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The Use of the NICHD Protocol to Enhance the Quantity of Details Obtained by Children with Low Verbal Abilities in Investigative Interviews: A Pilot Study

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Abstract

This study explored the impact of the NICHD protocol to enhance the quantity and content of details reported by children with low verbal abilities. Thirty-four children aged from 6 to 14 were interviewed following their experience of sexual abuse. Half the interviews were conducted using the NICHD protocol. Results indicate that NICHD interviews contained more open-ended prompts and more details overall. Open-ended invitations yielded significantly more detailed responses than did close-ended questions for both children with low and average verbal abilities. Although children with low verbal abilities provided fewer details than children with average verbal abilities, the NICHD protocol helped them provide detailed responses containing the core elements of the sexual abuse.

Key words: Child Sexual Abuse, Intelligence, Verbal Abilities, Investigative Interview, NICHD Protocol

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Low Verbal Abilities in Investigative Interviews: A Pilot Study

Conducting investigative interviews with child victims of sexual abuse is a complex task for an interviewer, yet is even more challenging with children with intellectual difficulties. For example, results of analog studies (Henry & Gudjonsson, 1999, 2003, 2004) and a field study (Dion, Cyr, Richard, & McDuff, 2006) indicate that children with intellectual disabilities are likely to provide fewer details when asked to recall an event. Above all cognitive abilities, verbal skills appear to be the most related to children's recall performance (Brown & Pipe, 2003; Chae & Ceci, 2005; Dion et al.). These results are of particular importance considering that children with mental retardation or speech and language difficulties are respectively 4 and almost 3 times more likely to be sexually abused than children without disabilities (Sullivan & Knutson, 2000). It is therefore necessary to evaluate interview techniques that might be useful in helping these children talk about their abuse. The objective of the present study is to explore the impact of the National Institute of Child Health and Human Development (NICHD) protocol to enhance details given by children with low verbal abilities (LVA) and to document any differences in response to distinct types of questions.

Intelligence and Verbal Abilities

Many researchers have explored intelligence in relation to children's abilities to recount an event in various settings, such as a staged event (e.g., Brown & Pipe, 2003; Chae & Ceci, 2005), a video (Henry & Gudjonsson, 2004), or sexual abuse (Dion et al., 2006). When looking at general intelligence, results of studies indicate that the amount of information produced by children with mental retardation during open-ended recall is often lower than that produced by children of the same age with typical intellectual development (Henry & Gudjonsson, 2003, 2004; Michel, Gordon, Ornstein, & Simpson, 2000).

However, inconsistent results are found when using different measures of intelligence (e.g., receptive language, expressive language, visual-motor coordination) to explore the relationship between more specific cognitive abilities (e.g., verbal and nonverbal abilities) and recall. Four explanations are possible for these conflicting results, including: (a) verbal intelligence appears to be a far better predictor of children's recall performance than nonverbal intelligence (Brown & Pipe, 2003; Chae & Ceci, 2005; Dion et al., 2006). In these studies, the vocabulary subtest of the Wechsler scales seems to be most related to children's recall (in Chae

and Ceci's study, vocabulary is combined with the similarity subtest). (b) Some evidence indicates that when evaluated with a measure of receptive language, verbal intelligence is not associated with recall performance (Burgwyn-Bailes, Baker-Ward, Gordon, & Ornstein, 2001; Gordon et al., 1993; Greenhoot, Ornstein, Gordon, & Baker-Ward, 1999; Gross & Hayne, 1999; Salmon, Price, & Pereira, 2002). (c) The different results could be due to the large range of ages or intelligence capacities across studies. For instance, Chae and Ceci have found an effect of verbal intelligence on school aged children, but not on preschoolers. (d) The inconsistent results concerning intelligence may lie in how children's testimony is assessed. Results of two studies suggest that verbal intelligence is more related to children's ability to freely report information when asked open-ended questions than to answer specific questions (Chae & Ceci; Dion et al.). In fact, an open-ended question (e.g., "Tell me more about it") is more likely to invite children to produce details than a close-ended question (e.g., "Did he touch you?").

Although some inconsistencies are found in the literature about the relationship between verbal intelligence and recall, it seems likely that school-aged children with lower verbal abilities would have difficulty providing details of an autobiographical event. Thus these more vulnerable children would need help providing a rich account of their experiences, particularly when recalling sexual abuse. Consequently, it seems important to examine which interview techniques would be most helpful to them.

Interview Techniques

In conducting forensic interviews, it is necessary to accommodate the individual abilities and needs of children with intellectual disabilities without compromising the reliable information needed to avoid inaccurate conclusions. Hence, interviewers have to follow two paramount goals: guarding innocent people against false accusations and detecting abuse to protect children from future risk (Perona, Bottoms, & Sorenson, 2006). Thus, conducting proper interviews is crucial. When interviewing children with intellectual difficulties, it is usually recommended to use open-ended questions (recall memory probes) to elicit details (Gordon & Shroeder, 1995; Michel et al., 2000). However, many forensic interviewers frequently use close-ended and suggestive questions (recognition memory probes; Hershkowitz, Lamb, Sternberg, & Esplin, 1997; Lamb et al., 1996; Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg et al., 1996, 1997) even when they are trained not to do so (Aldridge & Cameron, 1999). These findings prompted the development of the NICHD protocol, a structured

investigative protocol that applies recommended strategies to enhance retrieval of complete, informative, and accurate accounts of alleged incidents by young victim/witnesses into operational guidelines (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000). This protocol also may enhance accounts of children with verbal difficulties.

Of interest, this protocol accounts for recent research on memory (e.g., Ceci & Bruck, 1993, 1995; Lamb, 1994), particularly in regards to recognition, recall, and scenario. Invitations, cued-invitations, and two forms of open-ended intervention are primarily emphasized in this protocol as they allow children to report remembered information without content input from the interviewer. Many studies have shown that children's responses to individual free-recall prompts (i.e., invitations) are at least three times more informative than answers obtained from other types of interviewer utterances (e.g., yes-no questions, suggestive questions; Lamb et al., 1996; Sternberg, Lamb, Davies, & Westcott, 2001). Furthermore, freely recalled information is likely to be more accurate than information retrieved from recognition memory (Pipe, Lamb, Orbach, & Esplin, 2004; Poole & Lamb, 1998). Many studies have shown that information provided in response to open-ended questions is more accurate than information obtained from any other type of question (e.g., Craig, Scheibe, Raskin, Kircher, & Dodd, 1999; Goodman & Aman, 1990; Lamb & Fauchier, 2001; Orbach & Lamb, 1999), even for children with intellectual difficulties (Henry & Gudjonsson, 1999, 2003, 2004; Michel et al., 2000). In addition, the pre-substantive phase of the NICHD protocol provides children with practice in providing details from memory. This practice is suggested to help them apply these strategies when describing the alleged abuse in the substantive phase (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg et al., 1997; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001). Pre-substantive training also has been supported in a study evaluating its effect on enhancing episodic recall (Saywitz & Snyder, 1996). Overall, two field studies have demonstrated the effectiveness of the NICHD protocol to enhance children's disclosure in investigative interviews (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg, Lamb, Orbach, et al., 2001).

The purpose of this study is to explore the impact of the NICHD protocol in enhancing the quantity of details obtained by children with LVA. We expect that the protocol will help children provide more details about the sexual abuse. A second goal is to document differences, particularly regarding the amount of details obtained between children with LVA and average

verbal abilities (AVA) when responding to different types of questions. A more qualitative analysis will look at the content of details obtained by these children. To our knowledge, no field study to date has explored the effectiveness of the NICHD protocol with children with lower verbal abilities.

<div align="center">Method</div>

Participants

In this study, 17 protocol-guided forensic interviews were compared to 17 non-protocol forensic interviews. The 34 interviews of confirmed sexual abuse victims were conducted by 12 police officers and social workers from Montreal, Lanaudière and Centre-du-Québec (in the Quebec Province, Canada). Our research design is similar to other current designs in the field (see Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000) that primarily assess the effect of applying an interview protocol on interviewer and child behaviors.

The present sample was drawn from a pool of 42 sexual abuse cases involving children between ages 6 to 14 that (a) were referred to these 12 investigators from 2002 to 2004, and (b) completed the Vocabulary subtest of the WISC-III. In the protocol condition, 5 of the 22 interviews originally considered for inclusion were excluded because the interviewers did not follow the protocol. In the non-protocol condition, 3 of the 20 interviews were excluded to increase comparability with the children in the protocol condition. Thus, the children selected in both groups were of comparable ages, verbal intelligence, and gender to the children interviewed with the NICHD protocol. The 17 children (5 boys and 12 girls) in the protocol group ranged in age from 6 to 13 years ($M = 8.5$; $SD = 2.2$) and the 17 children (3 boys and 14 girls) in the non-protocol condition ranged in age from 6 to 14 ($M = 9.8$; $SD = 2.5$). Six and five children had LVA (i.e., scores of 7 or below on the vocabulary subtest of the WISC-III) in the protocol and non-protocol groups, respectively. In addition, both groups had a similar range of sexual abuse events (e.g., five cases of penetration in each group). Four participants in the protocol condition and eight in the non-protocol condition involved father or stepfather perpetrators. Finally, 12 in the protocol and 14 in the non-protocol condition included multiple alleged incidents. No statistically significant differences were found between each group according to age ($t[32] = 1.66$, $p > .10$), gender ($\chi^2[1, N = 34] = .65$, $p > .10$), vocabulary scores ($t[32] = .48$, $p > .10$), sexual abuse events ($\chi^2[1, N = 34] = .00$, $p > .10$), perpetrators ($\chi^2[1, N = 34] = 2.50$, $p > .10$) and number of incidents ($\chi^2[1, N = 34] = .65$, $p > .10$).

Procedure

The interviews were recorded, transcribed and verified to ensure their completeness and accuracy. Names and descriptive information were not transcribed to ensure anonymity. The verbatim was then coded (see measures). Within approximately one month following the investigative interview ($M = 32.8$ days, $SD = 24.2$), children were administered the Vocabulary subtest of the WISC-III by a psychologist or doctoral student in psychology. Written informed consent for the children was obtained from their mothers.

The NICHD Protocol

The NICHD protocol covers all phases of the investigative interview (see Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000 for further details). The pre-substantive phase allows the interviewer to present himself and define his role and clarify the child's upcoming tasks (i.e., to describe events in as much detail as possible and to tell the truth). It lays down other ground rules of the interview (e.g., permitting the child to say "I don't know", "I don't understand") and aims at building a rapport with the child. The interviewer encourages the child to provide a detailed account of a recent neutral experienced event (e.g., a trip, a birthday party) in response to open-ended utterances and to provide further information when prompted with open-ended refocusing probes. This practice prepares the victim to call upon episodic memory and to respond to similar questions that will be used in the substantive part of the interview.

Following the pre-substantive phase, the interviewer attempts to shift the child's focus to the substantive issues as non-suggestively as possible. In this substantive phase, the interviewer begins with an open prompt ("Tell me why you came today"). If the child fails to identify the target event, the interviewer progressively employs more focused prompts ("Tell me why you came to talk to me today"). Once the allegation has been mentioned, the free-recall phase begins with the main invitation ("Tell me everything that happened from the beginning to the end"). Follow-up, open-ended prompts (i.e., invitations) are then recommended ("Tell me more about that," "Then what happened?"). The interviewer only proceeds to directive questions after exhaustive open-ended questioning. More focused prompts (e.g., option-posing utterances) are used exclusively at the end of the interview to verify crucial information not disclosed by the child with the open-ended utterances. The protocol recommends returning to an open-ended questioning mode following confirmatory responses to focused questions. Once the interviewer

has obtained detailed allegations, he completes the questioning phase by asking the child whether he has additional information to report before thanking him for his cooperation.

Training of Interviewers

Prior to the implementation of the structured protocol, interviewers participated in a 5-day intensive training program in which current knowledge about children's memory and developmental capacities, as well as factors influencing suggestibility were presented and discussed. More importantly, the NICHD protocol was explained in detail. A practice period allowed trainees to use the protocol with five increasingly difficult role-plays where the victim's script was predetermined. These role-plays were filmed, re-examined, and analyzed to foster group discussion. Following this intensive week of training, each interviewer received written feedback for each interview carried out with the NICHD protocol regarding the course of the interview and the appropriateness of his utterances. This feedback was analyzed and discussed in detail to promote better interviewing techniques.

Measures

Data coding. Each transcription was coded by two of the three trained coders for each interviewer utterance and child detail, using a translated version of a codebook (Cyr, Dion, Perreault, & Richard, 2001) developed and used by NICHD researchers for qualitative and quantitative coding of both the interviewer's and the victim's utterances (see Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996). Inter-rater reliability was assessed for all interviews throughout the coding process to evaluate inter-rater observational drift (Cyr, Toupin, Lessage, & Valiquette, 1992). The inter-rater reliability of the three coders A, B and C was obtained by comparing AB, AC, and BC. Inter-rater reliability using data coding procedure was 80% for the children's responses and 89% for the interviewer utterance categories.

Children's responses. The number of central and peripheral details in victims' utterances were counted. Details are defined as words or phrases identifying or describing people, objects, or events (including actions) integrally related to the incident under investigation (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000). Details are counted only when they are new and contribute to understanding the experience; thus, restatements are not counted. Details are coded as either central (crucial to understanding the abuse incident) or peripheral (related to the incident but does not change the plot, such as the color of the suspect's clothing).

Raters also noted any mention of the identity of the perpetrator, the sexual abuse itself, the place where the sexual abuse occurred, and the time of the abuse.

   Interviewers' utterances. For the purpose of this study, only utterances pertaining to the substantive phase of the interview were coded. Each interviewer utterance, defined as a "turn" in the discourse, was coded according to one of four categories: *invitations* (including cued invitations and time segmentations), which prompt free-recall responses from the victim (e.g., "Tell me everything that happened"); *directive* utterances, which focus the child's attention on details he previously mentioned; *option-posing* utterances that focus the victim's attention on details he did not mention (e.g., "Did you scream?"); and *suggestive* utterances or utterances that suggest an answer to the victim (e.g., "He forced you, didn't he?"). Two specific types of invitations included in the NICHD protocol also were coded: *'getting the allegation' invitation*, a broad open-ended and non-suggestive prompt that allows the child, rather than the interviewer, to introduce the general topic under investigation ("Now that I know you better, I want to know why you are here today"), and the *'main invitation'*, a central open-ended invitation for the child to describe what happened in his/her own words after identifying the issue under investigation ("Tell me everything that happened from the beginning to the end").

   Vocabulary subtest of the Wechsler Intelligence Scale for Children – Third Edition: French Canadian Adaptation (Wechsler, 2000). The vocabulary subtest was used in this study because it has been shown to be the best measure of children's recall (Brown & Pipe, 2003; Dion et al., 2006). In addition, Vocabulary scores provide a useful index of children's general mental ability and are highly correlated with the Verbal Scale of the WISC-III ($r = .78$; Sattler, 2001). The score obtained on this subtest has a mean of 10 and a standard deviation of 3. Vocabulary is also the most reliable subtest ($r = .87$) in the Verbal Scale (Sattler). Usually, scores of 7 or below are considered below average (as they are one standard deviation below the mean; see Sattler for more details). In our study, we categorized children with a score of 7 or below in the low verbal ability (LVA) group, and children with a score between 8 and 12 in the average verbal ability (AVA) group (following Sattler's procedure). Using a median split would also be appropriate and would provide the same results. Children's scores ranged between 2 to 12 ($M = 8.15$; $Mdn = 8$; $SD = 2.48$).

<div align="center">Results</div>

Our results are presented as a function of children's verbal abilities. The analyses cover two major sections: (a) quantitative analyses, evaluating the effect of the NICHD protocol on the interviewer's questions and on children's details and (b) qualitative analyses, exploring the effect of the type of questions in the NICHD protocol on the number and content of children's details. A significance level of $p < .05$ was used for all quantitative analyses, unless noted otherwise.

Effect of the NICHD Protocol on Interviewers' Questions

Univariate analyses of variance (ANOVAs) were used to evaluate group differences in the distribution of the four main categories of utterances (i.e., invitations, directives, option-posing, and suggestive utterances) as a function of children's verbal abilities (i.e., low and average). As expected, the number of invitations used to elicit information on the sexual abuse event(s) was significantly higher in the protocol interviews than in the non-protocol interviews, $F(1,32) = 35.56$, $p < .001$ ($ή = .52$; see Table 1). In addition, suggestive questions were asked significantly less frequently in the protocol interviews than in the non-protocol interviews, $F(1, 32) = 7.88$, $p < .01$. ($ή = .23$). Although the protocol interviews contained fewer directive and option-posing prompts than the non-protocol interviews, no significant statistical differences were found. Interestingly, interviewers asked significantly less directive ($F[1, 32] = 8.15$, $p < .01$; $ή = .21$) and option-posing ($F[1, 32] = 5.30$, $p < .05$; $ή = .15$) questions to children with LVA. There were no significant interactions between protocol conditions and verbal abilities.

Effect of the NICHD Protocol on Children's Details as a Function of Verbal Abilities

An analysis was performed to examine whether the NICHD protocol enhanced the quantity of information provided by children as a function of their verbal abilities. As age and the number of questions asked are correlated with the number of details obtained ($r = .45$ and .74, $p > .01$, for age and the number of questions respectively), they were included as covariates in the univariate analysis of covariance (protocol x verbal). This ANCOVA yielded significant results, $F(6, 33) = 16.47$, $p < .001$ ($ή = .79$). Significant differences in the details were found on the basis of the protocol used, verbal abilities, the number of questions asked, and age. Overall, the results show that children in the NICHD protocol condition, both with LVA and AVA, recalled significantly more details than did children in the non-protocol condition (see Figure 1). Interestingly, children with LVA provided more details (Estimated $M = 191.4$) in the protocol condition than children with AVA (Estimated $M = 182.3$) in the non-protocol condition.

Children's Details Provided in the Beginning and During the Whole Interview

The next set of qualitative analyses explored the effectiveness of the different types of questions included in the NICHD protocol for children with low verbal abilities. Many experts recommend beginning the interview with a broad open-ended prompt, which allows children to introduce the sexual abuse under investigation and make their allegation (Bull, 1995; Hershkowitz, 2001; Jones, 1992; Lamb, Sternberg, Orbach, Hershkowitz, & Esplin, 1999; Memorandum of Good Practice, 1992; Poole & Lamb, 1998). The '*getting the allegation' invitation* included in the NICHD protocol follows this recommendation. The next set of analyses explored the effectiveness of this invitation on the production of children with low verbal abilities. As a result, only responses provided by children in the NICHD protocol group are reported. The qualitative analyses indicate that all of the interviewers used at least one '*getting the allegation' invitation* and that half ($n = 3$) of the children with LVA and 7 out of the 11 children with AVA provided details in response to that invitation. Children with AVA provided an average of 22 details (16 central details) in response to the invitation compared to an average of 7 details (7 central details) given by children with LVA.

Following the *'getting the allegation' invitation,* the NICHD protocol guides interviewers to use the *main invitation*. On average, children with LVA provided 20 details and 11 central details in response to the main invitation. Children with AVA provided slightly more details, an average of 29 details and 22 central details. Interestingly, almost all children (5 out of 6) in the LVA group and all children of the AVA group revealed details about the sexual abuse following the first three invitations included in the protocol.

In examining the effectiveness of the first questions, we found that the *'getting the allegation' invitation* and the *'main invitation'* yielded more details than any other invitations and cued-invitations used throughout the rest of the interview (see Table 2). Nonetheless, all children provided more details in response to open-ended invitations than to close-ended questions across the interview. However, children with LVA generally provided fewer details than children with AVA. On average, children with LVA reported four details and children with AVA reported seven details in response to all invitations excluding the *'getting the allegation' invitation* and the *main invitation*. In comparison, these children respectively reported two and four details in response to close-ended questions.

Content of Children's Details

The content of the children's responses to the first substantive questions was examined to determine whether open-ended invitations elicited information about core elements of the sexual abuse. Following the *main invitation,* all children provided the name of the perpetrator, and almost all children with LVA (5 out of 6) and AVA (10 out of 11) mentioned the alleged abuse (e.g., genital contact, undressing, and penetration). In response to the first invitation following the *main invitation* (i.e., the third invitation in the protocol)*,* almost all children (5 out of 6 children with LVA and 10 out of 11 children with AVA) provided information on the scene of the sexual abuse. Only one child with LVA was asked a directive question ("where did it happen") to obtain information on the place. Regarding the time of the abuse (when it happened), four children with LVA and seven children with AVA disclosed relevant information following the invitation next to the *main invitation*. Five children (two with LVA and three with AVA) were invited to describe when the abuse occurred with a close-ended question. Overall, almost all the core elements were obtained at the onset (i.e., following the first invitations and not following close-ended questions).

<div align="center">Discussion</div>

A major goal of this study was to explore the influence of the NICHD protocol on children's declaration of sexual abuse as a function of their verbal abilities. The effectiveness and value of the NICHD protocol has been assessed with child victims of sexual abuse (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg, Lamb, Orbach, et al., 2001). Our study added further knowledge by exploring its effectiveness with children presenting verbal difficulties. Overall, it seems that children with LVA tend to provide fewer details of the abuse than children with AVA, yet still provide a great quantity of details.

Our results are in line with Brown and Pipe (2003) and Chae and Ceci (2005), who found that children with LVA provide fewer details when asked to recall an event. Nonetheless, our results indicate that not only did the NICHD protocol increase the amount of information obtained by all children, it also helped children with LVA provide twice as many details as provided without the protocol. Therefore, there were more similarities than differences between children with LVA and children with AVA regarding the influence of the NICHD protocol on their recall performance. These findings may be attributable to the higher number of open-ended invitations in the NICHD protocol interviews, as they were found to elicit more information than

focused questions (Hershkowitz et al., 1997; Lamb, Hershkowitz, Sternberg, Boat, & Everson, 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg et al., 1996). The results also may be explained by the opportunity to practice providing lengthy narrative responses to open-ended invitations in the NICHD protocol. This may have helped children, both with LVA and AVA, to maintain this response pattern when invited to talk about the abuse later in the interview, as was demonstrated in Sternberg and her colleagues' studies (1997, 1999). However, additional studies are needed to further validate the effectiveness of the NICHD protocol for children with LVA.

To date, the evidence suggests that the NICHD protocol helps interviewers use more invitations and fewer suggestive questions regardless of the child's verbal ability level. In our study, the NICHD protocol did not have a significant influence in reducing the number of directive and option-posing questions. Interestingly, children with LVA were less frequently asked directive and option-posing questions, perhaps because interviewers assumed they would not understand those questions. Children with linguistic deficits may have difficulties understanding complex questions of the interviewers, such as questions containing many options. Moreover, it has been found that children are less accurate when questioned with complex linguistic questions (Carter, Bottoms, & Levine, 1996; Perry, McAuliff, Tam, & Claycomb, 1995). Nonetheless, further studies are needed to better understand these findings.

Our analyses also revealed the effectiveness of the first invitations in the NICHD protocol for both groups of children. Numerous details about the alleged abuse were provided by children, although to a lesser extent for children with LVA, following either the '*getting the allegation' invitation* or the *main invitation*. This finding also was reported in two previous studies (Herskowitz, 2001; Sternberg et al., 1997). It suggests that children become well prepared for their role of informing and recollecting the incidents from the outset (Herskowitz). Moreover, both groups of children provided many central details about the core elements of the abuse in the beginning of the interview. Although children with LVA provided fewer details than children with higher verbal abilities, they also provided detailed information about the core elements of the abuse from the beginning. In the Sternberg et al. study, most children provided some sexually explicit information about the central elements of the crime. The information provided in response to the first couple of invitations is likely to be more accurate as the interviewers have not yet presented any information that might contaminate the accounts. Therefore, information

revealed from the onset (i.e., following the *'getting the allegation' invitation* or the *main invitation*) is obviously of particular value. Our results indicate that this is also important for children with LVA.

Following the first invitations (*'getting the allegation' invitation* and the *main invitation*) used in the NICHD protocol, both groups of children continued to provide many details across the interview in response to invitations and cued-invitations. Children provided more details when elicited by invitations than when elicited by close-ended questions, and again, to a lesser extent for children with LVA. These findings confirm the superiority of open-ended over close-ended questions (Hershkowitz, 2001; Hershkowitz et al., 1997; Lamb, Hershkowitz, Sternberg, Boat, et al., 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; Sternberg et al., 1996; Sternberg, Lamb, Orbach, et al., 2001).

At this point, it appears that the invitation should be prioritized when interviewing children with LVA. In addition, the use of the NICHD protocol seems to enhance these children's production throughout the interview, although they provide fewer details than children with AVA. Other techniques that were not assessed in this study also may help children with LVA provide details about abuse in an investigative interview, such as the Narrative Elaboration Technique (NET; Saywitz & Snyder, 1996; Saywitz, Snyder, & Lamphear, 1996), the mental context reinstatement (MCR; Hershkowitz, Orbach, Lamb, Sternberg, & Horowitz, 2001, 2002), and the physical context reinstatement (PCR; Hershkowitz et al., 1998, 2002; Orbach, Hershkowitz, Lamb, Sternberg, & Horowitz, 2000). With the NET, children are trained to use cue cards to remind them of the topics of interest (e.g., the participants, actions, setting). Although they help children with LVA or low IQ provide more complete event reports (Brown & Pipe, 2003), the NET has not been explored in forensic settings. The PRC is based on an exposure to the setting in which the target event occurred, whereas the MRC is guided mental reconstruction of the setting in which the target event occurred (e.g., "Close your eyes and think about that time, as if you were there again. [Pause]. Think about what was happening around you. […]"). Both techniques have been used in field settings. Findings indicate that they increase the amount of information retrieved when used in combination with open-ended questions, and are especially powerful with young children (from ages 4 to 6; Hershkowitz et al., 1998, 2000; 2002; Orbach, Hershkowitz, Lamb, Sternberg, & Horowitz, 2000). PRC and MRC techniques

also might enhance the accounts of children with LVA. Therefore, it would be interesting to investigate the effectiveness of these techniques in forensic settings with children with LVA.

       One of the study's limitations is the small number and age range of children, which precludes firm conclusions. Further work is clearly warranted with a larger sample. Although the Vocabulary subtest is the subtest most correlated with the Verbal subscale of the WISC-III, it only provides an approximation of children's verbal abilities. Future research should include a greater diversity of measures evaluating verbal abilities. As all other studies in the field of sexual abuse allegations, another limitation concerns our inability to evaluate the accuracy of the information retrieved. Nonetheless, the results of laboratory studies have consistently shown that responses to open-ended questions are more likely to be accurate than responses to close-ended questions. These findings should translate to studies in this field (Herskowitz, 2001). Conversely, it would be valuable to conduct laboratory analog studies involving the use of a structured protocol with children with LVA, so that accuracy could be assessed systematically.

       In spite of these limitations, the results of this study shed light on the potential value of the NICHD protocol to enhance accounts of the sexual abuse of children with verbal difficulties. By imposing a structured interview protocol, we are able to increase the amount of information obtained from children's free recall memory. In addition, invitations and cued-invitations help children provide details about core-elements of the abuse, from the onset of the interview. Furthermore, children continually provided many details in response to open-ended invitations. Although developmental and cognitive differences emerged, these findings underscore the value of using invitations and cued-invitations, even with children of a young age or with LVA. Accordingly, open-ended questions should be encouraged all along the interview.

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Table 1

Number of Utterance Types in Protocol and Non-Protocol Interviews (SD in parentheses)

Utterances	Non-Protocol M (SD) (n=17)[a]			Protocol M (SD) (n=17)[a]			F	
	LVA	AVA	Total	LVA	AVA	Total	Protocol	Verbal Abilities
Invitation	4.4	7.0	6.2	16.2	21.1	19.4	35.56***	3.01
	(2.6)	(5.0)	(4.5)	(3.9)	(8.1)	(7.2)	(Eta = .54)	
Directive	10.8	25.4	21.1	7.2	15.6	12.6	2.75	8.15**
	(9.2)	(15.5)	(15.3)	(5.1)	(7.2)	(7.6)		(Eta = .21)
Option-posing	9.6	16.0	14.1	5.0	11.6	9.3	2.50	5.30*
	(9.8)	(10.4)	(9.7)	(2.3)	(6.2)	(6.0)		(Eta = .15)
Suggestive	4.5	6.8	6.2	2.5	2.4	2.5	7.88**	.95
	(3.1)	(3.9)	(3.7)	(1.2)	(1.6)	(1.4)	(Eta = .23)	

a. $n = 16$ and $n = 15$ in the suggestive category for the non-protocol and protocol conditions respectively.

* $p < .05$

** $p < .01$

*** $p < .000$

Table 2

Mean number of details in response to different types of questions in the NICHD protocol (SD in parentheses)

Utterances	Frequency		N. of details per utterance	
	Low VA ($n = 6$)	Average VA ($n = 11$)	Low VA $(n = 6)^a$	Average VA $(n = 11)^a$
Getting the allegation (GA)	1.2 (.4)	1.3 (.6)	3.7 (4.3)	13.9 (30.4)
			$7.3 (2.5)^b$	$21.9 (36.6)^b$
Main invitation (MI)	1.0 (0)	1.1 (.3)	19.6 (16.3)	28.9 (25.8)
Invitation or cued-invitation (excluding GA and MI)	14.2 (3.7)	18.8 (7.9)	4.4 (3.4)	6.8 (3.6)
Close-ended question	14.7 (7.2)	29.0 (13.3)	2.3 (1.6)	3.7 (1.6)

a. The *main invitation* was not used with two children (1 with LVA and 1 with AVA), as they produced many details following the *'getting the allegation' invitation.*

b. Mean number of details computed only with children who provided details in response to the GA invitation ($n = 3$ and $n = 7$ for children with LVA and AVA respectively).

Figure 1. Effect of the NICHD protocol on the quantity of details obtained by children with low and average verbal abilities.