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CHILD WITNESSES: COMMON GROUND AND CONTROVERSIES IN THE SCIENTIFIC COMMUNITY

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I. INTRODUCTION

More than one hundred thousand child sexual abuse (“CSA”) cases are investigated and found substantiated in the United States each year.1 Substantiated cases are brought to the attention of prosecutors who make decisions about whether to move forward with the case. The jurors who hear these cases may hold misconceptions about eyewitness testimony and child abuse2 and their conceptions about abuse are influenced by expert testimony.3 Experts in these cases are often psychologists testifying either as

clinicians or scientists or both. Two reasons for dueling experts in psychology are the difference in standards of proof between clinical practice and the scientific method and the fact that psychologists are often asked to go beyond the data to provide opinions. A third reason for dueling experts is that the field of psychology and law is not an exact science. There are often nuances in the body of data that on the one hand can support the prosecution and on the other hand can support the defense. Thus, even assuming that scientists will always make the same conclusions about the same body of data, an untenable assumption, there are aspects of the body of data that are useful to both sides of a criminal case. After addressing each of the former issues, we spend the bulk of the paper addressing the latter—namely, we examine three areas of research on child witnesses that are commonly of concern in CSA cases and discuss how aspects of the data support both the defense and the prosecution. We focus on (1) children’s memory, (2) children’s suggestibility, and (3) diagnosing abuse. We have chosen only three common child witness issues for the purposes of this review, and readers who are interested in a more thorough treatment of child witness issues in their full breadth and depth are referred to a number of excellent overviews of the field.

II. BACKGROUND ON CHILD WITNESSES

A. When Do Children Testify?

Most children who testify in criminal court are doing so about alleged activities perpetrated on themselves, and in particular, they are testifying about alleged sexual abuse. The primary reason that

this is the case is not because children fail to witness other crimes, but because they are simply not ideal witnesses. Additionally, the process of investigative interviewing may, for some children, be perceived as an extra stressor. We touch on reasons why children may or may not be effective witnesses in later sections of this paper, but in general, child witnesses are called to testify as a last resort. In other types of crimes (e.g., theft or assault), other witnesses or other types of evidence are likely to be present and are generally preferable types of evidence to statements made by young children. Even in allegations of child physical abuse, the children’s bodies can be used as corroboration of their reports, but in sexual abuse cases, medical corroboration or other witnesses are generally not available. Thus, when we speak of child witnesses we are most commonly addressing concerns relevant to child sexual assault cases.

B. What Lay People Know About Child Abuse and the Influence of Experts

Jurors have a reasonably accurate perspective about many areas of eyewitness research, but jurors, and even judges, have misconceptions about a number of witness issues, including misconceptions about child sexual abuse. For example, both jurors and judges believe that eyewitness confidence is related to accuracy, which is often not the case. Jurors rely too heavily on minute details and underestimate the importance of effective indicators of eyewitness accuracy, such as how long the witness was able to view the perpetrator (e.g., whether the perpetrator was wearing a disguise) and what other perceptual conditions were present (e.g., was it light enough to realistically observe a detailed face?). Jurors often lack knowledge about factors that interfere with accurate retention, such as the impact of stress on perception and

5. See infra Part III.
6. Durham & Dane, supra note 2, at 305.
7. Wise & Safer, supra note 2, at 433.
8. Morison & Greene, supra note 2, at 607.
10. Rahaim & Brodsky, supra note 9, at 11; Gary L. Wells et al., The Confidence of Eyewitnesses in Their Identifications from Lineups, 11 CURRENT DIRECTIONS IN PSYCHOL. SCI. 151, 151-52 (2002).
memory, and are insensitive to biases that are introduced during a criminal investigation.

In addition to misconceptions about eyewitnesses generally, jurors have stereotypes about child witnesses and sexual assault that affect their deliberations. The findings on jurors’ age-related stereotypes are mixed. In this context, an age-related stereotype is an expectation about what a child of a particular age is capable of remembering, saying, etc. Some studies have found that child witnesses are perceived as more credible than adults while still others have found that child witnesses are perceived as less credible than adults. Beyond general beliefs about child witnesses’ abilities, effects of jurors’ own gender on their perceptions of child witnesses are ubiquitous. Researchers have found that women are more conviction prone in sexual assault cases, believe children more than men, and are more likely to

12. Durham & Dane, supra note 2, at 305.
15. Bottoms & Goodman, supra note 13, at 725; Bette L. Bottoms et al., Jurors’
recommend that the defendant serve the entire sentence. Finally, case characteristics also affect jurors’ perceptions about child witnesses, with some evidence that children are viewed as more credible in civil cases than criminal cases and in sexual assault cases than in robbery cases.

In many studies, expert testimony has been found to have some effect on jurors’ perceptions and verdicts. Many studies find an effect of expert testimony on jurors’ judgments in mock cases, with some studies finding a limited effect on jurors, an effect on only some jurors, or occasionally no effect of experts.

C. Scientific Expert Testimony—Non-Scientific Expert Testimony

Do jurors understand the difference between scientific testimony and non-scientific testimony? Do they weigh and use the testimony differently? Both scientific and non-scientific opinions are allowed in the courts, and different standards may be used to judge each. Non-scientific evidence is based on anecdotal experience and in many cases is very useful in deliberations. However, if there are data on the topic being discussed, it seems clear that the empirical evidence is preferable to anecdotal experience. If an expert testifies based on his or her experience, and there is empirical evidence that directly contradicts the experience of the expert or at least qualifies his or her statements, the opposing side may not know that that contradictory empirical

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Perceptions of Adolescent Sexual Assault Victims Who Have Intellectual Disabilities, 27 LAW & HUM. BEHAV. 205, 209 (2003) (finding that women “have more pro-victim perceptions” of child and adolescent sexual abuse victims); Gabora et al., supra note 13, at 116.


20. Cutler et al., supra note 3, at 222-23; Hosch et al., supra note 3, at 292; Kovera et al., supra note 3, at 184; Leippe et al., supra note 3, at 531.


23. Devenport & Cutler, supra note 3, at 574.

evidence exists. In this case, the ability of the other side to recognize when an opposing expert should be hired is the only legal safeguard for anecdotal evidence being given when conflicting empirical evidence exists. There is some evidence to suggest that jurors weight anecdotal, non-scientific testimony with more strength than scientific testimony. Further, among scientific experts, jurors give more weight to expert testimony that goes beyond describing the scientific studies to tie those studies to the case at hand.

We bring up these issues not because there are answers but because they are part of the reason why the court may see vastly different opinions between two psychological experts—particularly if one expert is testifying based on his or her experiences and one expert is testifying based on his or her knowledge of the scientific literature.

III. THREE AREAS OF CHILD WITNESS RESEARCH

A. Children’s Memory

1. What the Prosecution Should Know

Young children are capable of accurately recalling autobiographical events over relatively long time periods. There are numerous studies that highlight the strengths of young children’s memories when asked neutral questions, including after longer delays, and suggest that by age 2.5, children are capable of long-lasting memories of salient events. Even in the suggestibility


27. See, e.g., Robyn Fivush, Children’s Recollections of Traumatic and Nontraumatic Events, 10 DEV. & PSYCHOPATHOLOGY 699 (1998); Robyn Fivush et al., Content and Consistency in Young Children’s Autobiographical Recall, 14 DISCOURSE PROCESSES 373 (1991); Robyn Fivush & April Schwarzmueller, Say It Once Again: Effects of Repeated
literature, most studies report that children in the control group (i.e., no suggestion) recall events with high rates of accuracy. Evidence from both sets of data indicates that in the absence of suggestion even very young preschoolers can provide highly accurate reports.

In addition, recent reviews of the literature of emotional memory and memory for traumatic experiences indicate that children remember and recall such highly stressful events as well as they recall neutral events. Indeed, studies with both adults and children reveal that emotional, negative information tends to be remembered better than positive or neutral information. Moreover, even at very young ages, children’s accounts of negative personal experiences are detailed. In one study, two-year-old children were able to provide coherent and detailed recollections of traumatic injuries and ensuing emergency room treatments that they had experienced several days previously. The children’s recall of the central details of the target events was still robust when tested six and twelve months later.


2. What the Defense Should Know

It is a common finding in memory research that younger children provide fewer details than older children in the context of neutral interviews. In addition, although children are generally accurate when they are interviewed by a neutral experimenter who asks few leading questions, and when they are not given any motivation to produce distorted reports, there is occasionally a very small percentage of children who give bizarre or sexualized answers to direct questions. For example, in a study of children’s reports of medical examinations, one child, who had not received a genital exam, falsely reported that the pediatrician had touched her buttocks and on further questioning claimed that it tickled and that the doctor used a long stick. Thus, young children may occasionally make spontaneous, bizarre, and unfounded allegations, and there are currently not any methods for predicting which children will do so.

3. What the Whole Truth Is

In neutral interviews, very young children (i.e., as young as 2.5) have been shown to be capable in some circumstances of providing relatively accurate reports of past events over relatively long time periods. These reports are less detailed on average than reports provided by older children and adults. However, these free recall reports, while relatively accurate, are not free from minor errors, and, furthermore, in relatively neutral direct questioning, a very small percentage of children will provide inaccurate details even about bodily touch.

There is a large amount of literature examining the effects of stress on the accuracy and completeness of memory that suggests moderate stress generally fails to hinder memory and may facilitate memory.

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32. Michael E. Lamb et al., Age Differences in Young Children’s Responses to Open-Ended Invitations in the Course of Forensic Interviews, 71 J. CONSULTING & CLINICAL PSYCHOL. 926, 929 (2003); Poole & White, supra note 27, at 978. But see Hershkowitz, supra note 27, at 173 (opposing results, in which older children used more words, but not more details, in their responses).


34. For review, see Kathy Pezdek & Jennifer Taylor, Memories of Traumatic Events in Children and Adults, in MEMORY AND SUGGESTIBILITY IN THE FORENSIC INTERVIEW 165-83 (Mitchell Eisen et al. eds., 2001).
B. Children’s Suggestibility

1. What the Defense Should Know

Young children’s reports of past events are susceptible to distortion via adults’ suggestions. This susceptibility is called “suggestibility” and can be defined as the degree to which the encoding, storage, retrieval, and reporting of events can be influenced by a range of internal and external factors that can be present before or after the event. Factors such as question repetition, yes/no questions, misleading questions, repeated interviewing, plausible suggestions, stereotyping, anatomical
dolls, and invocation of peer conformity have been associated with errors in children’s reports to adult interviewers. When several of these factors are combined, rates of acceptance of suggested information can be very high. Younger children are generally more vulnerable to the deleterious effects of an interviewer’s misleading suggestions than older children, and some children will persist in their false beliefs despite challenges. Moreover, some children will misreport painful events, and even genital, anal, or other abuse-relevant touch. Examples of abuse-relevant false statements range from claiming a strange man “put something
yucky into their mouths” during a visit to a science exhibit to claiming that someone took off their clothes and kissed them or inserted objects in their anogenital cavities.

2. What the Prosecution Should Know

Many children do not succumb to suggestion, and which children will or will not succumb to suggestion cannot currently be identified. The suggestibility studies described above also demonstrate that some children are quite resistant to all of the suggestive factors listed above. Although we have done a great deal of work in the area of individual differences in children’s suggestibility, we have not been successful at identifying who these children are, at least not with any confidence. In the majority of the studies cited above, fewer than 50% of children made false reports. Hence, when social science research is introduced in court, it needs to be accompanied with the caveat that not all children are equally vulnerable to suggestive influence and we have no sound and sure method of knowing whether the children involved in the particular case at hand are the rule or the exception.

Even though some children will falsely report genital and anal touch, children appear to be less susceptible to suggestions about these topics. Further, most of the research cited above involved multiple suggestive factors, multiple interviews, repeated suggestive questions, and sometimes all of these. The effect of a single leading question in an otherwise neutral interview is not clear. In addition, as discussed in the section on children’s memory, unless suggestion is present, most young children are relatively accurate in their


reports of salient life events.\textsuperscript{55}

In general, it is more difficult to implant false memories for implausible events than plausible events,\textsuperscript{56} to change details for central events than peripheral events,\textsuperscript{57} and to implant memories of more salient (e.g., bodily touch) events rather than less salient events.\textsuperscript{58}

Finally, although some studies come close, none of the studies cited has attempted to implant completely false memories about an entire sexual abuse event in children. This would clearly be unethical and this type of study is not anticipated.

\section*{3. What the Whole Truth Is}

Researchers have not currently found boundary conditions on the upper or lower end of suggestibility. The issue of interviewing techniques and suggestibility is a balance between omission and commission errors. Certain interviewing techniques, such as direct questions, increase commission errors (i.e., suggestibility—when a child asserts to something that did not happen) but also reduce omission errors (i.e., when a child who experienced something fails to report it). However, more neutral techniques, such as free recall, while they may decrease commission errors, also appear to result in increased omission errors.

The relationship between external pressure and children’s suggestibility appears to be continuous with more pressure related to more suggestibility and less pressure related to less suggestibility. However, some children will still make false reports, even for bodily touch, in relatively neutral interviews, and some children will still make correct reports about bodily touch (i.e., correctly denying if they did not experience the event) even under highly suggestive conditions. Still, boundary conditions might exist and researchers are, rightfully, constrained in what studies they will conduct by ethics. For example, researchers have not systematically tried to

\begin{itemize}
\item \textsuperscript{55} See supra Part III.A.
\item \textsuperscript{56} Giuliana A. L. Mazzoni et al., Changing Beliefs About Implausible Autobiographical Events: A Little Plausibility Goes a Long Way, 7 J. EXPERIMENTAL PSYCHOL.: APPLIED 51, 58 (2001); Kathy Pezdek & Danelle Hodge, Planting False Childhood Memories in Children: The Role of Event Plausibility, 70 CHILD DEV. 887, 893 (1999).
\item \textsuperscript{57} Camilla Gobbo, Assessing the Effects of Misinformation on Children’s Recall: How and When Makes a Difference, 14 APPLIED COGNITIVE PSYCHOL. 163, 169 (2000).
\item \textsuperscript{58} Jodi A. Quas & Jennifer M. Schaaf, Children’s Memories of Experienced and Nonexperienced Events Following Repeated Interviews, 83 J. EXPERIMENTAL CHILD PSYCHOL. 304, 320-21 (2002).
\end{itemize}
implant memories of false sexual abuse in children using pressure from parents and presumably never will.

C. Diagnosing Abuse

The title of this section reflects a belief of many jurors, attorneys, judges, and clinicians that mental health professionals can diagnose abuse. By diagnose abuse, we mean the ability to determine whether individual children have been abused.\textsuperscript{59} We separate this section into clinicians’ ability to detect abuse, to predict abuse status from behaviors, and to detect false reports.

1. What the Prosecution Wants to Hear

Clinicians’ ability to detect abuse: Mental health professionals have structured assessment tools based on clinical experience and on rates of behaviors occurring in abused and non-abused children that major mental health organizations have published to aid in the assessment of children and adolescents where abuse is suspected.\textsuperscript{60} In addition to guidelines published by mental health organizations, there are numerous forensic evaluation tools that have been published in peer review journals.\textsuperscript{61} There is fairly widespread use of these tools in the forensic evaluation community.

Predicting abuse status from behaviors: There are studies showing

\textsuperscript{59} Clearly, clinicians are trained in diagnosis, but in the diagnosis of disorders based on current symptoms and the patient’s history, not in the diagnosis of past events based on current symptoms. The therapist may believe that abuse happened because the patient reports abuse, but this reflects the need of the therapist to work with the information available rather than a special ability to detect abuse from symptoms.


that abused children are more likely to show certain behaviors than non-abused children.

Detecting false reports: There is some evidence that adults can detect children who are lying by using a combination of their nonverbal cues and utilizing checklists to analyze their statements.

2. What the Defense Wants to Hear

Clinicians’ ability to detect abuse: The use of clinical experience to diagnose abuse is beyond the ability of mental health professions. Clinicians are trained to diagnose current disorders from current and historical symptoms. Even when a diagnosis of post-traumatic stress disorder (PTSD) from abuse is made, the portion of the diagnosis that is “from abuse” is based on the report of the child or the parent, not any special skills of the clinician. In fact, there is evidence that mental health professionals are not able to identify abused children from known populations or identify false memories when they are known and differ widely from each other in their estimates of the likelihood of abuse in a single case. In addition, the forensic evaluations that rely on children’s behaviors are not scientifically valid because of diverse symptomology. In their manual, the American Academy of Child and Adolescent Psychiatry (AACAP) clearly states that symptomology is not diagnostic:

62. E.g., sexualized play.
64. Aldert Vrij et al., Detecting Deceit Via Analyses of Verbal and Nonverbal Behavior in Children and Adults, 30 HUM. COMM. RES. 8, 30-31 (2004).
65. Marc A. Lindberg et al., Comparisons of Three Different Investigative Interview Techniques with Young Children, 164 J. GENETIC PSYCHOL. 5, 18 (2003).
Abused children manifest diverse symptoms, a variety of emotional, behavioral, and somatic reactions. These symptoms are neither specific nor pathognomonic, in that the same symptoms may occur without any history of abuse. The symptoms manifested by abused children can be organized into clinical patterns. Although it may be helpful to note whether a particular case falls into one of these patterns, that is not in itself diagnostic of child abuse. The following studies are often cited as examples of clinical patterns associated with abuse. Since this is an evolving and developing area, these studies are not definitive. In general, the research on child maltreatment has been limited because of the wide variance in definitions of abuse and because of the absence of adequate control groups.  

The AACAP goes beyond this to warn clinicians that their manual is primarily based on current consensus, not science:

The recommendations regarding specific diagnostic evaluations and treatment interventions reflect those methods of practice, which are either supported by methodologically sound empirical studies and/or are considered a standard of care by competent clinicians. However, the general paucity of sound scientific data regarding childhood psychiatry disorders and their treatment necessitated that most of the recommendations set forth in these parameters were based on clinical consensus. Those practices that are described as having limited or no research data and also lack of clinical consensus regarding their efficacy may still be used in some selected cases, but the clinician should be aware of the limitations and document the rationale for their use.

Although many of these tools have been published in peer reviewed journals, their use and publication emphasize the need for courts to recognize that peer reviewed journal publication does

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70. Id. (emphasis added).
not necessarily indicate the presence of empirical validation.

Finally, we agree that consensus may be the best available tool when scientific data are not available. However, a number of studies have shown that clinical forensic evaluation tools are not diagnostic and have high error rates. Thus, it is not the case that the forensic evaluations have not been empirically studied and no data exist to support or argue against their use. Instead, a number of these techniques have been shown to lack validity.

**Predicting abuse status from behaviors:** Postdiction has no basis in the scientific community and indeed involves a basic error in logic. Further, the data on symptomology of abused and non-abused children are too variable to use to postdict abuse status. Many non-abused children will exhibit a given symptom and many abused children will not. In hypothetical scenarios, even high rates of a behavior in abused children and low rates in non-abused children are likely to result in worse than chance predictions of abuse status, even when using multiple behaviors.

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71. *See, e.g.,* Kerry M. Drach et al., *The Diagnostic Utility of Sexual Behavior Problems in Diagnosing Sexual Abuse in a Forensic Child Abuse Evaluation Clinic,* 25 CHILD ABUSE & NEGLECT 489 (2001) (suggesting that medical professionals should use caution in relying on sexual behavior problems as a diagnostic indicator of abuse); *Steve Herman, Improving Decision Making in Forensic Child Sexual Abuse Evaluations,* 29 LAW & HUM. BEHAV. 87 (2005) (examining the current lack of adequate psychometric reliability and validity in clinical forensic tools).

72. I.e., making a probabilistic statement about the likelihood of abuse based on current symptoms.

73. Those who have studied logic will be familiar with the error of affirming the antecedent. In logical terms, this is when we know that P leads to Q (P → Q), we know that Q is present, and then we make the error of concluding that the presence of Q means that P is true (Q → P). In a child abuse case, this would be the same as saying if abuse (P) leads to sexual play (Q), and a child engages in sexual play (Q), then we can conclude that the child has been abused (P). This is a logical error because other events could lead to Q besides P. For example, Z → Q or X → Q. In our example, other events could lead to child sexual play such as discussing sex with an older sibling, curiosity, or coming into contact with sexual material. Because other events could lead to sexual play, we cannot conclude that abuse occurred because sexual play is present.

74. There is an imperfect, probabilistic relationship between any symptom and abuse. Some abused children will not display the symptom and some non-abused children will display the symptom. In theory this probabilistic relationship could be used to make predictions about the likelihood that a given individual has been abused much like we might be able to make a prediction about a single coin flip.

Postdiction at a probabilistic level is theoretically possible if the following are known in the population of interest: (1) How many abused children from that population exhibit the symptom?, (2) How many non-abused children from that same population exhibit the symptom?, and (3) What is the base rate of abuse in
Experts across the country have written about the dangers of using current symptoms to back-diagnose abuse in children; they firmly state that it is not currently possible.\textsuperscript{75} Indeed, the scholar who first developed the Child Sexual Abuse Accommodation Syndrome (CSAAS)\textsuperscript{76} has written of the dangers of using CSAAS as a diagnostic tool and the inappropriateness of using it as postdiction evidence in a legal setting.\textsuperscript{77} Even those who suggest that postdiction is possible severely restrict the circumstances under which it would be possible to engage in it and clearly state that only a probabilistic statement, rather than a definitive conclusion, might be made.

\textit{Detecting false reports}: What about using children’s statements and the consistency and details of their statements to validate their claims? Consistency and details of a child’s report are some of the most important criteria used by professionals in evaluating the reliability of children’s allegations of abuse,\textsuperscript{78} and inconsistency in young children’s reports lowers their credibility in the eyes of mock jurors\textsuperscript{79} even though some types of inconsistency are normal for that population?

Using the example of sexual play, if 60% of abused children display the symptom and 10% of non-abused children play sexually and the base rate of abuse is 5%, that leaves us with the following arithmetic for 100 randomly selected children. Using the base rates we would expect 5 abused children and 95 non-abused children. Three of the abused children would play sexually and 9.5 of the non-abused children would play sexually. This leaves our predictive power for sexualized play at 3:9.5, or we will be right about 25% of the time and wrong 75% of the time.

Does this change if we have more symptoms? Unfortunately, the answer is no. If we have a bed-wetting, hostile child with poor grades who plays sexually with dolls, this information is not more predictive. This is because we would expect that fewer of the non-abused and abused children will exhibit all of the symptoms. For example, only 30% of the non-abused and 5% of the abused might show that constellation of symptoms leaving our predictive power for the set of symptoms at 1.5:5. This time we again would be right about 25% of the time and wrong 75% of the time.


\textsuperscript{76} Summit, supra note 63.


\textsuperscript{79} Michael R. Leippe et al., Eyewitness Persuasion: How and How Well Do Fact
accurate statements made by children.\textsuperscript{80} By combing children's reports for a combination of factors, such as consistency and details, statement validity analysis (SVA)\textsuperscript{81} has some success in differentiating between truthful and deceptive reports. However, even those who find that SVA distinguishes between children who are lying and telling the truth caution that the techniques have substantial error rates\textsuperscript{82} and that factors other than veracity affect statement analyses.\textsuperscript{83} In fact, even in the study that showed the best prediction rates of lying and truth-telling in children and adults using a combination of verbal and nonverbal indicators, the error rates were always higher than 22%. Further, false reporting can be caused by deception, but false reporting can also be caused by false memories caused by suggestion. There is no evidence that any type of statement analysis or other technique can distinguish between false memories and true memories.


\textsuperscript{80} I.e., to contain different pieces of accurate information across interviews. See generally Robyn Fivush et al., \textit{Content and Consistency in Young Children's Autobiographical Recall}, 14 DISCOURSE PROCESSES 373 (1991).

\textsuperscript{81} Readers may be familiar with Content-Based Criteria Analysis (CBCA), which is a sub-section of statement validity analysis (SVA).


\textsuperscript{83} I.e., children who are younger get lower scores and repeated events get higher scores. See Julie A. Buck et al., \textit{Age Differences in Criteria-Based Content Analysis Scores in Typical Child Sexual Abuse Interviews}, 23 J. APPLIED DEVELOPMENTAL PSYCHOL. 267, 279 (2002); Kathy Pezdek et al., \textit{Detecting Deception in Children: Event Familiarity Affects Criterion-Based Content Analysis Ratings}, 89 J. APPLIED PSYCHOL. 119, 124 (2004); Aldert Vrij et al., \textit{Will the Truth Come Out?: The Effect of Deception, Age, Status, Coaching, and Social Skills on CBCA Scores}, 26 LAW & HUM. BEHAV. 261, 274 (2002); Aldert Vrij et al., \textit{Let Me Inform You How to Tell a Convincing Story: CBCA and Reality Monitoring Scores as a Function of Age, Coaching, and Deception}, 36 CANADIAN J. BEHAVIOURAL SCI. 113, 123 (2004b).

\textsuperscript{84} One study found weak differentiation on CBCA criteria between true and false memories, but was never published. Mary Lyn Huffman & Stephen J. Ceci, \textit{Can Criteria-Based Content Analysis Distinguish True and False Beliefs of Preschoolers? An Exploratory Analysis} (1997) (unpublished manuscript, as cited in Charles L. Ruby & John C. Brigham, \textit{The Usefulness of the Criteria-Based Content Analysis Technique in Distinguishing Between Truthful and Fabricated Allegations: A Critical Review}, 3 PSYCHOL. PUB. POL'Y & L. 705, 724-25 (1997)).
3. What the Whole Truth Is

Clearly, the data presented in this section is slanted towards the defense. This is because the current body of data indicates that although we may, in some circumstances, be better than chance at detecting abuse, lying, and false memories, our ability to detect these occurrences does not rise to the level of admissibility as probative evidence in a courtroom. This is compounded by the fact that in some instances prediction levels are worse than chance, and we are unable to provide parameters to the court that could identify when our judgments are likely to be better than chance or worse than chance. This is not to say that we will never be able to provide evidence that speaks to the ultimate issue, although we have listed some of the obstacles to this goal. However, at this time, there is no evidence that abuse can be confidently predicted from behaviors or statements.

IV. Conclusions and Caveats

This paper provides a substantial review of important research and theory in three major areas of research relevant to the prosecution and defense of criminal cases involving child witnesses, with particular emphasis on child sexual assault cases—namely, children’s memory, children’s suggestibility, and the ability to diagnose abuse. As is the case with any presentation of social science research in a legal setting, it is critically important to remind the reader of the limitations of applying the scholarship to the legal arena. In particular, we emphasize two caveats.

First, there is no substitute for expertise. The data presented in this review are not exhaustive. Indeed, a review of “all” of the psychological literature on child witnesses would require an entire book, if not several books. The authors have used their own expertise to select themes in the literature and have made attempts to highlight the most important issues in a balanced manner. This means that many other issues were left out and the reader is encouraged to refer to a number of edited books on the topic of child witnesses. Even within the selected topics, not all

86. See supra note 4.
information could be presented. Therefore, there are fine distinctions within the selected body of literature, of which the authors may well be aware, that were not presented in this review. While this review provides a good overview of three areas of research related to child witnesses, reading the review will not result in the same breadth, depth, and flexibility of knowledge that an expert in the field will have attained.

Second, all descriptions of data in this manuscript are probabilistic. This is the nature of social science data. There were children in most studies who behaved in opposition to the reported trend. A statement such as “by age 2.5 children are capable of long-lasting memories of salient events” should always be interpreted as meaning “on average.” Some 2.6 year olds are not capable of such remembering, some 2.4 year olds are capable of such remembering, and some events will not be remembered by any given child. In addition, many statements reflect differences from a control group, and thus these statements may not be true for the majority of children. For example, consider the statement “children who are pressured report more false events.” This statement is made in comparison to a control group and thus would be more completely stated as “children who are pressured report more false events than children who were not pressured.” As the reader can see, it is possible that fewer than 50% of children who received pressure reported false events as long as more children who received pressure reported false events. Both of these example statements are not any less true or informative about human behavior because of the variability between people and conditions, but for these reasons averages cannot be applied with confidence to individuals.

Because the findings are complex, nuanced, and cannot be confidently applied to individual cases, both the courts and the expert psychological witnesses may wonder about the utility of attempting to use psychological data in what is often an acrimonious, and by definition adversarial, criminal justice system. What is clear from the work presented on jurors’, lawyers’, and judges’ knowledge is that jurors have many misconceptions about eyewitnesses, including child witnesses, than expert testimony can attempt to clarify. As long as the data are applied appropriately, there are many ways in which research in the field of psychology and the law has had, and can continue to have, beneficial impacts on the prosecution and defense of criminal cases.