

Assessing the Effectiveness of the Cognitive Interview for Children with Severe Intellectual Disabilities

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We examined whether the cognitive interview (CI) procedure increased event recall in children with severe intellectual disabilities (ID) compared with children with no ID. Forty-six children with and without ID watched a videotaped event; they were aged between eight and 11 years. The next day they were individually interviewed using the CI or a structured interview (SI). Interviews consisted of free recall and specific questions, some of which contained leading or misleading information. The leading and misleading questions determined children's susceptibility to information presented after the event. Overall, children without ID reported more correct information than children with ID. For all children, the CI led to more correct recall than the SI without increases in incorrect details or confabulations. Although the CI did not decrease children's susceptibility to the misleading questions compared with the SI, children without ID disagreed with more of the misleading suggestions than children with ID. These results suggest that the CI may indeed be a valuable tool to elicit information from very vulnerable witnesses.

Keywords: cognitive interview; child witnesses; intellectual disabilities; leading questions; misleading questions; recall; suggestibility; video-taped event

Introduction

Children with intellectual disabilities (ID) are more likely than those without ID to be victims of abuse (Kelly, 1992; Westcott, 1991; Westcott & Jones, 1999; see also Govindshenoy & Spencer, 2007). However, fewer prosecutions are brought forward in cases of alleged sexual assault on children with ID than those without disabilities as they are typically perceived to be unreliable witnesses (Sporer, Malpass, & Köhnken, 1996). This perception may have arisen because children with ID often have poor memory performance; for example, they scan information being held in working memory more slowly than children without ID (Jenkinson, 1997). The current experiment investigated the effectiveness of a particular interviewing procedure—the cognitive interview (CI)—in helping children with severe ID to recall information about a witnessed event.

One of the major difficulties that arise when interviewing children about witnessed events, particularly those with ID, is the trade-off between adhering to best practice questioning techniques while providing enough assistance to help them to recall the event as completely as possible. Current guidelines recommend that interviewers use mostly open-ended questions to elicit information in free recall reports from witnesses (e.g., the National Institutes of Child Health and Human Development protocol: see Orbach et al., 2000; Wilson & Powell, 2001). However, children with intellectual

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difficulties produce relatively sparse free-recall reports and need prompting by the interviewer to provide more details (Westcott, 1991). Thus, many interviewers resort to using closed questions to elicit more information. Asking this type of question can be problematic for at least two reasons. First, closed questions do not usually encourage children to provide the most elaborate, accurate, and coherent information as open questions do (Agnew & Powell, 2004; Dent & Stephenson, 1979; Feltis, Powell, Snow, & Hughes-Scholes, 2010; Orbach & Lamb, 2007; Sternberg et al., 1996). Second, using closed questions may introduce leading information to the children about details that they have not mentioned. Children with ID are particularly susceptible to suggestion because of their reduced memory capacity and greater tendency to comply with adults or those in authority (Milne & Bull, 1996; although see Agnew & Powell, 2004).

Given that children with ID have difficulty reporting witnessed events completely (for example, Henry & Gudjonsson, 2004; Michel, Gordon, Ornstein, & Simpson, 2000), and because in the United Kingdom and other countries there have been attempts to afford them greater access to justice, non-leading interview techniques designed to enhance narrative recall need to be evaluated for use with this group. The CI may be one such technique and the primary aim of this paper was to examine whether the CI helps children with severe ID—defined as those whose standardised IQ scores are 20–35—to correctly recall more information about a witnessed event than a standard interview.

The CI was developed using psychological principles of memory to aid recall of witnessed events (Fisher & Geiselman, 1992; Geiselman & Fisher, 1989). It consists of four techniques. The first technique, mental reinstatement of context, refers to instructing witnesses to mentally recreate the external (location and people) and internal (thoughts and feelings) circumstances at the time of the event. This technique has been demonstrated to be effective for children regardless of whether they mentally reinstate the context "out loud" or silently to themselves (Dietze, Powell, & Thomson, 2010). The second technique, report everything, refers to instructing witnesses to report even the smallest and seemingly unimportant details. Third, witnesses are instructed to change the order in which the events are recalled, such as reporting the event from the end to the beginning. Finally, witnesses are instructed to change perspective and recall the event from a different perspective (such as from a bystander's point of view). More recently, the CI has been further developed to include strategies that focus on the communication aspect of the interview process, such as stages of rapport building, the transfer of control of the interview to the witness, witness-compatible questioning, imagery, and the structuring of the interview process (Fisher & Geiselman, 1992; see Milne & Bull, 1999, for a full description).

Research has shown that the CI can significantly increase the amount of accurate information that witnesses report, without a corresponding significant increase in the amount of incorrect or confabulated information. Meta-analyses have revealed that the CI increased the recall of correct information by approximately 35–45% for adult witnesses compared with a standard interview (Köhnken, Milne, Memon, & Bull, 1999; Memon, Meisser, & Fraser, 2010). The CI has also been found to be useful for interviewing children of varying ages from seven years and above, with it eliciting approximately 21% more information compared with an interview comparison condition similar to that outlined in national guidelines for England and Wales (Home Office & Department of Health, 2011); this being the phased interview/structured interview (SI; for example, Granhag & Spjut, 2001; Holliday, Reyna, & Hayes, 2002; Memon, Wark, Bull, & Köhnken, 1997; Milne & Bull, 2003). Furthermore, when interviewed with the

CI, children tend to recall more information about people and actions (rather than location and objects; Milne & Bull, 2003), or people, actions, and objects (Holliday et al., 2002). These details are particularly important when children are trying to report abuse, especially when separate instances of repeated events need to be established. In addition, when children were interviewed using the CI, they were less likely to accept misleading suggestions (presented after the CI instructions) than those interviewed using the SI (Milne, Bull, Memon, & Köhnken, 1995).

To date, the CI has been used with at least four vulnerable groups (Maras & Bowler, 2010; Milne & Bull, 1996; Milne, Clare, & Bull, 1999; Prescott, Clarke, & Milne, in press). In the first, Milne and Bull (1996) interviewed seven-year-old to 10-year-old children with mild learning disabilities using the CI or a SI about a witnessed magic show. Some of the questions contained misleading information. Children interviewed with the CI recalled more correct details, particularly about people, actions, and surrounding information, than those interviewed with the SI. Children interviewed with the CI also recalled more incorrect details about people and objects than those interviewed with the SI. Overall, however, there was no difference in accuracy between those interviewed with the CI (79% of information was accurate) and those interviewed with the SI (76% of the information was accurate). The CI showed a tendency to help children resist the misleading suggestions. Although they were misled by 63% of these questions, children interviewed using the CI were less misled (but not significantly so) than children interviewed using the SI.

In another study, Milne et al. (1999) interviewed adults with and without mild learning disabilities using the CI or a SI. Overall, participants interviewed using the CI reported more correct information than those interviewed using the SI. Adults without learning disabilities reported more correct information than those with learning disabilities, particularly about people, objects, actions, and surrounding details. The results suggested that the CI enhanced correct recall: those without learning disabilities reported 20% more correct information and those with learning disabilities reported 35% more correct information compared with people interviewed using the SI. More recently, Prescott et al. (in press) extended these findings to the recall of a conversation: adults with mild ID recalled more person, action, and conversation details when interviewed with the CI than when interviewed with the SI.

The current study built on the above findings by examining the effectiveness of the CI in children with severe ID compared with those with no ID. We predicted that children aged 8–11 years interviewed using the CI should report more correct information than those interviewed using the SI and that children with ID should recall fewer details than those without ID. We also predicted that children with and without ID should be less misled when interviewed with the CI than when interviewed with the SI. We chose this age range because the CI has been shown to consistently enhance memorial recall with this age group, thus we wanted to see how this effect was mirrored (or not) with children with ID.

Method

Participants

Twenty children (nine male, 11 female) aged between eight and 11 years (mean = 9 years and 5 months, standard deviation [SD] = 17 months) who attended a school for children with severe ID participated in this study. Twenty-six children (17 male, nine female) without ID aged between eight and 11 years (mean = 9 years and 9 months, SD = 5

months) who attended a mainstream school for typically developing children also participated. A two (ID: with, without) by two (interview: cognitive, standard) between-subjects design was used. Twenty-four participants were interviewed with the CI; 22 were interviewed with the SI. All children were also administered part of the Weschler Intelligence Scale for Children (WISC-IV; Weschler, 2004).

Materials and Procedure

In small groups, children were shown a nine-minute video recording of a magic show in which a magician conducted a variety of magic tricks (such as a card trick and pulling a rabbit out of a hat) with the help of four children (two boys and two girls). Children were told to watch the video carefully as they would be asked questions about it later.

One day later, children were interviewed individually about the event in a different location to where they viewed the event. All interviews were audio-recorded. Two new interviewers conducted the interviews; only one interviewer was present during each interview. Children were told that the interviewers had not seen the video. The first and fourth authors conducted all interviews; both interviewers conducted CI and SI interviews in an attempt to rule out any individual differences across interviewers (Memon, Wark, Holley, Bull, & Köhnken, 1996). The fourth author was trained by the first author, who is an international expert in CI techniques. The training consisted of an explanation of the relevant theory, examples and practice attempts. The training material comprised comprehensive handouts outlining the training and how to conduct the interviews for the CI and the SI. Interviewers' use of instruction was scored to ensure that the relevant interview procedure was implemented correctly (i.e., that CI techniques were not used in the SI).

Children were randomly assigned to either the CI or SI condition. Both interview conditions comprised six phases: rapport-building, free recall, "can you remember more?", individual questions based on each child's free recall, a second retrieval attempt, and closure (see Milne & Bull, 1999). The SI was based on the phased interviewing technique recommended for use by practitioners (Home Office & Department of Health, 2011). It was exactly the same as the CI except for the additional CI instructions that children in this condition received; please see Table 1. Specifically, they were given instructions to mentally reinstate the context of the event and to report everything; they were questioned using guided imagery techniques and witness-compatible questions (e.g., asking a witness about an assailant's knife when he or she is visualising the knife rather than another object; Fisher & Geiselman, 2010); and they were asked to recall the event in the reverse-order recall during the second retrieval attempt. Note that the CI instruction to "change perspective" was not used as it has been found to cause confusion in children (Milne & Bull, 2002).

After the interview, the children were asked 20 pre-set questions. Of those questions, eight were misleading and eight were correctly leading. One-half of the misleading questions were script-consistent and one-half were script-inconsistent. Consistency and inconsistency was determined by asking an independent group of 17 children aged 7–11 years what usually happens during a magic show. The other four questions were neutral (non-leading) questions. Questions were presented in random order; see Milne and Bull (2003) for a complete list of the questions.

Finally, after being questioned about the event, children were verbally administered the similarities reasoning sub-test of the Weschler Intelligence Scale for Children. Children without ID had an average score of 6.58 (SD = 0.70); children with ID had an average score of 1.85 (SD = 2.52) for this sub-test. A two (ID) by two (interview type)

Table 1. Phases of the cognitive interview and the structured interview.

Phase 1	Greet and personalise the interview
	Establish rapport
Phase 2	Explain the purpose of the interview/set the scene
	Transfer control of interview
	Report everything
	Focused retrieval—encourage the child to concentrate hard
	Remind not to guess or fabricate
Phase 3	Initiate a free report
	Context reinstatement
	Open-ended question
	Pause and do not interrupt
	Non-verbal behaviour
Phase 4	Questioning
	Set the scene—explain that you are going to ask some questions
	Use the interviewee-compatible questioning
	Explain that it is OK to answer "don't know"—give an example
	Explain that it is OK to say "I don't understand"
	Encourage to concentrate hard again
	Activate and probe image
	Use open questions first then closed questions
Phase 5	Motivated second retrieval
	Reverse-order recall
	Explain that the recall of new information is OK
Phase 6	Closure, thanks and praise

Note: The parts of the interview displayed in bold font were included in the CI only.

analysis of variance (ANOVA) revealed a significant main effect for ID, F(1, 42) =81.31, p < 0.001, d = 2.78. There was no significant main effect for interview type and no significant interaction, $p_s > 0.05$.

Scoring Children's Responses

Every detail from the video-taped magic show event was listed and categorised into one of four types of detail: person (e.g., what the magician looked like), action (e.g., what the magician did), object (e.g., what the magician used for his tricks), and surrounding (e.g., what the area around the magician was like). In total, there were 771 units of information that could be recalled (120 person details, 491 action details, 128 object details, and 32 surrounding details).

Children's free recall, responses from the questioning phase, and responses from the second recall attempt were coded and scored separately. Only new information was coded and scored from each phase. Each recalled detail was coded as correct, incorrect, or confabulated. Incorrect details were those that were included in the video but not the same as depicted (e.g., reporting that one of the girls had brown hair when it was blonde). Confabulated details were those reported that had not been present in the video (e.g., reporting that a dog was in the video when no dog had been present).

Children's responses to the 20 pre-set specific questions were scored separately for the misleading, leading, and neutral questions. For misleading questions, incorrect responses were scored as "misled" and correct responses were scored as "not misled". "I don't know" responses were scored separately (see Milne & Bull, 2003; Rudy & Goodman, 1991). For leading questions, incorrect responses were scored as "not led", correct responses were scored as "led" and "I don't know" responses were scored separately.

Each interview was rated by the fourth author, a fully trained interviewer. To assess inter-rater reliability, 15% of interviews were selected at random and also rated independently by the first author. The Cohen's kappa coefficient between raters was 0.92, indicating a good level of agreement.

Results

Free Recall

Children's overall accuracy was calculated as the percentage of correct details that they reported relative to the total number of details that they reported. Children interviewed using the CI and those interviewed using the SI had similar levels of overall accuracy (80% versus 89% accuracy, respectively; this difference was not significant, z = 0.84, p > 0.05). Children with ID and those without ID also had similar levels of overall accuracy (71% versus 85% accuracy, respectively; this difference was not significant, z = 1.15, p > 0.05).

Correct Recall

The top row of Table 2 shows children's mean number of correctly recalled details displayed by ID and interview type. A two (interview: CI, SI) by two (ID: with, without) ANOVA on children's number of correctly recalled details revealed a significant main effect for interview, F(1, 42) = 5.95, p < 0.02, d = 0.75. Children interviewed using the CI recalled a greater number of correct details than those interviewed using the SI. There was also a significant main effect for ID, F(1, 42) = 174.16, p < 0.001, d = 4.07. Children without ID recalled more correct details than children with ID. The interaction between interview and ID was not significant, p > 0.05.

Next we determined the types of details that accounted for this enhanced recall using the CI. Table 2 shows children's correct recall of each of the four types of details (person, action, object, and surrounding). For each of these types of detail, a two (interview) by two (ID) ANOVA was conducted. There was no significant main effect of interview for any of the four types of detail, all $p_s > 0.05$. There was a significant main effect of ID for all four types of detail: children without ID correctly recalled more of each type of detail than children with ID (person: F(1, 44) = 72.50, p < 0.001, d = 2.57; action: F(1, 44) = 93.52, p < 0.001, d = 2.92; object: F(1, 44) = 61.27, p < 0.001, d = 2.36; surrounding: F(1, 44) = 16.22, p < 0.001, d = 1.21). For each of the four types of detail, there was no significant interaction between interview and ID, all $p_s > 0.05$.

Table 2	Children's recall	of correct	incorrect and	confabulated	details
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	Interview technique		Intellectual disability	
Details	CI	SI	Without	With
Correct	50.16 (58.08)	39.40 (52.34)	75.30 (55.58)	5.65 (12.99)
Person	12.7 (12.6)	10.0 (10.0)	18.1 (9.8)	2.6 (4.8)
Objects	8.5 (10.1)	8.0 (11.2)	14.5 (11.0)	1.6 (3.3)
Action	25.2 (30.6)	20.0 (27.9)	39.2 (29.2)	1.3 (3.7)
Surrounding	2.6 (5.4)	1.5 (3.3)	3.5 (5.5)	0.3 (1.1)
Incorrect	7.28 (10.01)	3.45 (5.73)	8.34 (9.66)	1.15 (2.89)
Confabulations	5.20 (10.61)	1.04 (2.83)	4.88 (9.31)	1.05 (4.11)

Incorrect Recall

The lower half of Table 2 shows the mean numbers of incorrect details and confabulations that children reported. For incorrect details, a two (interview) by two (ID) ANOVA revealed no significant main effects or interaction, all $p_s > 0.05$. For confabulations, a two (interview) by two (ID) ANOVA revealed no significant main effects or interaction, all $p_s > 0.05$. These results suggest that neither interview nor ID influenced the errors that children made.

Responses to Specific Questions

Misleading Questions

For the misleading questions, we first examined the extent to which children were misled; that is, the number of times that they agreed with the misleading questions. The first row of Table 3 displays children's responses. A two (interview) by two (ID) ANOVA revealed no significant main effects or interaction, all $p_s > 0.05$. This result suggests that children incorrectly agreed with the misleading suggestions at a similar rate regardless of interview or ID.

Next, we investigated how often children were correct; that is, the number of times that they correctly disagreed with the misleading questions. A two (interview) by two (ID) ANOVA on the number of times that children correctly disagreed with the misleading questions showed no significant main effect for interview, F(1, 42) = 0.04, p > 0.05. There was, however, a significant effect for ID, F(1, 42) = 18.64, p < 0.001, d = 0.0011.33: children without ID correctly disagreed with the misleading questions a greater number of times than those with ID. The interaction was not significant, p > 0.05.

Finally, we investigated the number of times that children gave "don't know" responses to the misleading questions. A two (interview) by two (ID) ANOVA on the number of "don't know" responses showed no significant main effect for interview, F(1, 42) = 0.20, p > 0.05. There was, however, a significant effect for ID, F(1, 42) =24.61, p < 0.001, d = 1.45: children with ID gave more "don't know" responses than those without ID. The interaction was not significant, p > 0.05.

Leading Questions

For the leading questions, we first examined the number of times that children correctly agreed with the suggested information. The lower half of Table 3 shows these data. There was no difference in responses between children who were interviewed with the

Table 3.	Children's responses to	o the specific	misieading and	leading questions.

	Interview	technique	Intellectual disability	
Response	CI	SI	Without	With
Misleading questions				
Misled	3.00 (2.49)	2.68 (2.40)	3.12 (2.08)	2.50 (2.81)
Correct	2.04 (2.40)	1.91 (2.42)	3.12 (2.43)	0.50 (1.35)
Don't know	2.96 (3.16)	3.36 (2.84)	1.77 (1.93)	4.95 (3.19)
Leading questions	. ,	. ,	. ,	,
Correct	4.83 (2.75)	5.46 (2.84)	6.42 (1.51)	3.45 (3.15)
Incorrect	1.38 (1.56)	0.68 (1.20)	1.12 (1.52)	0.95 (1.36)
Don't know	1.83 (3.03)	1.91 (2.99)	0.50 (0.97)	3.65 (3.72)

CI or SI; they correctly agreed with the suggestions a similar number of times. Indeed, a two (interview) by two (ID) ANOVA revealed no significant main effect for interview, p > 0.05. There was, however, a significant main effect for ID, F(1, 42) = 17.86, p < 0.002, d = 1.20. Children without ID were more likely to correctly agree with the leading questions than children with ID. The interaction was not significant, p > 0.05.

Next, we determined the number of times that children incorrectly disagreed with the leading questions. A two (interview) by two (ID) ANOVA revealed no significant main effects or interaction, all $p_s > 0.05$. Finally, we examined children's "don't know" responses. A two (interview) by two (ID) ANOVA revealed no significant main effect for interview, p > 0.05. There was a significant main effect for ID, F(1, 42) = 17.23, p < 0.001, d = 4.74. The interaction was not significant, p > 0.05.

Discussion

Children with and without severe intellectual difficulties reported an average of 27% more detail when interviewed using the CI compared with the SI. This increase in detail was not restricted to one particular detail type (person, location, action, or surrounding); rather, it was a more general increase. Furthermore, the increase in the number of details reported did not occur at the expense of accuracy: children interviewed using the CI had the same level of accuracy as those interviewed using the SI. This pattern of results replicates previous findings showing that the CI elicits more information from witnesses than the SI (for example, Granhag & Spjut, 2001; Memon et al., 1997; Milne & Bull, 2003) and has extended these results to children with severe ID.

As predicted, children without ID reported more details than those with ID, which is consistent with previous findings (Henry & Gudjonsson, 2003, 2004; Milne & Bull, 1996). In particular, children without ID reported more information about people, objects, actions, and surroundings than did those with ID. This pattern of results is the same as the pattern found in adults (Milne at al., 1999). Although children without ID reported a greater number of correct details, there was no difference in the overall accuracy of the details reported by children with and without ID. This finding is consistent with other research showing that children with ID have similar recall accuracy for open-ended questions to their age-matched peers without ID (Henry & Gudjonsson, 2003; Michel et al., 2000; Milne & Bull, 1996).

In terms of the misleading questions, the CI did not inoculate children against the effects of misleading questions as has been found in past research (Memon, Holley, Wark, Bull, & Köhnken, 1996; Milne & Bull, 2003; Milne et al., 1995; Verkampt & Ginet, 2010). This decrease in suggestibility is thought to occur because the CI strengthens the memory of the original event before the misleading information is introduced; thus, people are able to discount this new information (Geiselman, Fisher, MacKinnon, & Holland, 1986). In the current study, there was no difference between the CI and SI in the number of misleading questions that children incorrectly agreed with. It is possible that this pattern occurred because all children showed relatively low levels of suggestibility, which were not further reduced by any particular interview type.

Two significant differences were found between children with and without ID for the misleading questions. First, children without ID correctly disagreed with more misleading questions than those with ID. Second, children with ID gave more "don't know" responses to the misleading questions than children without ID. It is probable that children with ID encoded fewer details of the magic show (due to poorer memory and greater distractibility) than those without ID—indeed, they correctly recalled less

information. They were more likely to give "don't know" responses to the misleading questions (because they did not have or could not access the original event information) and children without ID were more likely to correctly disagree with the misleading questions as they had encoded and could access the original information. This finding is consistent with research showing that children with lower IQs were less likely than children with higher IQs to repeat false suggestions that had been provided by interviewers (Agnew & Powell, 2004).

The pattern of results for the leading questions also fits with the probability that the children with ID encoded fewer details of the magic show than those without ID. We found that children without ID correctly agreed with more leading questions than those with ID. Those with ID gave more "don't know" responses than those without ID. This pattern suggests that children without ID retained a greater number of accurate details in their memories than children with ID. The leading questions prompted their memories, resulting in greater agreement with the leading questions (which contained correct information) from children without ID than from those with ID.

Interestingly, research that has examined the efficacy of the CI for use with vulnerable populations, such as adults with mild ID (Milne et al., 1999) and the elderly (Holliday et al., 2012), has found large standard deviations in the number of details recalled. We also found large standard deviations in the current study. Because of these large standard deviations our data should be considered exploratory and further studies should take place before firm conclusions can be drawn as to the performance of witnesses with severe ID and use of the CI. It seems that for some vulnerable people the CI is extremely effective; however, for others it is not so effective (although no poorer than a control). These differences in efficacy probably occur due to the large range of individual differences in such heterogeneous groups that constitute people with ID. It might be beneficial for future research to use a within-subjects design to examine the effect of interview type. It is essential that research find ways to enhance the recall of all details from these vulnerable groups, in order to improve justice for all.

Another direction for future research is to examine the effects of asking repeated questions on the effectiveness of the CI, particularly for children with ID. A study found that the majority (85%) of field interviews conducted with children and youth with ID were shown to contain at least one repeated question (Cederborg, Danielsson, La Rooy, & Lamb, 2009). Repeating questions can be problematic as it encourages people, particularly children, to change their responses (see Ceci & Bruck, 1995). Indeed in Cederborg et al.'s (2009) study, children and youth with ID changed their responses to 40% of repeated questions and they were more likely to change their responses the greater the number of times that the questions were repeated. Using the CI should strengthen children's memories of the original event and should make them more resistant to changing their answers.

In conclusion, the current study has demonstrated the effectiveness of the CI for children with severe ID compared with a SI. The CI increased the overall amount of information that they reported without decreasing the accuracy of that information. Overall, children reported 27% more information when interviewed with the CI than when interviewed with the SI, regardless of whether they have or do not have ID. It is recommended that the CI be used when interviewing children—including those with severe ID—about witnessed events, particularly when the change perspective instruction is not included, as in the present study (see also Verkampt & Ginet, 2010). Indeed, more research is necessary to examine the relative efficacy of each of the CI components for use with children with severe ID. One final point to note about the current

study is that children with severe ID did not report many details about the event overall. This finding is consistent with other studies showing that children with ID typically report fewer details than children without ID (for example, Henry & Gudjonsson, 2004). Future research needs to concentrate on finding ways to help these children to report their experiences more fully, while maintaining a high level of accuracy.

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Note

1. Owing to data protection issues, we were unable to access data about each child's specific impairments; thus, they had a range of abilities and disabilities.

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