will selectively review a few choice topics.

*Temporal aspects of events.* There are a number of ways in which children's understanding of temporal concepts is relevant to their performance as witnesses. Children are routinely asked about sequence, both within and between events, duration, temporal locations (such as dates), numerosity, and frequency. Laboratory research has examined the development of these concepts in children (see Friedman, 1992, for a review), but typically not on the same time scales as events of interest in court, which may have occurred more than one year (and often several years) previously. Moreover, research has tended to use recognition questions (e.g., Friedman, 1991), which increases the risk of error. Only very recently have

researchers begun to examine children's spontaneous production of temporal information in forensic interviews (Orbach et al., 2004).

Children's ability to recall sequential information is of obvious importance when a jury is asked to assess a child's credibility, and has been of theoretical interest to researchers in cognitive and language development. Recently, research has drawn connections between children's ability to recall sequence and the emergence of auto-noetic consciousness during the preschool years, in which one has an awareness of one's memories as reflecting one's experiences over time (Moore & Lemmon, 2001). Once children acquire the ability to sequence events, they must then gain facility in recalling and describing the events both forwards and backwards. Research in children's developing ability to narrate events has suggested that children are more proficient at recreating an event in the order in which it occurred, and therefore have difficulty with any question that requires them to reverse the actual order of events (Brown, 1976). Children must also grapple with the semantics and syntax of talk about sequence. Early research in language development has examined preschool children's difficulties with use of the terms "before" and "after" in sentences in which the order in which events are mentioned does not match the order in which events occurred (Clark, 1971), and even adults must expend greater effort in reading sentences that mention first what came last (Munte, Shiltz, & Kutas, 1998). Surprisingly little research has sought to map out children's emerging sequential abilities taking different difficulties into account. So, for example, it is not known if and at what age children's difficulty with recalling events in reverse order predominates over their difficulty with questions that reverse the order of mention.

The extent to which children's difficulties with sequence affects their performance as witnesses in court has received some attention (Richardson, 1993), though the focus has been on linguistic analysis rather than empirical test. Observational research can explore how children respond to such questions in actual interviews, and laboratory research can control for extraneous sources of difficulty and ask questions about events the truth of which is known.

Legal practitioners often assume that children should be capable of dating events with respect to personal time intervals, such as the child's age or the child's teacher at the time of the event (*U.S. v. Tsinhnahjinnie*, 1997), or landmark events, such as major holidays (*In the Interest of K.A.W.*, 1986). Little research exists to support such assumptions, and, in fact, there is recent evidence that children up to 12 years of age have difficulty in dating relatively recent events with respect to such landmarks (Friedman & Lyon, 2005). Moreover, legal practitioners often question children about their temporal understanding in order to determine whether children are competent to make temporal judgments, or whether their memory in general is likely to be accurate (*In the Matter of Dependency of AEP*, 1998). However, there is no support for the proposition that children's recall is related to their ability to date events, particularly when dating requires knowledge of conventional time

patterns or an ability to draw temporal inferences based on temporally relevant episodic information (Friedman & Lyon, 2005).

Children testifying to abuse and violence are often asked about events that were repeated over time. For example, sexual abuse usually occurs more than once (Molnar, Buka, & Kessler, 2001). An active area of child witness research examines children's ability to describe individual events when similar events are repeated over time (Roberts & Powell, 2001). To some extent, children's difficulties have been recognized by many state legislatures, which have adopted statutes allowing prosecutors to charge that abuse occurred on multiple occasions over time (Myers, 2006).

However, the statutes specify the number of times and the period of time over which the abuse must have occurred, which raises other difficulties for child witnesses. Children are probably as often asked to enumerate repeated events as to specify the particular occasion on which certain details occurred. Children's ability to provide numerosity judgments about events has received almost no attention from researchers. The limited research on adults' ability to make numerosity judgments about events has found that if the number is large (more than five), adults tend to estimate numerosity based on their inferences about the frequency of the event and the time period over which the events occurred (Bradburn, 2000; Menon & Yorkston, 2000). Although we know something about children's emergent understanding of conventional time intervals (Friedman, 1992), research on children's ability to judge event frequencies is as rare as that on numerosity judgments. Hence, child witnesses and temporal judgments is an area ripe for exploration by both basic and applied researchers.

The children's testimony in the Avila acquittal was filled with temporal questions, many of which tripped up the 9-year-old witnesses. For example, the judge took upon himself to question one of the alleged victims regarding the number of times that Avila had performed one particular sexual act. The child responded "I don't know . . . fifty times out of the whole entire year. I don't really do numbers," showing some ability to calculate frequencies (approximately once per weekend) and the time span over which abuse occurred (at least one year), but faltered when the judge persisted, asking for the number altogether. The judge then moved to a series of yes/no questions (e.g., "More than five times?"), which elicited a series of yes/no answers from the child (People v. Avila, 2000–2001). It was this interaction—and the child's yes, yes, yes responding—that was subsequently recalled by the juror explaining the acquittal.

*Emotional aspects of events.* Jurors expect child victims of sexual abuse to appear distraught when they testify (Golding, Fryman, Marsil, & Yozwiak, 2003; Regan & Baker, 1998). However, most sexually abused children exhibit little affect when disclosing or testifying about abuse (Gray, 1993; Wood, Orsak, Murphy, & Cross, 1996). The reasons for children's lack of affect when describing abuse are

unclear. The report may not bring back strong emotional reactions, emotions may have been muted through retelling, children may be masking their feelings, or, in some cases, the abuse itself may have been unremarkable. The reasons are of obvious theoretical interest, particularly to researchers interested in the sequelae of abuse. Disorders common among maltreated children often involve symptoms that dampen emotional displays. Individuals with Post-Traumatic Stress Disorder display a restricted range of affect and numbing of general responsiveness; individuals with depression exhibit indifference, withdrawal, and avoid eye contact (American Psychiatric Association, 1994). As a practical matter, a child's lack of affect puts prosecutors and others offering child victim testimony in a bind. They hope to minimize the trauma of testifying, and want the child to successfully endure the pressures of cross-examination, but they risk losing the case if they are too successful in relaxing the child before testifying.

One possibility is to ask children to describe their emotional reactions during and following the abuse. In research on narratives, emotional language is one component of evaluation, whereby the narrator expresses the personal significance of the event (Labov & Waletzky, 1967). Even preschool children use evaluation in their narratives, although there are increases with age (Hudson, Gebelt, Haviland, & Bentivegna, 1992). The research is inconsistent regarding whether children produce fewer (Peterson & Biggs, 1998) or more (Fivush, Hazzard, Sales, Sarfati, & Brown, 2003) evaluative details when questioned about aversive events. The difference may lie in the kinds of questions asked: the research finding children provide fewer evaluative comments relied on free recall, whereas the research finding more evaluative comments added specific questions such as "how did you feel?"

Children's emotional language when describing sexual and other forms of abuse has received only limited research attention. Children may be reluctant to spontaneously describe their emotional reactions to abuse, or they may interpret the interview as designed to elicit the actions involved, rather than their private reactions. Research on what sorts of questions elicit descriptions of emotion from abused children will be of clear theoretical and practical interest. Laboratory research can assess the extent to which children describing suggested events are capable of describing plausible emotional reactions.

In the Avila trial, both the defense attorney during argument (People v. Avila, 2000–2001) and the juror explaining the acquittal (Riverside Press Enterprise, 2002) remarked that the child witnesses did not act and look like sexual abuse victims. The few questions asked to the witnesses about their reactions to the abuse revealed more about the questioners' preconceptions than the children's perspectives. In one interchange, for example, the judge asked "Did it hurt at all?" and the child denied it (People v. Avila, 2000–2001), obviously violating the judge's (and probably the jury's) expectations about how an abuse victim should

feel. (In fact, most abuse victims in one study reported that the abuse was not physically painful [ Goodman, Taub, Jones, & England, 1992], consistent with the seductive nature of much sexual abuse.)

### *Beyond Criminal Sexual Abuse*

Research on child witnesses has disproportionately focused on criminal sexual abuse allegations, probably because those cases receive the most media attention, and, in turn, have received a large share of the attention given child witness issues by legislators and the judiciary. This focus risks overlooking the role of children as witnesses in other kinds of cases, both non-criminal and non-sexual. Moreover, this has led to an emphasis on the risks of false allegations, given the fact that in many sexual abuse cases, the child's statements are the primary evidence that a crime occurred, and the value judgment that false convictions are worse than false acquittals, indeed as much as one hundred times worse (Ceci & Friedman, 2000)

Far more cases are tried in the civil courts, including dependency court, in which courts decide whether to remove children from the custody of their parents due to maltreatment. Only a minority of abuse allegations in dependency court or family court ever result in criminal charges (Tjaden & Thoennes, 1992). The stakes are nevertheless very high, because a false allegation may lead to long term and sometimes even permanent separation between parent and child. However, because a failure to substantiate a true case leaves a child subject to continued abuse, the standards of proof in dependency court and family court are more lenient than those in criminal court.

In family court, a great deal of publicity is given to potentially coached allegations of sexual abuse (Beckett, 1996). However, the potential for false allegations is no secret in this forum, and attorneys often actively discourage clients from making allegations because of fears that judges will assume vindictiveness and penalize the accusing parent (Haralambie, 1999).

It should go without saying that child witnesses in every kind of court testify to far more than sexual abuse. Even if one limits one's focus to child maltreatment, sexual abuse makes up only about 10% of all substantiated cases, with larger number of children physically abused or neglected (Sedlak & Broadhurst, 1996) Children are also frequently witnesses to domestic violence, intimate homicide, and drug offenses. Child victims may be disproportionately likely to be called to testify in sexual abuse cases (Goodman, Quas, Bulkley, & Shapiro, 1999), because corroborative evidence more often exists for other forms of maltreatment, such as physical abuse and neglect, or other crimes, such as domestic violence and homicide. However, even if medical evidence exists to prove that physical abuse occurred, children's testimony is often necessary to identify the perpetrator.

Parents charged with physical abuse often point the finger at each other, or blame a babysitter or other relative. In domestic homicides, children are often the only surviving witnesses.

An important factor in decision making in dependency court and family court concerns the role of the child's desires regarding custody and visitation in determining his or her best interests. Courts often assume that children's preferences are ephemeral and subject to influence (Scott, Repucci, & Aber, 1988). Surprisingly, suggestibility researchers have almost exclusively focused on children's beliefs, and little research has examined the extent to which children's preferences are manipulable. As with abuse, however, the difficulty will be to find attitudes analogous to the strong feelings that children have about their parents.

Suggestibility researchers have heretofore focused on the pressures placed on children by investigative interviewers. Yet the dynamics of most cases involving child witnesses necessitate greater awareness of the pressures that children face within their own families when they are asked to bear witness. Dependency cases almost exclusively concern children abused by family members and others with emotional attachments to the child, or by non-family members close to a parent who has been charged with failing to protect the child from abuse. Family court cases concern allegations by one parent against the other. Influence is multi-faceted, including actions by the (alleged) perpetrator, adult accusers, adult defenders, and the child's own internal standards and desires. Future research can work toward a fuller understanding of the factors that shape children's memories and reports.

## Conclusions

### *From Testifying to Training*

Expert witnessing is perhaps the most popular means by which experimental psychologists communicate with the courts, yet it is among the most inefficient. It occurs on a case-by-case basis, and the expert is called in after the interviews have been completed, and the damage has been done. The expert is thus like the coroner performing a post-mortem, without power to save the patient.

The expert either learns about the facts of the case, which is enormously time consuming, and expresses an opinion, which necessarily involves a substantial amount of subjective judgment in applying research to a single case, or begs off knowing anything about the case, thus preserving his or her objectivity (and saving time) but potentially presenting the jury with information that is difficult to apply or, at worst, inapplicable (Lyon, 2002a).

Cross-examination of the expert often focuses on possible personal biases or irrelevant details, with little intelligent analysis of the science. Attorneys tend to view any opposing expert as a hired gun, and experts come away from court

viewing attorneys as more interested in scoring points than in discovering truth (Bruck, 1998).

As researchers moved from identifying flaws in investigative interviewing toward means of improving children's testimony, it became apparent that the best means of giving away the growing expertise was through training of child abuse professionals and policymakers. We have found interviewers longing for clear advice in an area that they recognize as filled with land mines. The key seems to be the use of a carrot rather than a stick. Scaring interviewers with the risks of false allegations often results in defensiveness, because no one wants to believe that he or she created a false allegation. On the other hand, touting the benefits of open-ended questioning as a means of eliciting more complete (and convincing) details addresses the complaints of investigative interviewers that children are too often disbelieved.

Naturally, one must remain cognizant of the limited power of training to change behavior. Researchers have found that interviewers can change, but that it is necessary to provide regular feedback, and, failing that, interviewers tend to revert to their old ways (Lamb, Sternberg, Orbach, Esplin, & Mitchell, 2002). One challenge, given the limited resources of agencies responsible for investigating abuse allegations, is to determine whether interviewers might be successfully trained to implement simpler versions of the structured interview with less oversight. For all its flaws, however, training is a necessary step, and a fruitful area for further research.

Other professionals who interact with children are also good candidates for training. Judges often take it upon themselves to provide instructions to child witnesses, but tend to fall prey to the same difficulties experienced by researchers when they first started exploring the utility of instructions: judges have to be taught to provide the child with practice questions, and not to unduly encourage "I don't know" responses. Attorneys can use narrative practice and open-ended questions in their direct examination of children, notwithstanding the belief among many attorneys that any question that "calls for a narrative" is inherently objectionable. To some extent, cross-examiners enjoy a right to attack child witnesses' credibility—at least in our adversarial system of justice—but rules of evidence enable judges to control questioning so that it is age-appropriate and does not harass the witness. Hence all professionals in court can be trained regarding what types of questions are fair.

The last 20 years of research have made it possible to spot what ails child interviewing with ease. The future is in finding cures. What makes applied research in this area most exciting is the prospects it provides for positive intervention, which will benefit both true victims and the falsely accused. In the future, psychologists can do more than merely exhume interviews and point to their flaws. They can work to shape the processes by which abuse allegations can be investigated and adjudicated fairly and fully.

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