

# The Influences of Delay and Severity of Intellectual Disability on Event Memory in Children

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**Objective:** To examine the ability of children with intellectual disabilities to give reliable accounts of personally experienced events, considering the effects of delay, severity of disability, and the types of interview prompt used. **Method:** In a between-subjects design, we compared children with intellectual disabilities (7–12 years) that fell in either the mild–borderline range ( $n = 46$ ) or the moderate range ( $n = 35$ ) and typically developing children matched for either chronological age (7–12 years;  $n = 60$ ) or mental age (4–9 years;  $n = 65$ ) with respect to memories of an interactive event about which they were interviewed after either a short (1-week) or long (6-month) delay. Children were interviewed using the National Institute of Child Health and Human Development (NICHD) Investigative Interview Protocol (Lamb, Hershkowitz, Orbach, & Esplin, 2008) to elicit their recall of the event and were then asked a series of highly suggestive questions to allow both their reliability and suggestibility to be examined. **Results:** The children with mild intellectual disabilities were as able as their mental age matches, whereas children with more severe cognitive impairments were qualitatively different across the various competencies examined. However, even children with more severe impairments were highly accurate in this supportive interview context. **Conclusions:** The findings indicate that children with intellectual disabilities can be valuable informants when forensically interviewed and can provide clear guidance about the ways in which they should be interviewed.

**Keywords:** eyewitness testimony, intellectual disabilities, developmental delay, forensic interviews, suggestibility

The past two decades have seen the development of research-based recommendations for the conduct of forensic interviews with typically developing (TD) children who have been witness to, or victims of, crimes (Lamb, Hershkowitz, Orbach, & Esplin, 2008). Less attention has been given, however, to particular groups

of vulnerable witnesses, including those with intellectual disabilities (also referred to as learning difficulties, developmental delays, developmental disabilities, learning disabilities, or mental retardation) and those with other disorders usually first diagnosed in infancy, childhood, or adolescence (e.g., pervasive developmental disorders such as autism, and attention deficit and disruptive behavior disorders such as attention-deficit/hyperactivity disorder [ADHD]). Children with disabilities are a particularly vulnerable group of witnesses. They are both more likely to experience or witness abuse (Balogh et al., 2001; Crosse, Kaye, & Ratnofsky, 1993; Goldman, 1994; Hershkowitz, Lamb, & Horowitz, 2007; Randall, Parrila, & Sobsey, 2000; Reiter, Bryen, & Shachar, 2007; Sedlak & Broadhurst, 1996a, 1996b; Sobsey & Doe, 1991; Sobsey & Mansell, 1994; Sobsey, Randall, & Parrila, 1997; Sullivan & Knutson, 1998, 2000; Verdugo, Bermejo, & Fuertes, 1995; Vig & Kaminer, 2002; but see also Jaudes & Mackey-Bilaver, 2008) and yet less likely to report their abuse or to have their complaints investigated (Goldman, 1994; Reiter et al., 2007; Sharp, 2001) in a developmentally appropriate manner (Cederborg & Lamb, 2008), or have their capacities and limitations recognized in court (Cederborg & Lamb, 2006; Westcott & Jones, 1999). Thus, researchers and practitioners in a number of relevant fields (e.g., law, social services, policing, psychology) are increasingly recognizing the need for empirical research to provide an evidence base from which to (1) inform expectations of these witnesses; (2) guide the

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conduct of interviews that facilitate reporting without compromising reliability; and (3) develop resources, guidelines, and education for the legal system to improve access for alleged victims or witnesses who are both young and intellectually challenged.

There is a widespread perception that children with intellectual (or learning) disabilities (CWID) are even less able to provide meaningful accounts of their experiences than typically developing children (Aarons & Powell, 2003; Aldridge & Wood, 1998; Ericson, Perlman, & Isaacs, 1994; Henry, Bettenay, & Carney, 2011; Nathanson & Platt, 2005). Indeed, cognitive impairment is a central diagnostic feature of intellectual disability, and comorbid communication deficits are not uncommon. Police officers often feel they have insufficient skills, resources, and support when interviewing witnesses with intellectual disabilities, perceiving them as difficult interviewees as a result of behavioral difficulties and cognitive, communicative, and attentional limitations (Aarons & Powell, 2003; Aarons, Powell, & Browne, 2004; Milne, 1999; Sharp, 2001). Negative perceptions about the reliability and suggestibility of witnesses with intellectual disabilities appear to be widespread among police officers, legal professionals, and mock jurors (Aarons & Powell, 2003; Nathanson & Platt, 2005; Peled, Iarocci, & Connelly, 2004; Stobbs & Kebbell, 2003), meaning that cases are less likely to be investigated because successful outcomes (i.e., guilty verdicts) are deemed unlikely (Aarons & Powell, 2003; Aarons et al., 2004). Nevertheless, this group increasingly *does* participate in forensic interviews and court trials in a number of countries (e.g., Cederborg, Danielsson, LaRooy, & Lamb, 2009; Cederborg & Lamb, 2008; Cederborg, LaRooy, & Lamb, 2008; Connolly, personal communication, June 2011; Hanna, Davies, Henderson, Crothers, & Rotherham, 2010), despite the concerns outlined above. Indeed, 4% of the children testifying as witnesses in New Zealand recently had an intellectual disability (Hanna et al., 2010), and between August 2009 and June 2011, 215 applications were made for registered intermediaries to support child witnesses in the United Kingdom (Connolly, personal communication, 2011). Furthermore, whether a case ultimately reaches court or not, CWID are likely to be "interviewed" in a number of contexts, both informal (e.g., by parents, caregivers, or the persons they first disclosed to) and formal (e.g., child protection workers, investigators, attorneys). Thus, evidence-based information about how CWID narrate their personal experiences and the interviewing strategies that may enhance or detract from the accuracy of their accounts is sorely needed.

Even when cases involving CWID reach court, procedures and attitudes undermine their ability by seldom acknowledging or accommodating witnesses' intellectual difficulties (Cederborg & Lamb, 2008; Kebbell, Hatton, & Johnson, 2004; O'Kelly, Kebbell, Hatton, & Johnson, 2003). Although complex, directive, and suggestive questions abound, judges tend not to intervene to reduce the potentially harmful impact of such questions on the witnesses' reliability and credibility (Kebbell, Hatton, Johnson, & O'Kelly, 2001).

There are many possible reasons why intellectual disabilities may compromise children's abilities to provide meaningful and reliable eyewitness testimony (Henry et al., 2011). Slower information processing, poorer comprehension of events, and more specific deficits (particularly in working memory and executive control) may reduce the amount of information that is encoded (Clements, 1998; Henry, 2001; Milne & Bull, 1999; Swanson,

1990; Swanson & Trahan, 1990; Vicari, 2004). Communicative deficits may mean that CWID are less able to report what they do recall (Clements, 1998; Ericson et al., 1994; Moss, 1998). Social demands during the interview or court testimony may make these children more susceptible to suggestive techniques (Sigelman, Budd, Spanhel, & Schoenrock, 1981), and cognitive limitations may allow them to be confused more easily by lawyers' questioning styles (Ericson et al., 1994). In reality, any or all of these processes may be at play, because CWID do not comprise a homogenous group, even when they share diagnostic labels (Cederborg & Lamb, 2008; Clements, 1998; Hatton, 1998; Vicari, 2004).

Despite widespread perceptions that CWID make less able witnesses, the findings are inconsistent and vary depending on question type and the type of competency assessed (e.g., recall vs. suggestibility). When information is elicited with open questions or during free recall, for example, CWID have been shown to provide as much information as typically developing (TD) children (chronological age- [CA-]matched: Agnew & Powell, 2004; Dent, 1986, 1992; Henry & Gudjonsson, 1999, 2003; mental age- [MA-] matched: Agnew & Powell, 2004; Gordon, Jens, Hollings, & Watson, 1994; Henry & Gudjonsson, 1999; Jens, Gordon, & Shaddock, 1990; Michel, Gordon, Ornstein, & Simpson, 2000), less information than CA-matched children (Henry & Gudjonsson, 2004, 2007; Michel et al., 2000), and more information than MA-matched children (Henry & Gudjonsson, 2003). When asked closed or specific questions, CWID provide as much information as MA-matches (Henry & Gudjonsson, 1999; Jens et al., 1990; but see Gordon et al., 1994) and less than CA-matches (Dent, 1986, 1992; Henry & Gudjonsson, 2003, 2004, 2007). Findings concerning suggestibility are similarly inconsistent, with some studies revealing no differences between CWID and CA- or MA-matched children (Henry & Gudjonsson, 1999, 2004; Jens et al., 1990; Robinson & McGuire, 2006) and others showing heightened suggestibility relative to CA-matches (Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999, 2007; Michel et al., 2000; Young, Powell, & Dudgeon, 2003). Almost without exception, however, researchers have shown no differences in the overall accuracy of the accounts provided by CWID and TD children responding to open questions (Agnew & Powell, 2004; Henry & Gudjonsson, 2003). As with TD children, the amount and quality of information elicited from CWID is affected by the way in which they are interviewed (Brown & Lamb, 2009; Brown, Lamb, Pipe, & Orbach, 2008).

Cross-study differences, however, limit the extent to which existing research informs interviewing practices in the forensic context. For example, some studies focus on event memory in children who have specific developmental or learning difficulties but average cognitive abilities (e.g., autism spectrum disorders: Bruck, London, Landa, & Goodman, 2007; McCrory, Henry, & Happé, 2007; specific learning disability: Nathanson, Crank, Saywitz, & Reugg, 2007), whereas others have examined transcripts of interviews with CWID to evaluate interview dynamics but cannot elucidate accuracy (e.g., Cederborg et al., 2009; Cederborg & Lamb, 2008; Cederborg et al., 2008). Still others have explored the effectiveness of using different interview techniques with CWID (Dent, 1986, 1992; Milne & Bull, 1996; Robinson & McGuire, 2006). We have identified only 12 empirical studies in which the performance of CWID was compared with that of TD children, and

these varied considerably on a number of dimensions that might also affect performance (e.g., age; severity of intellectual disability [ID]; whether the CWID were compared to children matched for MA, CA, or both; the event-to-be-recalled; analysis of suggestibility vs. reliability; question type; delay), as more fully explained below.

### Sample

Most studies have only included children within a single narrow age range, with different control groups (matched for mental and/or chronological age) and little consideration of the severity or type of learning disability (but see Agnew & Powell, 2004; Henry & Gudjonsson, 2003), despite concerns that CWIDs do not comprise a homogeneous group (e.g., Beail, 2002; Clare & Gudjonsson, 1993; Milne, 1999). We included two groups of CWIDs—those with “mild” or “borderline” intellectual disability (IQ = 55–78), and those whose disability fell within the moderate range (IQ = 44–53), and we included MA- and CA-controls for each CWID participant. We also included a wide range of ages within our CWID sample (7–12 years) so that we could explore the competencies of younger children than those who have typically been studied.

### Event

TD children recall personally experienced events better than observed events (e.g., Baker-Ward, Hess, & Flannagan, 1990; Jens et al., 1990; Murachver, Pipe, Gordon, Owens, & Fivush, 1996), so caution is needed when generalizing to the forensic context from studies using other types of stimulus events, including those in which to-be-remembered “events” were observed (Beail, 2002; Gudjonsson & Henry, 2003; Henry & Gudjonsson, 2003). Only three studies with CWIDs have involved personally experienced stimulus events (Gordon et al., 1994; Jens et al., 1990; Michel et al., 2000). Our study used a novel, rich, and interactive event that allowed children to provide a wide range of information when interviewed.

### Range of Competencies Under Investigation

Many studies of CWID have focused on their suggestibility and acquiescence (Agnew & Powell, 2004; Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999, 2003; Milne & Bull, 1996; Sigelman et al., 1981) and have highlighted the dangerousness of certain strategies (e.g., suggestive questions) but have not elucidated the capacities of CWIDs interviewed in a neutral or supportive manner. We thus need more studies exploring the conditions under which recall may be enhanced. In the present study, we explored the effects of age and severity of intellectual disability on different memory processes and indices of competency (e.g., completeness vs. accuracy vs. suggestibility) to advance our understanding of memory development in CWIDs.

### Questioning Strategy

We know that children are less accurate when responding to suggestive questions for both social (e.g., demands of the interview context, desire to please the interviewer, or acquiescence to the perceived authority of the interviewer) and cognitive (e.g., source-

monitoring difficulties, weak memory traces) reasons (Ceci & Bruck, 1998). Studies of witnesses who have learning disabilities have not been able to identify which of these processes explains their heightened suggestibility (e.g., Gudjonsson & Henry, 2003). Zigler, Hidgen, and Stevenson (1958) showed long ago that CWID were more sensitive to social reinforcement when performing cognitive tasks than were MA-matched TD controls, and many other psychologists have suggested that people with intellectual disabilities are more vulnerable witnesses because they are especially eager to please questioners (e.g., Milne & Bull, 1999). Although the severity of intellectual disability may be associated with decreased accuracy, few researchers have asked whether these problems can be ameliorated by appropriately supportive interviewing (Robinson & McGuire, 2006). In the current research, we asked whether CWIDs of different ages and levels of intellectual disability might benefit from the supportive conditions built into the National Institute of Child Health and Human Development (NICHD) Investigative Interview Protocol (Lamb et al., 2008). We also sought to examine CWID’s recall in response to different types of questions (open vs. closed), as well as a series of suggestive questions that varied in format (open vs. closed) and content (leading vs. misleading).

### Delay

In previous studies, the gaps between target events and interviews have been minimal, typically 1 day, although some studies have included a second interview 2–6 weeks later (Gordon et al., 1994; Henry & Gudjonsson, 2003; Michel et al., 2000). Most forensic interviews involve delays of weeks or months, and some for even longer (Hershkowitz, Horowitz, & Lamb, 2005). Several additional months may pass before investigations reach court. A survey of young witnesses in the United Kingdom showed delays averaging 11.6 months (Plotnikoff & Woolfson, 1995), for example, and similarly long delays have been found in the United States also (e.g., Pipe, Orbach, Lamb, Stewart, & Abbott, 2008). Accordingly, we examined CWID’s memories for personally experienced events when interviewed for the first time after a short (1-week) delay with those interviewed after a longer (6-month) delay. We also examined recall across repeated interviews to determine whether the CWID’s recall and reporting were affected by repeated interviewing; these data are the focus of another report and are not described here. The current study examined recall and reporting of a personally experienced event in CWID of varying severity (Mild vs. Moderate) and in comparison with TD children matched for both MA and CA. Children were recruited from special schools or identified during brief cognitive assessments in mainstream schools. We excluded children with diagnosed syndromes (e.g., William’s syndrome) and pervasive developmental disorders (e.g., autism spectrum disorders) to enhance the homogeneity of our sample and because the excluded children often have specific information processing deficits and neuropsychological characteristics (e.g., Henry, 2001; Vicari, 2004). Some of the children included in the Mild ID group had estimated IQ scores that fell within the Borderline range ( $n = 20$ , IQ range = 72–78), but because these children were attending special schools and thus had well-documented cognitive impairments, we included them in the study as other authors have done (Agnew & Powell, 2004; Murfett, Powell, & Snow, 2008). Children took part in a 45-min-

long staged event (an interactive presentation about first aid and safety) at their school, modeled after an event used successfully in previous studies (Brown & Pipe, 2003a, 2003b). Half of the children in each group were interviewed 1 week later, with the remaining children interviewed 6 months after the event. All children were interviewed using the NICHD Investigative Interview Protocol (Lamb et al., 2008; Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007), which is consistent with best practice guidelines for the conduct of forensic interviews with children. At the conclusion of the NICHD Investigative Interview Protocol, the children were asked a series of suggestive questions that varied in content (central vs. peripheral detail), suggestiveness (leading vs. misleading), and style (open vs. closed).

Based on previous findings, we expected that CWID would report as much information as MA-matched controls, and that children in both groups would report less than those matched for CA. We expected all children to provide similarly accurate accounts. We expected highly suggestive questions to have a heightened (negative) impact on the accuracy of the responses by CWID and MA-matched children. Because few researchers have specifically examined reports made by children with *moderate* intellectual disabilities, we expected them to perform less well than the CA-matched children but made no predictions regarding their performance relative to MA-matched children. Because the delays were longer than in previous studies, we made no specific predictions regarding group differences in recall, but expected that delay would affect the amount and accuracy of information reported by all children.

## Method

### Participants

Children ( $n = 206$ ; 86 female) were recruited from four mainstream schools and five schools for children with intellectual disabilities. The timing of the first interview was a between-subjects design: Approximately half ( $n = 112$ ) were interviewed for the first time at 1 week, with the remainder ( $n = 94$ ) interviewed for the first time 6 months after the event. Table 1 presents the descriptive data regarding the composition of each group with respect to sample size, gender, age, and estimated IQ scores.

**Age.** To confirm that children in the MA group were indeed younger than those in the other conditions, and that there were no significant chronological age differences across the remaining conditions, a univariate analysis of variance (ANOVA) on age (months) was conducted. This showed a significant main effect for condition,  $F(3, 198) = 103.78, p < .001, \eta_p^2 = .61$ ; Tukey tests showed that children in the MA group were significantly younger than all others, who did not differ (all  $ps < .001$ ). There was no effect for the timing of the first interview and no interaction between timing and age.

**Group allocation.** Children were categorized into four groups on the basis of their performance on four subtests (Picture Completion, Information, Block Design, and Vocabulary) of either the Wechsler Preschool and Primary Scale of Intelligence—Third Edition, U.K. Version (WPPSI-III-uk; Wechsler, 2003) or the Wechsler Intelligence Scale for Children—Third Edition, U.K. Version (WISC-III-uk; Wechsler, 1992), and, in the case of the intellectual disability groups, in conjunction with additional infor-

mation reflecting adaptive function deficits or poor academic achievement consistent with a low level of intellectual function (as indicated by either attendance at a special school or targeted teacher aid assistance provided through mainstream schooling). Children were placed in the CWID (mild) group if their estimated IQ score fell below 80. A number of the children ( $n = 20$ ) had scores that fell within the Borderline range of intellectual function, but because the overall IQ scores were indicative and the children had well-documented cognitive and adaptive functional impairments (and so attended special schools), these children were included in the mild intellectual impairment group. Children were allocated to the CWID (moderate) group if their estimated IQ score fell within the range of 40–55. To be included in the study, the children had to be capable of basic verbal communication (minimum phrase-based speech), confirmed in consultation with the child's teacher. Those with ID arising from organic syndromes (e.g., Down's syndrome) and those with diagnoses (confirmed or pending) of autistic spectrum disorder were excluded. Children were also excluded if they had comorbid conditions (e.g., ADHD, conduct disorder) or histories of infections, trauma, or brain injuries contributing to their cognitive deficits. Children were included in the TD group if their estimated IQ scores fell within the average range.<sup>1</sup> Univariate analysis of estimated IQ scores for the four groups revealed a significant main effect of condition,  $F(3, 198) = 384.84, p < .001, \eta_p^2 = .85$ ; Tukey tests indicated CWID (Moderate) had lower IQ scores than CWID (Mild), who in turn differed from children in both of the TD groups (all  $ps < .001$ ). Equal numbers of children with consent to participate were allocated to each delay group following the initial event but some were unavailable for interview 6 months after the event because they had moved out of the area or were absent from school due to illness or family holidays. This was a particular problem with children in the moderate ID group, of whom there were fewer available for recruitment in the first instance. No effects of the timing of the first interview or interaction between timing and group were evident in analyses of the IQ scores.

**Matching samples.** TD children were individually matched as closely as possible to CWID on the basis of gender and either CA or MA, where possible. MA was determined where possible from the tables provided in the Wechsler manuals. When MA estimates were not available from the Wechsler manuals because the children's ages fell in the cross-over band between the two instruments, and the severity of ID made the range of MA estimates provided by the WISC-III-uk discrepancy analysis tables insufficient, MA was estimated using the following formula:  $IQ = (MA/CA) \times 100$ .

### Procedure

**Event.** The event was developed and modified from that used successfully by Brown and Pipe (2003a, 2003b). Because it focused on safety and first aid, we consulted a local representative from the St. John's Ambulance Organization to ensure that the content was appropriate and accurate. The event was class-based and typically conducted in either the children's classrooms or in the school hall. Each event was presented by research assistants

<sup>1</sup> One child whose estimated IQ was 84 was included; this child was matched with a CWID whose IQ score was 20 points lower.

Table 1  
*Characteristics of the Sample (Collapsed Across Children Interviewed at 1 Week or 6 Months)*

Variable	CWID (Moderate)	CWID (Mild)	CA matches	MA matches
<i>N</i> (interviewed first at 1 week)	21	23	37	31
<i>N</i> (interviewed first at 6 months)	14	23	23	34
<i>N</i> (male)	24	30	28	38
<i>N</i> (female)	11	16	32	27
Mean age in months ( <i>SD</i> )	117.71 (12.69)	116.87 (15.60)	114.92 (15.34)	75.66 (16.17)
Age range in months	90–139	86–147	86–138	50–111
Mean estimated IQ score ( <i>SD</i> )	47.94 (3.12)	67.67 (7.03)	100.66 (10.64)	102.37 (10.43)
Range of estimated IQ scores	44–53	56–78	84–125	85–124

Note. CWID = children with intellectual (or learning) disabilities; CA = chronological age; MA = mental age.

and at least one member of the research team. The event team included one person who acted as overall coordinator and leader, three group leaders, and one person who interrupted part way through the event and staged a brief argument about the equipment (see below).

**Structure of the event.** The overall coordinator introduced the children to the group leaders and briefly explained the purpose of the event (to learn about first aid and safety). Children were then divided into three groups of different colors (orange, blue, or green). Children were presented with name stickers written in their group color, before being taken to their first activity. The groups rotated around all three activities and were then gathered together into a large group to listen to a summary of what they had learned, receive thanks, and be given small gifts (novelty pencils).

In one activity, children were shown a series of large colored posters depicting one or more dangerous *hazards* and were asked to identify the hazard and then discuss how the hazard might be overcome.

In a second activity, children watched a short video-clip showing two boys riding their bikes on the pavement. The boys had to swerve to avoid two girls coming out of a side street and in so doing fell off their bikes, grazing their knees. One of the girls grazed her hand on the wall. The video then went through step by step *care of small cuts* and abrasions. Following the video, the group leader drew a red line on each child's index finger to represent a cut. Children were taught and then demonstrated to the leader how to take care of a simple cut, and a cut in which something was lodged (e.g., a piece of glass). Children were given an antiseptic wipe to clean the cut, and then selected a novelty sticking plaster (Winnie the Pooh, Bob the Builder, or Disney Princesses) to apply to the cut. A record was kept by the group leader of which plaster they chose.

The third activity required the help of the children's group leader. Children were shown two types of *bandages*—a roll bandage and a triangular bandage—and the purpose of each was explained. The event leader then demonstrated step by step how to tie a triangular (*sling*) bandage on the group leader. In pairs, the children then practiced on each other under supervision. At the conclusion of this activity, the event leader took a photo of the children with their group leader.

**Interruption.** Midway through the second activity, a research assistant entered the room noisily and approached each group loudly, asking for the event leader by name. The event leader drew the interrupter into the middle of the room so the ensuing argument

could be seen and heard by all the children. Claiming that the equipment had been double-booked, the interrupter asked the event leader to stop the event so he/she could leave immediately, with the equipment, to be on time for an appointment at a school some miles away. The event leader pointed out that because spare equipment was available, the interrupter could take the necessary equipment without disrupting the events in progress. The interrupter walked with the event leader to each group to gather the spare equipment, apologized for the interruption, and left.

**Brief cognitive assessments.** All cognitive assessments (see above) took place in a quiet room at the school. The subtests used from both the WISC-III-uk and the WPPSI-III-uk during the week following the event (range = 3–7 days) involved Picture Completion, Information, Vocabulary, and Block Design. Some children took part in the cognitive assessment session after they had been interviewed. At the end of the session, children were given a small novelty gift (a sheet of cartoon stickers) in appreciation of their efforts.

**Interview.** The interviews were also conducted at school, either 1 week or 6 months after the event. The same research assistant who conducted the cognitive assessment acted as interviewer to enhance rapport, with the other acting as a monitor. Three research assistants conducted the interviews; no effect of interviewer on total amount of information reported was evident,  $F(2, 184) = 0.01$ . All interviewers had a minimum of a master's degree in psychology and completed a 2-day training workshop in the use of the NICHD Investigative Interview Protocol. Prior to beginning the interviews for this study, the interviewers completed several training interviews with children recruited as part of a separate study. Interviews were regularly monitored by the first author to ensure adherence to the NICHD Investigative Interview Protocol, interviewers participated in feedback sessions that included viewing the videotapes of their interviews and reviewing the transcripts from them, and refresher training and feedback sessions were scheduled throughout the study. Both research assistants were present for each interview and provided additional feedback to each other after each interview to assist in maintaining fidelity and comparable performance.

Each interview began with rapport building using open-ended questions, typically about recent significant events (e.g., birthdays, holidays). The interview proper began with explanation of the "ground rules" (the importance of telling the truth, alerting the interviewer if they did not understand a question, the acceptability of a "don't know" response, and the need to correct the interviewer

if she made a mistake). Each of these rules was accompanied by an example and an opportunity for the child to practice each rule. This was followed by practice in episodic memory recall, using what the child had done that day as the focus of the narrative. This exercise was designed to help the children understand how much detail the interviewer expected, and to allow the interviewer to introduce the types of questions and prompts to be used when seeking information about the staged event.

Focus was shifted to the staged event using a series of progressively informative prompts to help orient the children to the event the interviewers wished them to talk about. The number of prompts needed before the child began describing the event comprised one of the dependent variables. In the 6-month interview, the verbal prompts were supplemented by a final visual prompt if the children had still not identified the correct event: Children were shown the group photo taken as part of the event and asked to tell everything they could remember about “that time.”

The interview progressed using the prompts and structure outlined in the NICHD Investigative Interview Protocol. After the most *open prompts* (e.g., “tell me about that time”) were used, children were encouraged to report as much as they could recall using a variety of different prompts. Information reported by the children was used to form *cued invitations* (e.g., “you mentioned you got to choose a plaster; tell me more about choosing the plaster”), and children were also asked *direct questions* (specific “wh-” and option-posing questions) if needed to clarify unclear or contradictory information (e.g., “which plaster did you choose?”; “did you or your partner wear the bandage first?”). Direct prompts were followed up or “paired” with open prompts (e.g., “tell me more about that”). The NICHD Investigative Interview Protocol has a flexible structure, and so the numbers of each different type of prompt and the progress of each interview varied. When the interviewer had exhausted a line of enquiry, she took a short break and consulted with the monitor, who gave them suggestions for further prompts and identified any information that had not been elicited or was unclear or contradictory.

When the children indicated they could not recall anything further, they were asked a final series of suggestive questions. Some questions asked about events or details that did not occur (i.e., they were *misleading*), and some asked about things that had occurred (i.e., they were *leading*). Questions also varied depending on whether they were *closed*, requiring a yes or no answer (e.g., “Were you in the blue group?”), or whether they were *open*, requiring the children to provide the response (e.g., “What color was the group you were in?”). Finally, questions varied depending on whether they assessed *central* or *peripheral* details about the event. Twelve sets of questions were formed containing equal numbers of each type and combination of question about each topic. The order of administration remained constant. Following the suggestive questioning, the children were thanked for their efforts and were given a small novelty gift (e.g., a notebook or a set of coloring pens). All interviews were transcribed verbatim from the digital video recordings. All interviewer or child utterances (including facilitative utterances such as “mmhmm” or “uh huh”) were transcribed. Behavioral responses (e.g., children nodding their heads affirmatively or behaviorally demonstrating how to tie a triangular bandage) were described in full.

**Coding.** Two separate coding schemes were developed, one for the information reported during the NICHD Investigative In-

terview Protocol, and one for responses to the suggestive questions. The lead rater was not blind as to the group membership of each child (CWID vs. MA vs. CA); participants tended to be grouped by the school they attended, and it was not possible to remove this detail from the transcripts. A subset (10%) of all of the interviews conducted (i.e., both single and repeated interviews) was coded by a member of the research team (blind to the group membership of the child) to assess inter-coder reliability and to ensure that awareness of group membership had not affected how the interviews were coded, and the lead coder also recoded a subset of the interviews (10%) to check for drift. The range of kappa values was .58–.96, with a mean of .91.

In the NICHD Investigative Interview Protocol (following Lamb et al., 1996; Sternberg et al., 1996), interviewer utterances were coded as open prompts, cued invitations, direct prompts, option posing prompts, suggestive prompts, or facilitators. The number of each type of utterance was also tallied.

A close examination of the event (including its general structure, details of the three activities, the people, and the place) resulting in a list of 311 elements, plus any elaborations the children made reflecting their individual experiences (e.g., “our group finished first”). Children were given credit for all utterances related to any of the points on the checklist, so one utterance could be scored in several categories (e.g., “I was in the green group” would score for indicating that there were groups, that one of them was green, and that the child was in the green group). The children’s responses were coded in relation to the type of interviewer prompt that had elicited it and as correct, incorrect, or ambiguous (when it was unclear what the children were referring to, or if the statement could not be deemed as correct or incorrect using the available records) for each item on the checklist. Repeated information, and information that was clearly off-topic, was coded accordingly and was not entered into analysis.

The suggestive questions were coded in relation to the type of question (leading vs. misleading, open vs. closed, and central vs. peripheral) and the nature of the children’s responses. Responses were coded as correct, incorrect, don’t know, appropriate correct, appropriate incorrect, and no response/off-topic. Answers were deemed appropriate when the child did not interpret the question as intended and so did not answer it (e.g., “Interviewer: where did you get a plaster?”; expected response being “on my finger,” and child responded “it was in the hall”).

## Results

### Statistical Design

A series of 4 (*Group*: Moderate CWID, Mild CWID, MA-matched, CA-matched)  $\times$  2 (*Delay*: 1 week, 6 months) factorial ANOVAs were conducted. When children’s responses were examined in relation to the type of interviewer utterance, a third, within-subjects, factor *Interviewer Prompt* with four levels (open questions, cued invitations, direct questions, and option posing probes) was added. Where data are reported as proportions, they were arcsine transformed (as recommended by Winer, 1970), and outliers were removed (even though neither action changed the pattern of results reported here—nor did rescoring the outliers so that they fell within the normal range) before analyses were conducted. If problems of sphericity were identified, Greenhouse–

Geisser adjustments were made. These are identified by nonstandard degrees of freedom in the denominator. We present a relatively conservative effect size measure (partial eta-squared:  $\eta_p^2$ ) to show the unique contribution of the relevant factor to the overall analysis. Tukey–Kramer (henceforth referred to as “Tukey”) tests ( $p < .05$ ) were conducted to unpack significant effects for group.

### 1. How well do CWID report their experiences?

Three measures examined different aspects of the children’s reports (see Table 2). First, we examined the number of prompts needed to get the children to recall the event. At 1 week, 1.55 ( $SD = 0.98$ ) prompts were required, whereas at 6 months, 3.07 ( $SD = 1.49$ ) prompts were needed. The ANOVA revealed main effects for Delay,  $F(1, 194) = 71.98, p < .0001, \eta_p^2 = .27$ , and Group,  $F(3, 194) = 9.01, p < .0001, \eta_p^2 = .12$ , but no interaction. Children in the CA-matched group required fewer prompts than those in all other groups, who did not differ from one another (see Table 2).

Second, we assessed the amount of information about the event reported by the children. There was a main effect of Delay: Children interviewed first at 1 week reported significantly more details than those interviewed for the first time at 6 months,  $F(1, 195) = 37.94, p < .001, \eta_p^2 = .16$ . Likewise, there was a main effect of Group,  $F(3, 195) = 22.51, p < .001, \eta_p^2 = .26$ ; CA-matched children reported more than those in the other groups, and the Moderate CWID children reported less than those in all other groups, but there were no differences between the Mild CWID children and the MA-matched controls (see the second row of Table 2).

We also examined the accuracy of children’s statements, calculated by expressing the number of correct pieces of information as a proportion of the total amount of information provided. There were main effects for Delay,  $F(1, 194) = 83.22, p < .001, \eta_p^2 = .30$ , and Group,  $F(3, 194) = 12.15, p < .001, \eta_p^2 = .16$ , but no interaction. Recall was more accurate after 1 week (86% accurate) than 6 months (74% accurate). CA-match children provided more accurate accounts than children in all other groups, while children

in the Moderate CWID group were the least accurate. Overall, children in the Moderate CWID group appeared qualitatively different from those in the other groups, while children with mild intellectual impairment appeared to be more like MA-matched controls.

### 2. What interviewing strategies were most effective with CWID?

To explore the relationships between the type of question asked and the nature of the children’s responses, we first examined the relative proportions of information obtained in response to each of the four main types of prompts used by the interviewers: open invitations, cued invitations, direct questions, and option posing prompts. Information reported in response to suggestive questions was not included because they were so infrequently used in the NICHD Investigative Interview Protocols. The two left hand data columns in Table 3 report this information for each group at each time point. There were significant main effects for Group,  $F(3, 173) = 4.04, p < .01, \eta_p^2 = .06$ , and Prompt Type,  $F(2.43, 419.24) = 82.87, p = .001, \eta_p^2 = .32$ , as well as interactions for Group  $\times$  Delay,  $F(3, 173) = 3.92, p < .05, \eta_p^2 = .06$ ; Delay  $\times$  Prompt Type,  $F(2.43, 419.24) = 4.79, p = .01, \eta_p^2 = .03$ ; Group  $\times$  Prompt Type,  $F(7.27, 419.24) = 12.51, p < .001, \eta_p^2 = .18$ ; and Group  $\times$  Delay  $\times$  Prompt Type,  $F(7.27, 419.24) = 2.38, p < .05, \eta_p^2 = .04$ .

To unpack the three-way interaction, simple effects analysis (ANOVA plus Tukey tests with  $p < .05$ ) was conducted by examining individual prompts separately at each time point (see Table 3). At 1 week, there were Group differences in relation to three types of prompt. Children in the CA and MA groups produced proportionally more responses to cued invitations than Moderately CWID,  $F(3, 107) = 7.7, p < .001, \eta_p^2 = .18$ . Moderately CWID provided more responses to direct questions than children in any other group,  $F(3, 107) = 20.32, p < .001, \eta_p^2 = .36$ , closely followed by Mild CWID, who provided proportionally more responses than MA and CA controls. Likewise, children in the Mild and Moderate CWID groups gave more responses to option posing

Table 2  
Mean Scores (Standard Deviations) on Four Measures Assessing Children’s Reports of Their Experiences

Variable	Delay	CWID (Moderate)	CWID (Mild)	MA matched	CA matched	Total
Number of prompts	1 week	2.48 (1.29)	1.35 (0.78)	1.52 (0.93)	1.19 (0.52)	1.55 (0.98)
	6 months	3.57 (1.83)	3.43 (1.41)	3.09 (1.53)	2.21 (0.86)	3.07 (1.49)
	Total	2.91 (1.60)	2.39 (1.54)	2.34 (1.49)	1.54 (0.81)	2.23 (1.44)
Total information reported	1 week	52.86 (24.05)	95.78 (24.27)	91.43 (33.21)	107.17 (27.40)	90.13 (33.62)
	6 months	38.86 (31.19)	65.30 (26.63)	58.47 (30.62)	84.18 (21.38)	63.29 (30.86)
	Total	47.26 (27.58)	80.54 (29.53)	73.92 (35.69)	98.45 (27.49)	77.83 (34.98)
Accuracy of reports	1 week	.77 (.10)	.86 (.07)	.85 (.09)	.90 (.04)	.89 (.09)
	6 months	.71 (.10)	.72 (.09)	.74 (.11)	.79 (.07)	.74 (.10)
	Total	.75 (.11)	.79 (.10)	.79 (.12)	.86 (.07)	.81 (.11)
Accuracy of responses to scripted suggestive questions	1 week	.38 (.13)	.60 (.20)	.60 (.17)	.71 (.15)	.60 (.20)
	6 months	.38 (.16)	.45 (.16)	.48 (.19)	.53 (.08)	.47 (.16)
	Total	.38 (.14)	.52 (.20)	.54 (.19)	.64 (.15)	.54 (.19)

Note. CWID = children with intellectual (or learning) disabilities; MA = mental age; CA = chronological age.

Table 3

*Proportions and Accuracy of Children's Responses (Standard Deviations) to the Four Main Types of Interview Prompts Used by the Interviewer*

Group	Interview prompt type	Proportion of information		Accuracy	
		1 week	6 months	1 week	6 months
Moderate CWID	Open invitations	.16 (.10)	.20 (.14)	.82 (.21)	.74 (.43)
	Cued invitations	.29 (.11)	.21 (.14)	.77 (.12)	.69 (.29)
	Direct prompts	.42 (.14)	.39 (.10)	.73 (.41)	.61 (.23)
	Option posing	.13 (.08)	.20 (.09)	.63 (.33)	.49 (.26)
Mild CWID	Open invitations	.27 (.11)	.21 (.11)	.93 (.07)	.89 (.11)
	Cued invitations	.31 (.11)	.33 (.11)	.88 (.10)	.77 (.16)
	Direct prompts	.29 (.08)	.33 (.10)	.80 (.09)	.61 (.14)
	Option posing	.14 (.07)	.12 (.06)	.77 (.19)	.54 (.21)
MA	Open invitations	.31 (.14)	.22 (.12)	.93 (.09)	.91 (.11)
	Cued invitations	.29 (.13)	.32 (.02)	.83 (.11)	.78 (.11)
	Direct prompts	.28 (.12)	.34 (.14)	.81 (.11)	.62 (.18)
	Option posing	.12 (.08)	.12 (.07)	.78 (.23)	.59 (.26)
CA	Open invitations	.39 (.11)	.32 (.09)	.96 (.04)	.93 (.05)
	Cued invitations	.42 (.12)	.34 (.12)	.88 (.05)	.83 (.10)
	Direct prompts	.15 (.09)	.28 (.11)	.85 (.13)	.74 (.14)
	Option posing	.04 (.03)	.07 (.04)	.84 (.17)	.57 (.27)

Note. CWID = children with intellectual (or learning) disabilities; MA = mental age; CA = chronological age.

prompts than children in the two comparison groups,  $F(3, 107) = 9.53, p < .001, \eta_p^2 = .21$ .

At 6 months, the dynamic between the type of prompt and the children's intellectual level seemed to be different. Children in the Moderate CWID group were not different from those in the Mild and MA groups (as at 1-week). The Mild and Moderate CWID were indistinguishable from their MA-matched peers in their responses to open invitations,  $F(3, 89) = 6.93, p < .001, \eta_p^2 = .19$ , but children in all three groups were less responsive than the CA children. Participants in the CA group also provided proportionately more information than those in all other groups in response to cued invitations; children in the Moderate CWID group provided the fewest answers,  $F(3, 81) = 4.56, p < .01, \eta_p^2 = .13$ . Children's responses to direct questions did not differ between groups,  $F(3, 89) = 1.159, ns$ . Finally, children with Moderate IDs reported proportionally more information in response to option posing prompts than CA matched participants did,  $F(3, 89) = 3.55, p < .05, \eta_p^2 = .11$ .

The two right-hand data columns in Table 3 show the accuracy of the information provided by the children in response to the different types of interview prompt. As with overall accuracy, these scores were calculated by dividing all the correct responses to a type of question by all the information provided in response to questions of that type. Table 3 shows that the statements made by children in each group were most accurate in response to open questions and became less accurate as the questions became more focused. The analysis revealed main effects for Delay,  $F(1, 149) = 26.29, p < .001, \eta_p^2 = .15$ , with children being less accurate 6 months (74% overall) than 1 week (83%) after the event; Group, with CA children being more accurate than children in both disability groups,  $F(3, 149) = 2.97, p < .05, \eta_p^2 = .06$ ; and Prompt,  $F(2.29, 341.22) = 78.85, p < .001, \eta_p^2 = .35$ . These were qualified by interactions for Group  $\times$  Delay,  $F(3, 149) = 3.04, p < .05$

$\eta_p^2 = .06$ , and Prompt  $\times$  Delay,  $F(2.29, 341.22) = 12.09, p < .001, \eta_p^2 = .08$ .

Simple effects analyses examining the effects of Group and Prompt after each of the delays revealed no Group effect at the 6-month interview,  $F(3, 62) = 1.15, p = .35, \eta_p^2 = .07$ , but a significant effect at 1 week,  $F(3, 87) = 8.0, p < .01, \eta_p^2 = .22$ . Tukey tests ( $p < .05$ ) showed that, in the 1-week interviews, children in the Moderate groups were less accurate than those in all the other groups. At both 1 week,  $F(2.11, 183.97) = 24.13, p < .001, \eta_p^2 = .22$ , and particularly at 6 months,  $F(2.49, 154.29) = 57.24, p < .001, \eta_p^2 = .48$ , there was a main effect for Prompt. Follow-up comparisons ( $p < .05$ , with a Bonferroni correction) showed that at 1 week, children were more accurate in response to open questions than all other question types and also when comparing cued invitations with option posing probes. At 6 months, there was a linear effect: Open questions elicited more accurate responses than cued invitations, which elicited more accurate responses than direct questions, which in turn led to more accurate responses than option posing questions.

### 3. Are CWID more susceptible than TD children to suggestive questions?

Finally, we explored responses to the 16 questions designed to assess the ability to resist directly suggestive probes. Children were significantly more accurate when responding to these questions after a shorter delay,  $F(1, 194) = 23.31, p < .001, \eta_p^2 = .11$ . There was also a main effect for Group,  $F(3, 194) = 13.49, p < .001, \eta_p^2 = .17$ . Children in the CA group were the most and children in the Moderate CWID group were the least accurate, with the children in the Mild CWID and MA groups midway between those in the other two (see the bottom row of Table 2).

## Discussion

The results of this study yield important insight into the testimonial capacity of CWIDs, who are widely considered to be victims of communicative, cognitive, and memorial limitations which powerfully diminish their capacity to provide useful and accurate information about their experiences. In fact, we found that children with both mild and moderate learning disabilities could provide accurate accounts of experienced events when they were questioned in a supportive manner modeled after the techniques recommended for use when interviewing typically developing children about meaningful personal experiences. Contrary to widespread belief, CWIDs responded informatively even when they were not asked focused questions. TD children and CWIDs were similarly affected by delays between the events and the interviews about them. In fact, children with more severe disabilities, who performed more poorly at 1 week than those in other groups, were as accurate as those in the other groups when questioned after a 6-month delay.

Most importantly, we found that, when interviewed in a supportive manner about personal experiences, all children (i.e., TD children *and* those in both the mild *and* moderate ID groups) were able to provide meaningful and reliable information, even when a substantial amount of time had elapsed between the event and the interview, although the way in which this information was elicited most effectively varied by group, as outlined below.

Our results generally supported the prediction that children with mild IDs would be as capable as children matched for developmental level, and in some ways they were as capable as their more able typically developing counterparts (i.e., CA-matches). For example, although they reported less information overall, children with mild IDs were as responsive to open prompts and cued invitations and even after a substantial delay they were able to report as much information in response to open prompts. These findings are consistent with earlier reports that free recall strategies are effective when interviewing slightly older children (e.g., Agnew & Powell, 2004; Dent, 1986, 1992; Henry & Gudjonsson, 1999, 2003). Moreover, as in previous studies, the accuracy of the information reported in response to free recall prompts was high (range across all children and collapsed across delay was 79%–95% accurate for open prompts and cued invitations), complementing data about the usefulness of these prompts in field studies of vulnerable witnesses (Cederborg & Lamb, 2008; Cederborg et al., 2008) as well as laboratory analogue studies (Dent, 1986, 1992; Henry & Gudjonsson, 1999, 2003, 2004, 2007; Michel et al., 2000). Although still reasonably high, the accuracy of information reported in response to prompts that were more interviewer-focused (direct and option posing) was lower for all children (CWIDs were not more severely affected by prompt type as in Agnew & Powell's, 2004, study), underscoring the benefits of giving priority to open-ended, child-led recall prompts for all children when seeking information about experienced events. A substantial body of research has documented the usefulness of the NICHD Investigative Interview Protocol (Lamb et al., 2008, 2007), which emphasizes the use of such prompts, and the current findings suggest that it is beneficial when used with cognitively impaired children too. The data also challenge the notion that more directive questions are necessary when interviewing children who have mild intellectual disabilities.

The performance of the children with moderate intellectual disabilities was consistently and markedly different from that of other participants, even those matched for developmental age. Children with moderate IDs required more support (in the form of more specific recall prompts) when orienting to the target event, and they also required more focused (directive and option-posing) questioning than other children to elicit elaborations of their initial accounts. In fact, contrary to Henry and Gudjonsson's (2003) findings, children with Moderate IDs performed more poorly even than children matched for mental age on all aspects of recall. The children in our sample were younger than those studied by Henry and Gudjonsson, however, and they were interviewed after more substantial delays (1 week vs. 1 day), and the later interview (6 months) was a first rather than a repeated interview for our participants. Furthermore, the greater richness of our event may perhaps have allowed more differences to emerge than the "event" (watching a 4-min video) described by Henry and Gudjonsson's participants.

All children, regardless of age or cognitive ability, were less accurate when responding to highly suggestive questions, whereas responses to more appropriate questions were markedly more reliable and accurate. This finding highlights the importance of studying ways to promote reliable reporting while illustrating the dangers of suggestive interviewing techniques; only by examining both in the same context can we avoid creating unreasonably negative or positive perceptions of children's capabilities. Although some researchers have shown that CWID are no more suggestible than their CA-matched peers (Henry & Gudjonsson, 1999, 2004; Jens et al., 1990; Robinson & McGuire, 2006), others have found such differences (e.g., Gudjonsson & Henry, 2003; Henry & Gudjonsson, 1999, 2007; Michel et al., 2000; Young et al., 2003). Studying children younger than previously examined about a personally experienced and interactive event, we found that those who had mild intellectual disabilities did not differ from their MA-matched peers, although participants in both ID groups were more suggestible than CA-matched peers. The children with moderate intellectual disabilities were significantly more suggestible than children in all other groups, even those matched for developmental level.

Children interviewed after a delay typically report less information than those interviewed after a shorter delay, especially when the task involves free or spontaneous recall (Flin, Boon, Knox, & Bull, 1992; Hudson & Fivush, 1991; Pipe, Gee, Wilson, & Egerton, 1999). Information retrieved later also tends to be less accurate, especially if additional prompts are required to elicit it (Dent & Stephenson, 1979; Flin et al., 1992; Pipe et al., 1999). Our study demonstrated that recall diminished (in terms of both the amount and accuracy of information reported), when there was a substantial delay, for children in all groups. Children with intellectual disabilities were not differentially affected by the delay, suggesting the same forgetting processes were at work as in CWID and TD children.

The results suggested that interviewers should adopt the same principles when interviewing children with mild intellectual disabilities when interviewing typically developing younger children. In light of the skepticism and anxiety identified in previous surveys of forensic interviewers (Aarons & Powell, 2003; Aarons et al., 2004; Milne & Bull, 1999; Sharp, 2001), these findings are reassuring: They suggest that interviewers who are aware of the

children's developmental levels before beginning interviews typically have the resources and skills necessary to conduct appropriate interviews. Of course, this demands effective input from key workers who can describe the children's cognitive and communicative abilities so that the interviews can be planned appropriately (Henry et al., 2011; Smith & Milne, 2011).

Children with moderate intellectual disabilities performed more poorly than children in all other groups, however, suggesting that they process, encode, retrieve, and repeat information in qualitatively different ways. Further research is needed to elucidate these differences and the ways in which they might be ameliorated. It is important to emphasize, however, that the children we studied were still able to provide coherent accounts of the key features of their experience; they simply needed more support (in the form of directive questioning) in order to do so, just as very young (3- to 4-year-old) typically developing children do (Hershkowitz, Lamb, Orbach, & Katz, 2012). Although they provided proportionally more information in response to directive prompts than did children in the other groups, these children were still able to respond to more open-ended recall prompts, and the information they provided was highly accurate.

Our findings challenge negative perceptions of CWID demonstrated in the legal community in some countries (Australia: Aarons & Powell, 2003; United States: Nathanson & Platt, 2005; Canada: Peled et al., 2004; United Kingdom: Stobbs & Kebbel, 2003). They highlight the need both to counter these perceptions in order to facilitate access to the forensic process for these children, and for interviewers to adopt developmentally appropriate communicative styles. Of course, the forensic interview is only one part of the forensic process, and research is needed to determine how best to support these children in court, should their cases reach trial. The development of educational resources for judges, lawyers, and jury members is also important, to ensure that the credibility of these children is not unfairly undermined.

Although promising, our findings are limited by the context in which we evaluated the CWID's eyewitness testimony. For a start, while the overall sample size was respectable, the numbers of children in the subgroups, particularly the 6-month delay moderate learning disability group, were modest, underscoring the need for replication. Further, although the event we studied was rich, novel, and interactive, it was also pleasant; we cannot assume that the same competencies would be observed had the experience been more stressful or traumatic. Studies of children's memories of such stressful events as naturally occurring disasters (Parker, Bahrick, Lundy, Fivush, & Levitt, 1998), painful medical procedures (e.g., Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994, 1997; Steward, O'Connor, Acredolo, & Steward, 1996), and injuries resulting in emergency room visits (Howe, Courage, & Peterson, 1994; Peterson & Bell, 1996; Peterson & Whalen, 2001) suggest that, in general, stress may be associated with increased memory and decreased forgetting over time, particularly with respect to central or core information. It is important to acknowledge that the events likely to precede court involvement tend to be physically and emotionally damaging, prolonged, or repeated, and to involve interactions with significant figures in the children's lives; all of these factors may themselves affect how and whether children disclose and the extent to which they are able to recall and report their experiences.

The forensic setting itself may also be influential. Whereas children in this study were interviewed once in a familiar environment, with no significant consequences associated with their performance, forensic interviews are very different (see Lamb & Brown, 2006, for a review). Children being forensically interviewed may also be emotionally affected by the precipitating events (e.g., posttraumatic stress disorder or other emotional problems) in ways that directly affect recall. Studies involving less stressful experiences and laboratory-based analogues still make an important contribution, however, because abuse victims may not always perceive their experiences as painful or traumatic, and children's ignorance or misunderstanding of events may decrease their salience (Pipe et al., 2007). Moreover, analogue studies provide a basis for the development of safe and effective forensic interview techniques because they alone allow the accuracy of recall to be examined. Finally, it is possible (although given the high reliability across coders, unlikely) that the research assistant's awareness of the group membership of each child may have influenced how the coding scheme was applied. Further research should ensure that blind coding is adopted where possible (although in practice, skilled assessors can discern that a child being interviewed has an intellectual disability).

Having shown that CWID can be reliable informants about their experiences, it remains for researchers to examine the consistency of recall across repeated interviews, the effects of early interviews on later forgetting, interactive dynamics during the interview, and the coherence and narrative structure of children's reports. We are currently examining these questions in related studies.

Further research is also needed on children with specific disorders usually first identified in childhood or adolescence (e.g., autistic spectrum disorders, ADHD) to understand how best to support them without compromising the reliability of their reports, and on the impact of the specific cognitive, behavioral, and emotional problems associated with these disorders on children's recall and reporting.

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