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Legal and psychological perspectives on children's competence to testify in court

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ABSTRACT

Young children are often called as witnesses to crimes they were victims of or observed. Because of their immaturity, child witnesses are sometimes more heavily scrutinized than adult witnesses before being allowed to testify in court, for example, through competency screening. This review discusses the psychology and US law relevant to decisions about children's testimonial competency. Legally, a child is competent to provide in-court testimony if the presiding judge finds that the child can understand and answer basic interview questions, observe and recall pertinent events, understand the difference between truths and lies, and be affected by the moral obligation to tell the truth on the stand. We review the legal foundation and current practice of testimonial competence standards and discuss issues in the current system. We then review developmental psychology literature on children's capabilities and individual differences in each domain of testimonial competency as well as the limited body of literature on competency exams. Finally, we make empirically-based recommendations and conclusions and highlight the need for further research and policy reforms related to children's testimonial abilities.

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Introduction

Nearly three million children were subjects of at least one abuse or neglect report in the United States in 2010, and many of those children were involved in multiple reports (US Department of

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Health, Administration for Children, Administration on Children, & Families, 2011). One fifth of these reports were substantiated. When legal cases result, child testimony is usually the only source of prosecuting evidence because physical evidence is rare and, by nature of the crime, there are usually no witnesses (Raeder, 2009). Thus, the ways in which the legal system approaches children's eyewitness testimony can have a massive societal impact. Mishandling of child witnesses or of evidence provided by them can result in miscarriages of justice either through under-prosecution of criminals such as child abusers or over-prosecution of innocent people accused of heinous crimes.

When a case involving a child victim or witness reaches the court, the first available check-point for the child is a testimonial competency screening. In most cases children are asked a brief series of questions to satisfy the court that they are capable of taking an oath. If there is a question about a child's ability to provide legal testimony, his or her testimonial competence may be assessed more thoroughly. Competency screening in such cases is of critical importance because when a judge deems a child incompetent, that child's testimony cannot be heard. In most cases this means that the case is thrown out due to lack of evidence. If the child's competency status is unclear the judge may provide a warning to the jury, encouraging it to give less weight to the child's testimony. Again, because children's testimony is often the primary piece of evidence in cases of child abuse and neglect, reducing the weight given to a child's testimony may be damning to the prosecution's case. Although children are rarely excluded from providing testimony on the ground of incompetency, this in itself can be problematic because lax competence standards may result in allowing incompetent children to provide the primary evidence. In experiments, the average adult, and even many experts, hover around chance when attempting to distinguish accurate from inaccurate statements made by children. Therefore, allowing a child who is unlikely to be accurate to provide evidence to a jury may be misleading and prejudicial.

Despite the weighty repercussions of competency decisions, there are only skeletal legal guidelines in place to aid judges in these decisions, and there is little empirical research underpinning these guidelines. Below we review the legal guidelines and empirical literature relevant to testimonial competency decisions. We then propose basic methods for determining testimonial competence and make recommendations for handling evidence from children with questionable testimonial competence. A need for additional research in this domain will become evident.

Definitions of relevant terms

In the literature on child development, children's believability is often decided by measuring the objective accuracy of a child's report. In the legal context, there is often no empirical evidence with which to directly assess accuracy. Therefore, inferences about a child's accuracy are made at two levels. At the first level the trial judge must decide whether a child's testimony should be admissible. To do this, he or she determines whether the testimony is *reliable* and, in some cases, whether the witness is *competent*. Legally, reliability is defined broadly and refers to all potential evidence, including testimony (Rosenthal, 2002). To consider evidence reliable, there must be reason to believe that it is what it purports to be. In the case of testimony the judge must decide that the witness had the opportunity to witness what he or she claims to have witnessed and that the witness's testimony was not tampered with through coaching or suggestion. Testimonial competence refers to whether a witness has sufficient cognitive ability and moral understanding to provide useful testimony. Testimonial competency guidelines are set in both federal and state law and competency decisions are made by the presiding judge (Myers, 1997).

If testimony is determined reliable and the child providing the testimony is either assumed to be competent or deemed to be competent by the judge, it is up to the jury to determine the child's *credibility*. Credibility is the jury's opinion about whether a child's testimony is believable. Thus, credibility is a subjective opinion made by jurors about whether the testimony seems accurate and truthful. Therefore, reliability, competency, and credibility are all components of determining accuracy in a context in which there is question about how the original event unfolded.

Foundations of competency law

The first major legal decision regarding children's testimonial competence occurred in the English appellate court in 1779 in a case of attempted rape of a child. The defendant was accused of assault with intent to rape a young girl, who is described as under 7 years old (*The King v. Brasier*). Her mother and a boarder in her home testified about what the child told them immediately after returning home. However, the child herself did not testify at trial. She had identified Brasier as her assailant the day after the attack. Her assertions bore some indicia of reliability: Brasier lived in the place she described, and she had suffered some injury. But the twelve judges appeared to rule her out-of-court statements inadmissible, writing "[t]hat no testimony whatever can be legally received except upon oath." They "determined, therefore, that the evidence of the information which the infant had given to her mother and the other witness, ought not to have been received."

Foundational competence law in the United States was to occur over a century later, in 1895. We briefly review these decisions both because they are important parts of the history of competency law and because the stipulations closely resemble competence law as it appears in US courts today.

In the landmark 1779 decision of *The King v. Brasier*, English Appellate court presaged some of the current US Federal Rules of Evidence (801, hearsay), by ruling that (1) the young girl's out of court statements were inadmissible because they were not made under oath, (2) that there was no minimum age which determined a child's ability to take the oath, and (3) competency to take the oath should be based on the child's understanding of the importance of telling the truth.

In the 1895 US Supreme Court case of *Wheeler v. US*, a 5-year-old boy was the only witness to a murder, and the case could not be decided without his testimony. The judge ruled that the boy's testimony was admissible because he was both *sufficiently intelligent* to serve as a witness and because he demonstrated the *ability to distinguish between truths and lies*, and the *understanding that he was morally obligated to tell the truth*. These standards were further elaborated in the coming years so that in many states the competency standard now requires that a witness be able to (1) understand and answer simple questions, (2) observe and recall events pertinent to a case, (3) understand the difference between the truth and a lie, and (4) understand that they are morally obligated to tell the truth on the stand. We will refer to the first two standards as "basic" competency and the latter two as "truth–lie competency" throughout this review (Hoyano & Keenan, 2007; Lyon, 2011).

The testimonial competence of young children has been, and continues to be, a controversial legal topic. While competency distinctions between children pose a unique challenge, the competence of young children as a group has periodically come into question as well (see Hansen, 1990). In the past, US law has disregarded all testimony from young children, but today courts err on the side of allowing all testimony from children as young as three (Child Victims, 1990; Myers, 1992). A child's age cannot alone be considered a reason to exclude her testimony (FRE 601). However, competency questions, particularly truth–lie competency questions, are still frequently asked of children both at trial and during pre-trial interviews (Huffman, Warren, & Larson, 1999; Lyon, 2011; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001; Walker & Hunt, 1998), and the child's answers to truth/lie questions are grounds for excluding children's sworn testimony.

When a young child is called to give testimony at trial she is often asked truth–lie competency questions before being asked to take the oath. The idea behind this initial screening is that if a child does not understand the difference between the truth and a lie then she will not be able to understand the oath, and if she does not appreciate the moral imperative of telling the truth on the stand then she is unlikely to be affected by taking the oath. If there is particular concern about a child witness's testimonial abilities then she may be questioned by the trial judge out of the presence of the jury. This full inquiry is designed to evaluate both basic and truth–lie competency. To aid in a competency decision the judge can request an evaluation from a professional such as a child forensic psychologist, but the judge must make the ultimate decision about whether to allow the child to testify (Gershman, 2001; Myers, 1997).

While competency hearings have become less common, judges make other legal decisions which previously would have fallen into the category of competency determination (Myers, 1986). For example, a trial judge can exclude a child's testimony because it is not relevant, or because the child lacks sufficient "personal knowledge" of the case. If a child lacks personal knowledge of the case then their

testimony could be considered prejudicial to the jury. In other words, a child who is incapable of providing enough useful information to outweigh the perceived biasing effect on the jury might not be allowed to provide in-court testimony (Lyon, 2000, 2011). For example, if the judge decides that the child was incapable of observing and recalling the event of interest to the case (a component of testimonial competency) their testimony could be excluded on the basis of lacking personal knowledge. Thus, despite the fact that children's testimony is rarely excluded on the basis of competency, the law allows judges to exclude testimony from incompetent children using other legal processes.

There are several important problems with the current system governing competency evaluation. The most basic of these is that competency decisions are made by judges who often receive no training specific to child witnesses and yet they must make complex decisions about children's cognitive and moral capacities that have proven illusive even for developmental specialists (Cashmore & Bussey, 1996; Myers, 1992). Judges must also make competency decisions with minimal guidance. There is currently no standard exam used in courts, but instead, judges devise questions themselves which could lead to differences across cases and necessarily, to differences between judges (Cashmore & Bussey, 1996; Darcy, 2010).

In the following sections we review the empirical literature on individual and developmental differences in domains related to testimonial competence. First we will review literature on language, then memory skills, then knowledge about truths and lies, then studies that have focused on the development of competency screening procedures. We then address issues related to favoring credibility assessment over competency screening and conclude with some procedural recommendations.

Language skills and testimonial competency

In a full competency inquiry, judges must establish children's basic abilities to understand and answer simple interview questions. The bar for language competence is low and usually entails that a child be able to respond to basic questions posed by the judge either in private, or with council and possibly the jury present (Myers, 1997). This type of interview demonstrates whether a child is capable of responding to questions in this very narrow context, but it does not capture the complexity of children's language abilities, nor does it reflect a child's capabilities in an ideal interviewing context.

There are theoretical reasons why language skills should be related to children's testimonial abilities. First, the ability to understand an interviewer's questions requires a minimum level of receptive language skill. As referenced above, receptive language may be particularly taxed in a legal setting because of the complex and unfamiliar nature of language and concepts related to legal proceedings. Therefore, individual differences in children's language abilities may be particularly predictive of their performance in this context. Second, the ability to respond effectively to an interviewer's questions requires productive language ability. Theoretically, a child who is more advanced at spoken language would be more easily understood by legal professionals and jurors. Below we discuss language development across children and research on the relationship between individual differences in language skills and children's reporting abilities.

Communicative competency requires first, that a child has mastery of words. Next, children must learn how to connect words into sentences and how to organize sentences in order to communicate. Finally, once these basic components are mastered, children must learn the complex nature of conversation (as outlined in Grice, 1975). It takes years for children to understand the subtleties of these principles at adult levels. Further, in line with these principles, much of language is not explicitly stated. Children must learn to infer a great deal of information from the context in which an utterance is spoken. Take for example, the following exchange provided by Davies (2007):

A: Is there another pint of milk?

B: I'm going to the supermarket in five minutes.

Davies points out that a person who has mastered the cooperative principles would understand that person B is responding that while there is no more milk, they will buy more at the store shortly. However, this meaning is implicit and must be inferred from the context.

The above example demonstrates that everyday conversation is replete with linguistic complexities that challenge young children. The legal context, however, is a unique challenge that has been demonstrated to be especially confusing to young witnesses. Though federal law requires that attorneys use “developmentally appropriate” language with child witnesses these regulations are rarely effective. Instead, questions asked of child witnesses are “informal, illogical, ungrammatical... full of blunders and grievous errors and mutations... and characterized by endless sentences, false starts... and other crudities” (Walker, 1985, p. 115). As an example, Walker (1993) highlights the following question asked of a 5-year-old child in court: “Do you also recall driving in a car a day or two after Doug—you found out that Doug—that something had happened to him and telling and pointing out houses as being the place where the people or one of the people who hurt Doug lived” (p. 68). Besides being unnecessarily syntactically complex, this question also gives little opportunity for the child witness to demonstrate her confusion by nature of the yes–no question format. Young children are often biased to acquiesce to yes–no questions and rarely ask for clarification (Fritzley & Lee, 2003). While complex questions of this nature would likely baffle even competent older children and many adults, research has demonstrated that young children have more trouble understanding the language of the courtroom than do adults (Saywitz, Goodman, & Lyon, 2002).

Not only do children have difficulty understanding adult language, but adults may also have difficulty understanding child language (Shuy, 1996). When an adult misunderstands a child’s testimony they may make inaccurate inferences about the child’s report. This is particularly problematic because their inaccurate inferences are likely to be incorporated into follow-up questions to the child which may further taint the child’s report.

Though the language of in-court interviews is likely to be developmentally inappropriate, stressful, and confusing for children, many children are still asked to testify in court each year. The legal system should be concerned with not only with the linguistic abilities of average children at each developmental stage, but also with the capabilities of each individual child who is asked to testify. Individual differences are the sole concern in competency determinations, and careful attention to an individual child’s language skills can help courts and forensic interviewers tailor questions to that child’s level of comprehension.

Understanding and answering questions in a legal setting poses unique challenges for children as a group (Saywitz & Goodman, 1996; Saywitz, Snyder, & Nathanson, 1999; Walker, 1993). While young children tend to have difficulties understanding the language used in court settings, there are vast individual differences in children’s abilities to understand and produce language. Additionally, there is some evidence that language skills are associated with children’s ability to recall past events even when controlling for age (Burgwyn-Bailes, Baker-Ward, Gordon, & Ornstein, 2001; Chae & Ceci, 2005; Gordon et al., 1993; Kulkofsky, 2010; Quas, Wallin, Papini, Lench, & Scullin, 2005; Roebers & Schneider, 2005; but see also Greenhoot, Ornstein, Gordon, & Baker-Ward, 1999; Gross & Hayne, 1999; Reese & Brown, 2000).

Much of the extant research which examines the relationship between language and memory uses the total volume of information recalled or the volume of correct information recalled as the outcome variable rather than the ratio of correct to incorrect details. The ratio of correct to incorrect details gives a more complete picture of memory performance because it focuses on the value of the information provided opposed to the volume alone. While “value” is a subjective evaluation, accuracy of a memory report is a primary concern for children’s legal testimony. The studies that have failed to detect a relationship between language and memory examined memory volume and not memory accuracy (e.g. Gordon et al., 1993; Greenhoot et al., 1999; Gross & Hayne, 1999; Quas et al., 2005; Reese & Brown, 2000). Therefore, it appears that there is often a positive relationship between language and memory, but that language skills are particularly associated with the provision of correct information relative to incorrect information. For example, Kulkofsky (2010) found that children’s vocabulary scores from the Peabody Picture Vocabulary Test Fourth Edition (PPVT-4, Dunn & Dunn, 2007) were positively related to the proportion of correct to incorrect details children provided in response to both open-ended prompts and direct questions about a staged event.

The relationship between language and accuracy is mirrored in the literature on individual differences predicting children’s susceptibility to suggestive questions. Next to age, language skill is one of the most reliable predictors of children’s resistance to suggestion (see Bruck & Melnyk, 2004 for a

review). However, in these studies, it is general language skills, and not vocabulary, which predict resistance to suggestion. The relationships with suggestion were stronger when researchers used more comprehensive measures of language skills such as the Adaptive Language Inventory Preschool Language Scale-Revised (Feagans, Fendt, & Farran, 1995) and the Sprachentwicklungstest für Kinder (German language battery; Grimm, 2001).

In a recent study, Kulkofsky and Klemfuss (2008, experiment 2) found that preschoolers' language skills, as measured by the Adaptive Language Inventory (ALI, Feagans & Farran, 1997) were negatively associated with false assents in response to misleading questions about a staged event. There was no relationship between children's age and false assents, so in this study, individual differences in language ability within age were more predictive of susceptibility to misleading information than were age differences. This pattern is somewhat consistent with the findings summarized in Bruck and Melnyk (2004). There were five studies that found significant relationships between language and suggestibility, and while three of them (Roebbers & Schneider, 2005; Experiments 1–3) did not consider age, and one of them only found a relationship between language and suggestibility for a single age group (Danielsdottir, Sigurgeirsdottir, Einardsdottir, & Haraldsson, 1993), the fifth study found no relationship between age and suggestibility and found a negative relationship between language skills and suggestibility.

While there is evidence that individual differences in language skills exist, and that these differences are in fact related to children's memory performance, validly and reliably detecting these differences in a legal context is a daunting task. Asking judges to determine a child's ability to understand and answer interview questions after a short interview is extremely demanding, especially given that judges are unlikely to have received training in children's language abilities. However, child witnesses and victims in cases of abuse or neglect are usually questioned by a forensic interviewer with expertise and training with young witnesses before they get to court. Interviewers are advised to consider children's communicative abilities (e.g., Myers, 1992, p. 52), and they can use this assessment to not only guide the forensic interview, but also to advise the judge about the child's competency status. This practice should be utilized whenever possible to maximize fair assessments of children's language competency.

Memory skills and testimonial competency

Research on children's general memory skills has demonstrated that in some ways, young children's memory is quite impressive (e.g. Fivush, Hudson, & Nelson, 1984; Saywitz, Goodman, Nicholas, & Moan, 1991). The memory system is online from even before birth (DeCasper & Spence, 1986), and infants can retain information even over long-periods (Shields & Rovee-Collier, 1992). By the early preschool years children are even able to organize their memories of personally-experienced events into cohesive narrative reports (Fivush, Haden, & Adam, 1995; Newcombe & Reese, 2004).

Children not only become better at remembering more information over time, but they also remember a higher ratio of accurate to inaccurate information over time. For example, Beuscher and Roebbers (2005) tested 6, 8, and 10 year old children's memories about a brief video 1 week after its presentation. They found that the number of correct responses about the video increased with age and that the 6 year olds included a higher proportion of false details into their reports than either of the older age groups. Further, older children were more likely to respond "I don't know" when they were asked leading questions for which "I don't know" was the most appropriate answer. The authors also tested whether children could effectively utilize social information to monitor their reports for accurate information. Half the children were told that the experimenter was not knowledgeable about the video prior to the interview. If children understood that the experimenter had no special knowledge, and could successfully use this information to monitor their memories, then they should have been less influenced by any unanswerable questions the experimenter asked. However, the information made no difference in the accuracy of children's reports. The authors suggest that this null finding implies that young children have difficulties in monitoring their memories based on a social "warning". For a comprehensive review on memory development, see Peterson, 2012.

Finally, susceptibility to suggestion can play a major part in children's memory accuracy. Suggestibility refers to a wide range of factors that may influence a person's memory report. Ceci and Bruck

(1995) provide a comprehensive definition of suggestibility that will be the basis of the following discussion, "... suggestibility refers to the degree to which the encoding, storage, retrieval, and reporting of events can be influenced by internal and external factors" (p. 44). This brief definition encompasses critical distinctions that are missing in classic definitions of suggestibility. First, suggestibility may occur at any stage of the memory process, including at the point of reporting the event. Second, suggestibility may occur due to either internal or external factors. Implicit within this definition is the understanding that unlike previous conceptualizations of suggestibility, the current understanding is that a child's memory report may be inaccurate not only because the memory has been permanently altered (the cognitive or internal explanation), but it could also be because the child is making a superficial attempt to please the interviewer or some other interested adult (the social or external explanation; see Ceci & Bruck, 1995 for a review).

Age is the most robust and replicated individual difference in the suggestibility literature (see Ceci & Bruck, 1995 for a review and Brainerd & Reyna, 2012, for important exceptions). In most cases, young children are more susceptible to suggestion than are older children and adults. This has been a consistent finding since early in the 20th century (Stern, 1910, cited in Ceci & Bruck, 1993). This finding has been replicated more recently in varied contexts, including forensically relevant ones, and using varied types of suggestion. For example, Eisen, Qin, Goodman, and Davis (2002) found that preschool-aged children who were interviewed about an anogenital examination that they received as part of an ongoing abuse investigation were more susceptible to misleading questions than were their older counterparts (6–10 yr olds and 11–14 yr olds). This study is forensically relevant because the participants were children who were suspected of having been abused and because they were interviewed about an event that involved intimate physical contact and stress.

While age is the primary individual difference associated with event memory, the relationships between event memory and gender (e.g., Reese & Fivush, 1993), information processing (Schneider & Bjorklund, 1998), background knowledge (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994; Ornstein et al., 1998), socialization (Nelson & Fivush, 2004), narrative skill (Kulkofsky & Klemfuss, 2008; Kulkofsky, Wang, & Ceci, 2008; Nelson & Fivush, 2004), and as discussed above, language skills (Burgwyn-Bailes et al., 2001; Chae & Ceci, 2005; Gordon et al., 1993; Greenhoot et al., 1999; Gross & Hayne, 1999; Kulkofsky, 2010; Quas et al., 2005; Reese & Brown, 2000; Roebers & Schneider, 2005) have also been explored. However, the results have been mixed and the measures used to assess individual differences vary widely (see Bruck & Melnyk, 2004, for a review). Further, in a majority of studies the measures are associated with the number of details children report or recognize rather than the accuracy of the report.

The fact that there are individual differences in memory performance and that there are individual difference variables associated with memory performance suggests that the ability to remember and report past events is itself a consistent individual difference. However, few studies have examined the relationship between children's general memory skills and their ability to report a specific past event and within those that have been conducted; findings are equivocal (see Pipe & Salmon, 2002 for a review).

A majority of the limited research on individual differences in memory has focused on the relationship between general memory skills and suggestibility rather than on unbiased event memory (Bauer, 2006). Studies have demonstrated that memory for an event and suggestibility for that event have an inverse relationship suggesting that stronger memory for an event protects against suggestion (e.g. Pezdek & Roe, 1995). However, Bruck and Melnyk (2004) published a thorough review of the literature on individual differences and suggestibility and found that neither traditional measures of memory, nor standardized memory tests, nor event memory for a separate event were associated with suggestibility across studies. Therefore, while greater memory for an event is associated with less suggestibility for that event, event memory in general does not seem to be associated with susceptibility to suggestion.

In summary, while the memory system continues to develop well past the preschool years, young children can still provide accurate and detailed testimony. However, there are wide individual differences in the volume and accuracy of information children are able to report. Children also vary in their susceptibility to suggestive information regarding past events and therefore some children are more likely than others to incorporate suggested details into their memory reports. These differences make

memory ability a reasonable component to include in a full competency exam. Unfortunately, the developmental literature has had limited success identifying consistent individual differences in children's memory abilities. Few studies have demonstrated that general memory skills predict children's performance on a specific episodic memory test. Further research is warranted to determine whether general memory skill is a valuable addition to exams of testimonial competence.

Knowledge about truth and lies, and testimonial competency

Testimonial accuracy is the product of both the ability to recall and report correctly and the motivation to be truthful. Truth–lie competency is probed in court and pre-trial forensic interviews more frequently than is basic competency (Bala, Lee, Lindsay, & Talwar, 2010) and while the relationship between language and memory accuracy, and to a lesser extent general memory skills and memory accuracy, have been studied in the developmental literature, truth–lie competency has been examined more frequently in the context of testimonial competency (e.g. London & Nunez, 2002; Lyon, Carrick, & Quas, 2010; Talwar, Lee, Bala, & Lindsay, 2002; Talwar, Lee, Bala, & Lindsay, 2004). In fact, in some countries the empirical work on truth–lie competency assessment has had a direct impact on recent revisions to competence law (Bala et al., 2010).

Honesty is a major concern for courts and while legal guidelines stipulate that truth–lie competency assessments need only be conducted in cases where a child's competence is in question, children are frequently asked to demonstrate truth–lie competency under other auspices (Lyon, 2011). Courts are right to be wary because research has demonstrated that children are capable of lying by late toddlerhood or the early preschool years. There is an irony inherent in the court's assessment of truth–lie competency. Even very young children already view lies as morally unacceptable, and younger, less cognitively advanced children are less likely to lie successfully (see Talwar & Crossman, *in press*). Thus, children who are more likely to be honest (or unconvincing liars) are less likely to be found competent in a truth–lie screening due to their inability to define terms and articulate concepts.

To discourage children (and adults) from lying on the stand, most courts require some form of oath or promise to be honest. Children's truth–lie competency is generally assessed to ensure that the oath will be meaningful to them. Therefore, the requirement is twofold. Children must understand the distinction between true and false statements in order to understand what the oath requires (i.e. a declaration that they will be truthful), and children must understand the moral and punitive implications of telling falsehoods so that the oath will be meaningful to them.

If children are interviewed in an age-appropriate manner they are often found competent when answering questions testing their understanding of the truth/lie distinction and their understanding of the importance of telling the truth (Pipe & Wilson, 1994). Children as young as 20 months can reject false statements (Lyon, 2011), and by the age of two they view most lies as morally unacceptable. By the early preschool years children can explicitly accept true statements and reject false statements. Children also begin to develop the ability to label true and false statements as such, and label true statements as good and false statements as bad (Lyon et al., 2010; Myers, 1997). The dual purpose of the truth–lie competency exam is to encourage children to be honest and to distinguish which children are likely to be honest on the stand. Critically, discussions about the morality of truth-telling and individual differences in knowledge about truths and lies rarely influence or predict children's actual behavior (e.g., London & Nunez, 2002; Lyon et al., 2010; Talwar et al., 2002, 2004). However, children are heavily influenced by a developmentally-appropriate promise to be truthful. This finding has been replicated in children from the early preschool years through adolescence. Several studies have examined the relationships between truth–lie understanding, promises to tell the truth, and children's truth-telling behavior. Talwar et al. (2004) examined children's lying behavior aimed at concealing a parent's transgression. Parents were instructed to stage breaking a toy in the presence of their children and to act distressed and ask their children to conceal the breakage from the experimenter. Children were then interviewed about the staged event by the experimenter, completed a test of their conceptual understanding of truths and lies with a promise to tell the truth, and then they were interviewed about the staged event again. Children's conceptual understanding of truths and lies was related to their lying behavior only after they promised to tell the truth to the experimenter. However,

the association was driven only by children's responses to the question asking whether their parent broke the toy. Children with higher competency scores were more likely to be honest on this item. Further, children were significantly more likely to be honest about their parent's transgression after they made a promise to the experimenter that they would tell the truth. However, the promise did not affect the likelihood that they would falsely implicate themselves in the transgression.

A frequently-used method for eliciting lying behavior from children is a temptation resistance paradigm (TRP, [Talwar & Lee, 2011](#)). The basic structure of TRP is that children are introduced to a desirable object and instructed not to peek, or not to interact with it in the experimenter's absence. They are then left in a room with the object and are surreptitiously monitored. When the experimenter returns children are asked whether they followed the experimenter's instructions. Most children peek, and most of those children lie to the experimenter in this paradigm, demonstrating that children are capable of lying to authority figures, and affording researchers the opportunity to study children's deceit in a laboratory setting ([Talwar & Lee, 2011](#); [Talwar et al., 2002, 2004](#)).

In one study utilizing the TRP methodology, [Talwar et al. \(2002\)](#) found that 82–84% of 3–7 year-old children peeked at a toy that they were instructed to not peek at and most of the children who peeked (up to 79.6%) lied to conceal their transgression. In study 1, there was no relationship between conceptual understanding of truths and lies and truth-telling behavior, but in study 2, in which all children were asked to promise to tell the truth, conceptual understanding had a limited relationship with lying behavior. Children who lied were more accurate at one of the competency questions which asked them to classify a lie. The more robust finding was that children who promised to tell the truth were significantly less likely to lie to conceal their transgression. Using a similar paradigm, [London and Nunez \(2002\)](#) also found that engaging 4–6 year-old children in truth–lie discussions that included a promise to tell the truth reduced children's tendency to lie to conceal a transgression.

The TRP methodology has been recently modified and applied to older children. [Evans and Lee \(2010\)](#) left 8–16-year-old children alone in a room with a booklet containing the answers to a challenging test. The children were instructed not to peek at the answers, but like with the younger children in the studies above, many (54%) peeked. Most of the children who peeked (84%) also lied to conceal their transgression. The authors found that discussing the morality of truths and lies did not increase the children's truth-telling behavior, but like in the studies with young children, promising to tell the truth made them significantly more likely to tell the truth.

Studies examining the relationship between truth–lie discussions and children's actual behavior consistently show that eliciting a promise to tell the truth is more effective than a discussion about the morality of truth-telling. These studies also demonstrate that individual differences in children's explicit knowledge about truths and lies have only a limited and inconsistent relationship with children's truth-telling behavior. This is particularly true when children are motivated to conceal their involvement as victims in abuse situations. In the above studies children's conceptual knowledge was unrelated to their lying behavior aimed at concealing the children's transgressions. This could apply to legal situations when for example, children feel that they are partially to blame, or might be punished because of their involvement in abuse. Therefore, it seems that while truth–lie competency assessments are more ubiquitous than basic competency assessments in the US, truth–lie discussions do not improve children's accuracy nor do individual differences in children's conceptual understanding of truths and lies reliably predict children's accuracy. Instead, requiring children to take a child-friendly oath is likely to accomplish more than conceptual discussion or assessments of individual differences in truth–lie knowledge ([Bala et al., 2010](#); [Lyon, 2011](#); [Lyon, Malloy, Quas, & Talwar, 2008](#); [McGough, 1994](#); [Talwar et al., 2002, 2004](#)).

Previous research on assessing testimonial competence

There has been little research focused on developing tests of testimonial competence. The little research available either fails to examine predictive validity of competency exams or cumulatively suggests that basic competency may be more predictive of testimonial accuracy than is truth–lie competency. In her unpublished dissertation, [Hansen \(1990\)](#) examined children's attitudes about truths and lies and their cognitive capacities relevant to legal competence standards. However, the

findings are limited by the small sample size (six 1st graders, six 4th graders, and five 7th graders). Children were presented with vignettes in which hypothetical children had to make decisions about whether to tell the truth or lie. Independent observers rated children's responses to the vignettes for their attitudes toward truth-telling and their cognitive capacity (the ability to understand instructions, pay attention, speak clearly, cooperate, be understood). These factors were used to make competency decisions. Children were deemed competent to testify if they scored well on both the attitudes and the capacity competent.

On average, the 1st graders were rated as having "good" attitude and capacity scores, 4th graders had "very good" to "excellent" scores, and 7th graders had "good" to "very good" scores. Only 3 of 5 7th graders and 5 out of 6 4th graders were judged competent to testify sworn. Thus 60% of 7th graders and 83% of 4th graders were found competent using the Hansen exam, which is inconsistent with current practice of finding the vast majority of child witnesses competent to testify.

Lyon and Saywitz (1999, 2000) developed a child-friendly test of truth–lie competency. Young children have difficulty answering questions that call for abstract conceptualizations, such as "What is the difference between the truth and a lie". Therefore, the literature supports the use of simple identification questions that reduce the reliance on language when assessing children's understanding of truths and lies and the consequences of telling falsehoods (Lyon & Saywitz, 1999, 2000). The Lyon and Saywitz (1999) exam minimizes the burden on linguistic expression and uses children's cumulative score across repeated trials to reduce the likelihood that a child could pass the competency inquiry by chance. The exam assesses both children's understanding of the difference between truths and lies and their understanding of the moral obligation to tell the truth.

In the first portion of the exam children are presented with a series of images and accompanying narratives in which two cartoon children look at the same object and one reports what the object is, and the other reports a different object. Children are then asked to point to the cartoon child that told the truth. This is repeated four times with the position of the honest child and the objects reported varying between trials. Similarly, in the morality portion of the exam children see four cartoon images and listen to narratives in which the hypothetical children either tell the truth or a lie to different adult authority figures. The task requires child participants to indicate which child will get in trouble.

The oath-taking competency task (Lyon & Saywitz, 1999) is associated with some differences in children's testimonial behaviors. Lyon and Dorado (2008, study 2) showed that maltreated children who failed the oath-taking competency task were more likely to falsely assent to an adult's supposed transgression, but only if they were reassured by the interviewer. Competency status had no relationship with the efficacy of the promise to be truthful. In another study Lyon et al. (2008) found that children's performance on the oath-taking competency task predicted the accuracy of children's responses to questions that pre-supposed wrong-doing. However, like in Lyon and Dorado (2008, study 2) competency on the task was unrelated to the efficacy of an oath to be truthful. The latter finding shows that even using developmentally appropriate procedures truth–lie competency is not consistently associated with the impact of the oath. However, critically, even children who were unable to pass the competency exam were influenced by a promise to be honest. So even very young children who fail simple competency tasks appear to have an implicit understanding of what it means to be honest and they are more likely to tell the truth when they have promised to do so.

We recently conducted a study in which we addressed whether the types of competency questions that might currently be in use in US courts (forensic measures) could predict children's testimonial accuracy and to test whether standard psychological tests of competence (empirical measures) could more robustly predict accuracy (Klemfuss, 2011). The forensic language measures were blind ratings of children's receptive and productive language abilities based on transcripts of unstructured conversation with the interviewer. The forensic memory measure was coded from children's responses to prompts about four past events (that morning, the previous day, the child's last birthday, and the previous summer). The empirical language measures were the Syntactic Understanding (SU) and Relational Vocabulary (RV) subtests of the Test of Language Development – Primary, Fourth Edition (TOLD-P:4, Newcomer & Hammill, 2008) and the Verbal Intelligence (VI) subtests of the Wechsler Preschool and Primary Scale of Intelligence – Third Edition (WPPSI-III, Wechsler, 2002). The empirical memory measures were the Child Memory Scale (CMS, Cohen, 1997), and the open-ended and suggestive portions of the Video Suggestibility Scale for Children (VSSC, Scullin & Ceci, 2001). Children also

participated in a series of staged events with a confederate, which included reading a book, playing a game of “Simon Says”, and watching demonstrations with a series of toys. Children’s accuracy was calculated as a ratio of correct to incorrect information provided in the memory interview about the staged events. Ratios of correct information to incorrect information were calculated for the free recall portion of the interview and closed-ended section.

We created a competency cutoff for analyses so that children who could provide more accurate information than inaccurate information were considered competent. Thirty-one percent of children in the sample were not competent to provide open-ended testimony and 27% of children were not competent to answer direct questions. Twenty-seven percent of the sample was competent to provide only one form of testimony (open- or closed-ended) and 15% of the sample was not competent to provide either form of testimony. Children who were most accurate in their open-ended responses were older, higher on both of the forensic variables, and higher on VI, SU, CMS, and VSSC free recall. Children who were most accurate in their closed-ended responses had higher scores on every language and memory variable except for VSSC suggestibility and the forensic memory measure.

When child age and all language measures were entered into regression models predicting children’s free recall accuracy and children’s closed-ended accuracy, the only variable that remained significant was Verbal Intelligence. In regression models with age and all memory variables included CMS was associated with children’s accuracy on the open-ended recall questions about the staged events and children’s open-ended recall from the VSSC was associated with their accuracy on the closed-ended questions. Regression models with the significant language and memory variables entered explained 16% of the variance in the accuracy of children’s free recall and 30% of the variance in children’s closed-ended response accuracy.

In summary, a surprisingly high percentage of children in this study were unable to provide a ratio of accurate to inaccurate information greater than 1:1, despite having higher than average standardized test scores (for VI, SU, and CMS, but not RV). This may have been because the staged events had low salience for children, and because some of the closed-ended questions were designed to be challenging and some were designed to be misleading. However, the latter two components are also likely to be true in legal contexts. Finally, empirical measures of children’s basic competencies significantly predicted the accuracy of their testimony, and more so than generous estimations of basic competency questions currently used in courts. While the basic competency model proposed here leaves most of the variance in children’s response accuracy to be explained, it is likely far more predictive than current practice and allows for standard competency assessment across trials. Further research is warranted to examine whether basic competency screening can aid in decisions about children’s testimonial accuracy above reliability and credibility assessment.

The current burden on credibility

The law recommends a reduced emphasis on competency in favor of a greater emphasis on credibility. The advisory committee’s note to the Federal Rules of Evidence (601) states:

No mental or moral qualifications for testifying as a witness are specified. Standards of mental capacity have proved elusive in actual application. A leading commentator observes that few witnesses are disqualified on that ground. Discretion is regularly exercised in favor of allowing the testimony. A witness wholly without capacity is difficult to imagine. The question is one particularly suited to the jury as one of weight and credibility, subject to judicial authority to review the sufficiency of the evidence. (Fed. R. Evid. 601, advisory committee’s note)

Because the law and practice are ambiguous when it comes to competency standards for children, the federal court and some legal theorists suggest excluding competency standards altogether and relying on judgments made by the jury under the supervision of the judge. The merit of this proposal is that in the absence of reliable and valid tools with which to estimate competency, competency examinations have no predictive value, and therefore, should not have much influence on the decision about whether to include a child’s testimony. However, placing the burden on jurors’ estimations of weight and credibility may be problematic as well.

Judging a child's credibility is no simple task. In fact, even professionals who are trained and experienced in credibility assessment (e.g., customs officers) are often no better than chance at establishing whether a particular child has provided honest testimony (Leach, Talwar, Lee, Bala, & Lindsay, 2004). When children's reports have been tainted by suggestion, they can be particularly difficult to distinguish from true reports (Bruck & Ceci, 1999; Principe & Schindewolf, 2012).

A number of studies have been conducted examining jurors' and jury-eligible adults' abilities to detect children's deception (Goodman et al., 2006; Leach et al., 2004; Nysse-Carris, Bottoms, & Salerno, 2011; Shao & Ceci, 2011). Even in contexts designed to increase children's cues to deception, adults are not very good at distinguishing true from fabricated reports. Nysse-Carris et al. (2011) asked adults to rate videotapes of truthful and deceitful 3–6 year-old children. The children who provided the dishonest reports were highly motivated to lie to protect a loved one, to hide a transgression, and to gain personal rewards. The authors predicted that high motivation to lie would result in high stress, which would in turn lead to an increase in cues to deception. While adults were better than chance at detecting deception, accuracy was quite low. Novice adults were correct 64% of the time and were biased to label children as liars. Thus, in an ecologically valid context where children are stressed by a high motivation to conceal information, adults are only slightly better than chance at detecting children's deception.

Goodman and colleagues (Goodman et al., 2006) examined deception detection in a different ecologically valid context. They staged elaborate mock trials in which some children were coached to lie live in court, via videotaped interview, or second-hand through a social worker. Jurors were above chance at detecting deception when children testified live and were asked direct questions about touching that did not occur. However, across all other contexts and question types, jurors were at chance. These findings and those from Nysse-Carris et al. (2011) are in line with a majority of the body of literature in this field. Despite many verbal and non-verbal cues which have been identified to distinguish true from false reports, intuitive lie-detection is usually no better than chance (Leach et al., 2004).

A recent study (Shao & Ceci, 2011) demonstrated that adults were poor at rating the credibility of children who were coached to lie and those who spontaneously incorporated suggested details. Adults demonstrated a truth bias across conditions and rated children who were misled as the least credible group. Credibility and accuracy relationships were below chance for both the children who were lying and the children who were misled, suggesting that children who are inaccurate through mistaken memory or suggestion are also difficult to distinguish from accurate children (Bruck, Ceci, & Hembrooke, 1998; Ceci & Bruck, 1993; Shao & Ceci, 2011).

In a classic example of the difficulty of assessing the credibility of suggested information, Leichtman and Ceci (1995) examined forensic professionals' credibility assessments based on videos of children's interviews about a staged event. A man named Sam Stone visited children's classrooms, and while very little happened during his visit, some children were exposed to a stereotype that Sam Stone was clumsy before he visited, and some of the children participated in repeated suggestive interviews after the visit. Many of the children who received just the stereotype, who received just suggestion, or who received both, incorporated the suggested details in their reports. Videotapes of the final memory interviews for three of the children in the stereotype plus suggestion group were shown to a series of professionals in the area of child testimony. One of the children was highly accurate, one was highly inaccurate, and the third child was in between. On average, professionals were convinced that 2 out of 4 of the suggested details had actually occurred after viewing the videotapes. Further, they rated the most accurate child as the least credible, and the least accurate child as the most credible. These findings demonstrate that even credibility assessments made by experts may not reflect children's accuracy (see also Ceci, Crotteau-Huffman, Smith, & Loftus, 1994; Ceci, Loftus, Leichtman, & Bruck, 1994).

In summary, adult, even expert adult, credibility assessments are often not predictive of children's accuracy. This may be because some of the factors that experts and laypersons associate with increased credibility are not consistently linked with accuracy in the empirical literature (Bruck, Ceci, & Hembrooke, 2002). One such example is consistency of children's testimony over time. Jurors rely heavily on children's consistency when making credibility assessments (Leippe, Manion, & Romanczyk, 1992; Ross, Dunning, Togliola, & Ceci, 1990) and legal and forensic professionals often agree with this perspective (Conte, Sorenson, Fogarty, & Rosa, 1991). The legal system also implicitly endorses

the use of consistency as a measure of accuracy through frequent attacks on children's testimonial consistency during cross-examination (Quas, Davis, Goodman, & Myers, 2007). However, the empirical findings regarding consistency and accuracy are mixed.

Some findings suggest that consistency of reporting is an indicator of accuracy (Bruck et al., 2002; Gordon & Follmer, 1994). Details that are repeated across interviews have also been found to be more accurate than details that are not consistent (Peterson, Moores, & White, 2001). Other work found that consistency was related to accuracy, but inconsistency was not (Bruck et al., 1998). However, other researchers have found that consistency is not associated with accuracy (Hammond & Fivush, 1991; Quas et al., 2007). Hammond and Fivush (1991) found that preschoolers' reports were highly inconsistent across interviews, but were nonetheless mostly accurate. Quas et al. (2007) found that when some children were coached to lie about innocuous touching and some children told the truth, it was the children who were touched and told the truth about it that were the most inconsistent. These contradictory findings suggest that consistency is not a reliable indicator by which to assess credibility (Malloy & Quas, 2009).

There are additional factors that adults may use to assess children's credibility that have received less attention. These factors include powerfulness of speech/speaker confidence (Ruva & Bryant, 2004), and the type of case about which the child is testifying (McCauley & Parker, 2001). Adults have been shown to use the powerfulness of speech and the confidence of the speaker as measures of credibility. This finding has been firmly established in the literature on adult witnesses (see Wells & Murray, 1984, for a review), and there is some evidence that adults also use powerful speech and confidence to assess child witness credibility (Ruva & Bryant, 2004). However, a majority of research finds that there is no relationship between eyewitness confidence and the reliability of testimony, particularly for children (see Parker & Carranza, 1989; Keast, Brewer, & Wells, 2007, for child witness data and Krug, 2007, for a review of the adult witness data).

Finally, while there is some evidence that adults assess children's credibility differently depending on the type of case the child is testifying about (McCauley & Parker, 2001) it is unclear whether the type of case a child is involved in will have a real impact on the reliability of her testimony. One of the assumptions underlying the use of case type in establishing credibility is that children do not have the knowledge or vocabulary to describe sexual abuse unless they have actually experienced it or observed sexual acts. Therefore, it becomes a question of whether it is possible for a child to describe sexual acts in a credible way without having experienced them first hand. One alternate explanation is that adult suggestion and coaching could implant this information in a child's report.

Depending on the amount of access a biased adult has to a child it may be possible to implant realistic false memories of even graphic sexual abuse. Therefore, the question is no longer whether children spontaneously come up with realistic sexual descriptions, but whether, and how much a child has been exposed to a biased adult, or exposed to sexual material other than abuse. Without direct experience or intense suggestion it is unlikely that a child will provide credible testimony about sexual abuse. However, fact finders must keep in mind that children are susceptible to source misattributions, even more than adults. A child's abuse report may actually have originated in a sexual event they saw second hand, or from suggestive questioning. The type of case alone should not be a measure of a child's reliability. Instead, these alternate explanations should be explored in conjunction with the child's testimony.

While lay adults are generally inaccurate at distinguishing accurate from inaccurate children, some of the child variables that they report using to distinguish accurate from inaccurate children are in line with the empirical literature. For example, adults sometimes factor estimates of children's honesty into their credibility assessments. McCauley and Parker (2001) found that participant assessments of child-victims' honesty were related to credibility estimates and decisions about length of sentencing. Ross, Jurden, Lindsay, and Keeney (2003) found that adults who rated a 10-year-old female witness as more honest also rated her as more credible.

However, we have already presented empirical evidence that has demonstrated that while adults can be above chance at distinguishing which children are lying, they are far from ceiling at these predictions and are usually no better than chance when predicting which children are telling the truth. While honesty is required in order to have reliable testimony assessing honesty based on observation of a single child's in-court testimony is unreliable at best. Further, jurors tend to assume that young

children are more honest than adults are and this may further skew their assessments (Ross et al., 1990).

Adults are also wary of testimony elicited through suggestion (Castelli, Goodman, & Ghetti, 2005; Tubb, Wood, & Hosch, 1999). Children are capable of providing reliable testimony if the testimony is elicited through appropriate techniques. However, as discussed previously, because children are often more vulnerable to cognitive and social pressures than are adults, their memory can be even less reliable than adults' when they are interviewed suggestively. Not all children are vulnerable to suggestion, but the odds that a child's testimony will be inaccurate increase with exposure to suggestion. Therefore, the identification of suggestive questioning as a means of establishing credibility may be a useful technique even though courts are often limited to assessing suggestive questioning only in the current context.

While adults hold some beliefs about children's credibility that align with developmental literature, they also hold some erroneous beliefs and overall adults' lay estimates of children's credibility are not related to children's accuracy. Therefore, reliance on credibility assessments for evaluating child testimony is not likely to be an effective or just technique for getting at the truth of a case. An objective and standard measure of testimonial competence could prove particularly useful in shielding courts from biasing or irrelevant testimony.

Summary

- Language skill is associated with children's accuracy.
- General memory skill is inconsistently associated with children's accuracy.
- Truth–lie competency is rarely associated with truth-telling behavior.
- Promising to tell the truth increases honesty.
- Adults are poor at detecting children's accuracy.

This review has highlighted the empirical research on normative child development in the domains included in testimonial competency standards. We discussed measurable individual differences between children in language abilities, memory skills, and knowledge about truths and lies. We have also presented research that demonstrates that children's language skills are predictive of the volume and accuracy of their memory reports, that there is little evidence that general memory skills predict later memory performance, and that the best predictor of children's truth-telling behavior is eliciting a developmentally-appropriate promise to tell the truth. Further, we have shown that courts tend to focus on children's knowledge about truths and lies when conducting competency assessments, even though it is usually not predictive of children's testimonial performance. In the previous section we argued that while in general, competency assessments are devalued compared with credibility assessments by jurors, it is unclear whether credibility assessments are better able to predict children's accuracy.

Issues and recommendations

The developmental and legal literature suggests that a shift in emphasis is warranted in competency evaluations. In the empirical literature “testimonial competency” sometimes refers to basic and truth–lie competency combined, sometimes refers to truth–lie competency, and sometimes refers to general developmental competency that has little relation to legal standards. We propose that the elements of legal competency be examined separately when evaluating the efficacy of competency assessments. As discussed, there seems to be little utility in using truth–lie competency assessments in court. These assessments have little to no predictive validity, do not improve children's performance on the stand, and are overshadowed by a simple request for honesty. However, basic competency has the potential to predict at least some of children's testimonial performance, and therefore, could be a valuable tool especially if standardized to ensure the reliability and validity of competency exams. Standardizing competency tests encourages equitable evaluation in competency exams and

may discourage appeals on the grounds of competency decisions saving courts valuable time and resources.

We also demonstrated that in one study in our lab, clinical assessment of children's language and memory skills using standardized exams predicted children's testimonial performance more than did the questions that might typically be asked in court (Klemfuss, 2011). This not only gives more support to the argument for using standard measures for assessing competency between children, but it also lends support for the argument that forensic interviewers should regularly conduct full competency assessments when interviewing child witnesses and that judges should use these assessments as the basis for competency decisions.

Allowing child testimony and increasing accuracy

A major concern related to competency assessment is that children who fail competency tests are excluded from providing testimony of any kind and this often means that the case cannot be tried. This prospect is especially troubling given that there are currently no functional guidelines for establishing basic competency. The answers to this problem have been to reserve child competency exams for situations in which there is question about a particular child's ability to provide testimony on the stand and to set a low bar for testimonial competency.

As mentioned above, competency-like decisions are also made through other legal mechanisms. For example, if a judge decides that a child's testimony is irrelevant, or may unfairly prejudice the jury, it can be excluded on those grounds. *Relevance* refers to whether evidence proves what it is offered to prove and *prejudice* refers to how diagnostic evidence is compared with how likely the fact-finder is likely to misuse it (Lyon, 2011). These standards could be applied in conjunction with more empirically-informed competency exams to keep predictive validity high and ensure that most children will still be allowed to testify. In other words, the cutoff for what is considered sufficient competency could be relevance and potential prejudice. This would set a low bar for what is considered acceptable testimony (Ceci & Friedman, 2000–2001), but one that is legally grounded and already defined.

Another issue to consider is that a child who is found incompetent to provide in-court testimony, even with updated evaluative standards, may still be able to provide relevant evidence outside of the courtroom ("hearsay" evidence). However, a finding of incompetence often bars the inclusion of children's prior statements. For this reason, some scholars have recommended hearsay be allowed more liberally for child witnesses. These authors have drawn on support from developmental psychology literature and have proposed legal mechanisms to accommodate their recommendations (Friedman & Ceci, in preparation; McLain, 2011).

McLain (2011) points out that children who are found incompetent to testify at trial may have been competent when they made pretrial statements and therefore, when hearsay exceptions apply to these out-of-court statements, they should be allowed as evidence. For example, because pretrial statements are made closer in time to the alleged event they are less taxing on memory, particularly for young children, who often have more difficulty than adults remembering information over extended periods of time. Therefore, a child might have sufficient memory of a past event to report it shortly after the event occurred, but later their memory may have faded to such an extent that they are no longer capable of providing testimony about it.

Friedman and Ceci (in preparation) recommend a new category of child witness ("quasi-witness") and argue that while the vast majority of children are competent to provide evidence, a larger subset of young children are not competent to provide in-court testimony. They argue that these children should be allowed to provide evidence via out-of-court statements and that the accused should be allowed to examine these children via a qualified child forensic psychologist. These authors conceptualize statements by quasi-witnesses as non-testimonial, and therefore, they would qualify under hearsay exception. This is a promising means by which to identify vulnerable child witnesses while allowing them to provide evidence in a context that is likely to enhance their testimonial accuracy opposed to excluding their evidence altogether. Children's pretrial interviews, by nature of being closer to the alleged event, are not only less taxing on memory (see McLain, 2011), but provide less time for suggestive influence to be introduced prior to the interview. They are also less stressful for the child

(see Hall & Sales, 2008), and if the interviewer adheres to recommended protocols, the interview is likely to include more child-sensitive language and interviewing techniques (Orbach et al., 2000; Sternberg et al., 2001), thus optimizing conditions for recall.

Conclusions

The core legal conceptualization of competency, encompassing the ability to understand and answer simple interview questions, to observe and recall events, and to understand the conceptual and moral nature of truths and lies, has remained largely unchanged in US law for centuries. Basic developmental research suggests that individual differences in children's language abilities are in fact related to the volume and accuracy of children's eyewitness reports, so if measured sensitively, this component of the exam may truly reflect competency to testify. However, there is not much data on the relationship between individual differences in children's general memory skills and specific testimonial performance, which precludes any speculation into the practical value of this aspect of basic competency. Finally, the data concerning individual differences in children's knowledge and moral stance about truths and lies suggests that truth–lie competency does not reliably predict honesty, and therefore, there is a compelling argument for excluding this portion of the exam. Recent legislation in Canada has already incorporated these latter findings as well as the evidence that a child-friendly oath is sufficient to improve children's honesty (see Bala et al., 2010). Under the new Canadian law, children are no longer asked to demonstrate truth–lie competence before testifying.

Research in the past two decades has begun drawing distinctions between children's performance on tests of testimonial competency and their performance in court. This distinction is both counterintuitive and disturbing. The effect of unreliable and non-validated competency exams is that incompetent children may be put on the stand and competent children may miss their opportunity for justice. Further, the inability of adults to perceive which children are accurate and truthful may lead both to discounting viable testimony and to convicting based on unreliable testimony.

Further research on issues surrounding testimonial competence assessment is warranted in order to identify procedures that best predict children's testimonial capabilities. This work can also help determine whether well-designed and carefully-administered basic competency exams are assets to achieving justice or simply misleading in regards to a particular child's potential as a witness. Researchers and policy-makers should also bear in mind that the consequences of inaccurate competency decisions are exclusion of valuable evidence on the one hand, and inclusion of biasing evidence or waste of court resources on the other hand. Both issues can potentially be minimized by developing reliable and valid tests of competence. Additionally, assessing competency separately for in-court and out-of-court statements and lowering the bar for inclusion of children's out-of-court statements will result in higher-quality reports from young children and a higher likelihood that a given child will be able to provide evidence in a case.

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