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What is This?

Repeated Interviews With Children Who Are the Alleged Victims of Sexual Abuse

Carmit Katz[1] and Irit Hershkowitz[2]

Abstract

Objective: The present study was designed to test the effects of repeated retrievals in the course of forensic investigations with children who are the alleged victims of sexual abuse. Method: Using the National Institute of Child Health and Human Development protocol, 56 children participated in a first free-recall interview that was followed by a second interview composed of a repeated free-recall phase that was then followed by closed questions. Results: In the second interview, children reported 58% new forensically relevant details. Increased production in the repeated retrieval was especially marked for younger children and for children who provided poor narratives in their first interview. Conclusion: This study provides practical guidelines for social work practitioners. The study stresses the importance of repeated retrieval when interviewing children on alleged abuse. The results of the current study emphasize that the first retrieval from memory in never enough. Rather, repeated open-ended questioning can produce richer narratives from children that contain forensically relevant information.

Introduction

Repeated interviews have been shown to enhance children's reports of experienced events (La Rooy, Lamb, & Pipe, 2009). The research shows that when interviewers follow best practice recommendations by utilizing open-ended prompts, repeated retrievals increase the richness of free narratives without compromising their accuracy. Therefore, researchers recommend the application of repeated interviews to forensic investigations with children (La Rooy, Katz, Malloy, & Lamb, 2010). However, achieving best practice standards in investigative interviews with children has proven to be highly difficult because field research can sometimes be compromised by repeated interviews. The current study presents results from child investigations in which children were interviewed twice about an alleged incident of sexual abuse, thereby allowing for a controlled examination of the effects of repeated interviews in forensic contexts.

It can be difficult for children who are the alleged victims of sexual or physical abuse to provide rich and coherent accounts of the alleged abuse (Pipe, Lamb, Orbach, & Cederborg, 2007). In an attempt to support their efforts to provide rich narratives, researchers have explored various aids and techniques that can be used in investigative interviews (Lamb, Hershkowitz, Orbach, & Esplin, 2008). The use of repeated interviews is one promising technique (La Rooy et al., 2009).

Researchers have shown that repeated interviews, which allow a second opportunity to retrieve memories, help children to produce more detailed accounts of the events they have experienced (Erdelyi, 1996; Payne, 1987). It has been established that repeated interviews aid in the retrieval of additional information, allowing for a process of reminiscence and sometimes resulting in hypermnesia (Brainerd, Reyna, Howe, & Kingma, 1990). Researchers argue that both reminiscence and hypermnesia are important and that a first retrieval rarely produces complete accounts. It has therefore been suggested that the method of repeated interviewing be used whenever it is important to exhaust the memory regarding experienced events (La Rooy et al., 2009, 2010; Poole & Lamb, 1998).

Although previous studies of repeated interviews have shown a consistent increase in the amount of information children provide in a second interview, the results are mixed with respect to the quality or accuracy of this information (La Rooy, Pipe, & Murray, 2007). However, most researchers agree that variation in accuracy rates is highly attributable to the type of questioning employed in the interviews; leading, misleading, or suggestive questioning consistently yields a disturbing amount of inaccurate information, while open-ended questioning generally results in satisfactory levels of

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accuracy (La Rooy et al., 2009). This extant research makes it clear that repeated interviewing in forensic contexts should only be used when paired with open-ended retrieval (La Rooy et al., 2010).

The beneficial effects of repeated open-ended interviews have been demonstrated in a range of laboratory studies. These studies vary with respect to the type of events children are asked to recall. Some studies have been based on passive experiences, such as watching a videotaped event (Bjorklund et al., 2000; Cassel & Bjorklund, 1995; Dent & Stephenson, 1979) or witnessing a staged event (Flin, Boon, Knox, & Bull, 1992; Melnyk & Bruck, 2004; Memon, Wark, Bull, & Koehnken, 1997; Powell, Jones, & Campbell, 2003). In other studies, subjects actively experience a staged event (e.g., Baker-Ward, Hess, & Flannagan, 1990; Bruck, Ceci, & Hembrooke, 2002; La Rooy, Pipe, & Murray, 2005). Additionally, other studies have been based on real-life experiences (Fivush, 1994; Fivush & Hamond, 1990; Fivush, Hamond, Harsch, Singer, & Wolf, 1991), including salient and difficult experiences, such as medical examinations (e.g., Ornstein et al., 2006; Salmon & Pipe, 2000) or stressful events, such as hurricanes or physical injuries (Fivush, McDermott Sales, Goldberg, Bahrick, & Parker, 2004; Peterson & Whalen, 2001). The number of times children were reinterviewed ranged across studies from a minimum of 2 times (e.g., Ackil, Van Abbema, & Bauer, 2003; Goodman, Hirschman, Hepps, & Rudy, 1991) to as many as 10 times (Bruck et al., 2002) and, in one study, 16 times (Fivush, 1994). Some studies manipulated the time delay between the interviews, with the delay ranging from 1 day (La Rooy et al., 2005) to 6 years (Fivush et al., 2004). In attempt to explore developmental effects, children with ages ranging from 2 (e.g., Fivush & Hamond, 1989; Peterson, 1996; Peterson & Whalen, 2001) to 11 years (e.g., Dent & Stephenson, 1979; Pipe, Gee, Wilson, & Egerton, 1999) have been used as subjects.

In all of the studies mentioned above, reminiscence was evident, with children providing information in the second interview that had not been reported in the initial interview. Hypermnesia, by contrast, was manifest only in selected studies (Bruck et al., 2002; Dent & Stephenson, 1979; La Rooy et al., 2005), suggesting that in most cases the amount of forgotten or ignored information across interviews exceeded the amount of new information obtained, while a certain amount of information was consistently repeated. The information children consistently mentioned across repeated interviews tended to be highly accurate (La Rooy et al., 2007; Peterson, Moores, & White, 2001; Pipe et al., 1999; Salmon & Pipe, 1997, 2000; Steward & Steward, 1996), with accuracy rates ranging 86–100%. However, the accuracy of newly reported information was somewhat lower, although variation in time delay seemed to influence this trend (e.g., Memon et al., 1997). When the effects of time delay were systematically disentangled from the effects of repeated interviews (La Rooy et al., 2005), the accuracy of the new information was remarkably high (92%) for short delays (i.e., days), but dropped after longer delays (i.e., weeks, months, etc.). However, the

negative effect of long delays has not been reliably shown across studies, and researchers claim that after long delays (of months or years) increased production can be attributable to developmental changes (Fivush, 1994; Fivush & Hamond, 1990). In general, it seems that repeated interviews are more beneficial following short rather than long-time delays (La Rooy et al., 2009).

The effect of repeated interviews across age groups was not consistent. While studies reflected a decrease in the amount of correct information reported by younger children across repeated interviews (Ornstein, Gordon, & Larus, 1992), other studies showed decreased accuracy rates for older children (Pipe et al., 1999; Salmon & Pipe, 1997), or no age-based difference (Flin et al., 1992).

A recent review of studies involving repeated interviews (La Rooy et al., 2009), led its authors to conclude that repeated interviewing can be highly beneficial for children's recall when this strategy is paired with open-ended questioning, especially when short delays separate the interviews. Consequently, they recommend applying repeated open-ended interviews as a practical tool in child abuse investigations.

However, the value of repeated interviews is not reflected in guidelines employed in the field. Practical guidelines have dictated the use of repeated forensic interviews only in specific circumstances, for example, when the first interview failed to address central issues or when newly revealed information (e.g., a medical examination, suspect admission) creates the need for further questioning (Home Office, 2007; Law Commission, 1997; Scottish Executive, 2007). It is possible that repeated retrievals, as a technique used to enhance children's reports, have not been implemented in the field because their empirical support comes from laboratory studies rather than from field experiments in forensic contexts.

Indeed, only one field study has been conducted that applies this technique to forensic investigations of children who are alleged sexual abuse victims (Hershkowitz & Terner, 2007). In this field study, which was conducted in Israel, two full interviews separated by a 30-min break were conducted with children. Both interviews followed the NICHD (National Institute of Child Health and Human Development) protocol, which has been shown to produce best practice interviews. This study clearly showed that those repeated interviews that relied primarily on open-ended questions (an average of 50%), yielded a 25% increase in new information. Although no measure of accuracy was applied in this study, the findings provide strong evidence for the value of repeated retrieval in child investigations. Together, the results from Hershkowitz and Terner's (2007) study support the view that the first interview is typically incomplete and that a repeated interview is an effective tool for enhancing children's forensic statements.

The current study was designed to test the effects of a second interview following an initial, fully open-ended interview, in investigations with children who are the alleged victims of sexual abuse. To maximize the effects of the second retrieval, a shorter break (7 min) was taken between the interviews. In addition, while the accuracy of the information could

not be assessed due to the absence of external evidence, the study did involve an analysis of the consistency of the information provided. The main prediction was that improved interviewing triggers higher levels of reminiscence, resulting in an increase in information over that reported in the initial interview (Hershkowitz & Terner, 2007).

Method

Sample

The sample was comprised of 56 children (12 boys and 44 girls) who were referred for an investigative interview following a complaint of sexual abuse. The children included in the current study were randomly assigned to all interviews that were conducted with children from November 2005 to July 2007. The children in this study had to match the following criteria to participate: children had to have been allegedly abused on a single occasion by a perpetrator who was not a family member and the children had to have disclosed the alleged abuse. The children ranged in age from 5 to 14 ($M = 10.36$, $SD = 2.32$) and were divided into the two following age groups for the analysis: (1) 5–10 years and (2) 11–14 years. The alleged incidents included sexual exposure ($n = 15$), fondling private body parts over clothes ($n = 20$), skin-to-skin fondling of private body parts ($n = 13$), and penetration ($n = 8$). The time delays between the alleged incidents and the investigative interviews ranged from 1 to 365 days ($M = 33.46$, $SD = 53.09$).

The Interviews

Children were interviewed by one of the nine well-trained investigative interviewers in Israel. All interviews were audiotaped and followed the NICHD protocol. All interviewers shared the same professional background (bachelor degree in social work and approximately 7 years of experience performing investigative interviews). All interviewers conducted an average of 23 interviews each month. The interviewers were provided with regular individual and group training by the first author, ensuring that the interviews adhered precisely to the research protocol.

The NICHD Protocol

The interviewer's guidelines in this study were a variation of the NICHD protocol. The NICHD protocol was conceptualized and formalized by a group of researchers in the National Institute of Child Health (Orbach et al., 2000; Sternberg, Lamb, Davies, & Westcott, 2001a; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001b). According to the protocol, the interview starts with the following introductory phase: the child is introduced to the interviewer, the importance of telling the truth is emphasized and the ground rules are explained, with children being encouraged to say "I don't know" or "I don't understand" when appropriate. Then, the interviewer focuses on building rapport and establishing a supportive relationship with the child, while introducing the preferred interviewing

techniques. The interviewer explores a neutral experience using various forms of open-ended invitations so that the child becomes familiar with the interviewer's questioning style. When the child appears comfortable and responds informatively to open-ended prompts, the focus moves to the identification of the alleged abusive target event with a series of structured prompts, gradually progressing from open-ended to more focused, yet nonsuggestive prompts. After the child makes a short allegation, the exploration of the event starts with the main invitation (e.g., "tell me everything that happened to you from the beginning to the end as best as you can"), proceeded by follow-up invitations (e.g., "and then what happened?"), time-segment invitations (e.g., "tell me everything that happened from [*an occurrence the child mentioned*] to [*a subsequent occurrence the child mentioned*]"), and cued invitations (e.g., "earlier you mentioned a cream; tell me everything about it"). Only after open-ended questions appear to have exhausted the child's memory do interviewers pose "Wh" directive questions (e.g., "when did it happen?"). Option-posing questions (e.g., "did he touch you under the clothes?") are to be asked only if essential forensic information is missing and only at the end of the interview. Suggestive questions (e.g., "I understand he stuck his fingers in, right?") are to be avoided completely. At the end of the interview, the interviewers are instructed to move the focus of the conversation to neutral topics (e.g., "what are you going to do after the interview?") in attempt to help the children relax again.

The NICHD protocol has been implemented in the United States, Israel, Sweden, the United Kingdom, and Canada, and follow-up studies systematically show a significant improvement in the quality of the investigative interviews when the protocol is used (Cyr & Lamb, 2009; Lamb, Orbach, Hershkowitz, Esplin, & Horowitz, 2007; Orbach et al., 2000; Sternberg et al., 2001a). In addition, the NICHD protocol appears to have beneficial effects on credibility assessments (Hershkowitz, Fisher, Lamb, & Horowitz, 2007) on the elicitation of investigative leads (Darwish, Hershkowitz, Lamb, & Orbach, 2008) and on case disposition and resolution (Pipe, Orbach, Lamb, Abbot, & Stewart, 2008).

The first interview in the current study followed the introductory and rapport-building phases of the NICHD protocol as well as the exploration of possible abuse. However, the interviewers were instructed and trained to use only open-ended invitations of various forms in the first interview (the main invitation, follow-up invitations, time-segment invitations, and cued invitations). When the open-ended invitations seemed to have exhausted the child's memory, the first interview ended and the child was offered an opportunity to take a short break (7–10 min). During the break, the interviewer and the child remained in the same room and the child was allowed to play with toys (e.g., puzzles, bricks, etc.), or just to rest.

Following the break, the interviewers provided the children with the main invitation again, as follows: "You've told me what happened to you and then you've played/rested. Now, please tell me again everything that happened to you from the beginning to the end as best as you can." The interviewers then

re-explored the target event using all forms of open-ended invitations and then proceeded with directive prompts. Option-posing prompts were posed in the last phase of the interview if substantive information was still missing.

Data Coding

All interviews were carefully transcribed by well-trained transcribers, and all identifying details were removed. The substantive part of the interview, starting after the child identified the target event and made a short allegation, was then coded. As detailed by Lamb and his colleagues (Lamb et al., 1996, 2008), the interviewer's utterances that were used to explore the alleged event, were classified by two experienced coders into one of the following categories: invitations, directive prompts, option-posing prompts, and suggestive prompts.

Details reported by the children were categorized as informative words or phrases identifying or describing people, actions, objects, locations, and times that were part of the alleged abusive event. Details were coded as either central, when they addressed the core of the sexual events, or peripheral, when they addressed the context of the events. In coding the second interview, new details that were not mentioned in the first interview were distinguished from repeated details that were mentioned in both interviews. When information in the second interview was similar to the information children reported in the first interview it was addressed as reminiscence. When the children provided more details in the second interview than in the first interview, this was referred to as *hypermnesia*.

In addition, the coders were instructed to identify contradicting details, defined as two or more details representing the same feature (people, actions, objects, locations, or times) of the alleged event that cannot co-occur (see Lamb & Fauchier, 2001; Orbach & Lamb, 2001). Different descriptions of the same feature were not marked as contradictions unless it was clear that they could not co-occur.

Two highly trained coders performed the coding and intercoder reliability was checked by having over 15% of the transcripts independently rated by both coders. Agreement was higher than 90% for both classifications of interviewers' utterances, and the identifications and classifications of details reported by children. There was 100% agreement between coders, regarding coding of contradicting details in the children's statements.

Ethical Approval

Because this was a field study involving the manipulation of subjects, ethical approval was necessary and was granted by the head of the investigative interview unit in Israel, the head of the youth department of the Israeli police, the vice president of the Israeli juvenile court, and the chairman of the University of Haifa's ethics board.

Results

The Quality of the Interviews

The set of first interviews consisted of 37.39 ($SD = 25.21$) prompts on average, all of which were coded as open-ended. The second interview consisted of an average of 76.98 prompts ($SD = 22.15$) of which 33.45 ($SD = 21.96$) or 45.49% ($SD = 19.51$) were open-ended prompts, 37.73 ($SD = 27.35$) or 46.45% ($SD = 9.88$) were directive prompts, and only 6.14 ($SD = 5.85$) or 7.68% ($SD = 4.84$) were option-posing prompts. No suggestive prompts were posed to children. No significant difference across interviews was found with respect to the amount of open-ended prompts posed to the children.

Total Number of Details Obtained: A Comparison of the First and Second Interview

A 2 (interview: first, second) $\times$ 2 (detail type: central, peripheral) $\times$ 2 (age group: 5–10, 11–14) analysis was conducted and revealed a main effect for the interview, $F(1, 54) = 9.478$, $p < .01$, $\eta^2 = .145$, a main effect for detail type, $F(1, 55) = 69.88$, $p < .001$, $\eta^2 = .56$, and an interaction effect between the two variables, $F(1, 55) = 12.66$, $p < .001$, $\eta^2 = .19$, on the number of details the children produced. The main effects indicated that more details were provided in the first interview ($M = 326.8$, $SD = 279.3$) than in the second one ($M = 264.3$, $SD = 158.6$), and more central details ($M = 450.6$, $SD = 345.1$) were provided in comparison to peripheral details ($M = 140.7$, $SD = 106.3$; see Table 1). This interaction suggests that the greater number of central versus peripheral details was more marked in the first interview (central: $M = 254$, $SD = 229.7$; peripheral: $M = 72.42$, $SD = 64.9$) than in the second interview (central: $M = 196$, $SD = 121.6$; peripheral: $M = 68.3$, $SD = 50.3$). No main effect for age and no combined effects with age were evident.

The Second Interview: New, Repeated, and Omitted Details

The set of second interviews provided an average of 149.9 new details ($SD = 84.6$) or 58.50% ($SD = 38.66$) of the details obtained in the first interview. Of these details, 101.07 ($SD = 58.6$) or 39.81% ($SD = 27.29$) were central and 48.8 ($SD = 38.9$) or 18.68% ($SD = 14.75$) were peripheral. In addition, the second interview consisted of an average of 114.2 repeated details ($SD = 96.1$), forming 38% ($SD = 12.81$) of the details obtained in the first interview. Of these, 95.6 ($SD = 85.4$) or 31.23% ($SD = 11.51$) were central and 18.37 ($SD = 16.1$) or 6.75% ($SD = 5.43$) were peripheral. However, there were a large proportion of details that were mentioned in the first interview but omitted in the second interview ($M = 212.5$, $SD = 192.3$) or 61.99% ($SD = 12.81$). Of these, 159.03 ($SD = 152.1$) or 45.67% ($SD = 14.15$) were central and 4.05 ($SD = 53.3$) or 16.23% ($SD = 10.14$) were peripheral.

A 3 (detail nature: new, repeated, omitted) $\times$ 2 (detail type: central, peripheral) $\times$ 2 (age group: 5–10, 11–14) analysis revealed the main effects for detail nature, $F(2, 108) =$

Table 1. The Raw Numbers and Percents of Details Produced by Children in the First and in the Second Interview

Interview	Measures	M (SD)	M% (SD)
First interview	Total details	326.8 (279.3)	
	Central details	254.64 (229.7)	
	Peripheral details	72.42 (64.9)	
Second interview	Total details	264.3 (158.6)	96.55 (43.44)
	Central details	196 (121.6)	70.99 (31.91)
	Peripheral details	68.3 (50.3)	25.54 (16.31)
	New details	149.9 (84.6)	58.50 (38.66)
	New central details	101.07 (58.6)	39.81 (27.29)
	New peripheral details	48.8 (38.9)	18.68 (14.75)
	Repeated details	114.2 (96.1)	38 (12.81)
	Repeated central details	95.6 (85.4)	31.23 (11.51)
	Repeated peripheral details	18.37 (16.1)	6.75 (5.43)
	Omitted details	212.5 (192.3)	61.99 (12.81)
	Omitted central details	159.03 (152.1)	45.67 (14.15)
	Omitted peripheral details	54.05 (53.3)	16.23 (10.14)

18.34, $p < .001$, $\eta^2 = .25$, for detail type, $F(1, 55) = 210.74$, $p < .001$, $\eta^2 = .79$, and for age, $F(1, 54) = 4.03$, $p < .05$, $\eta^2 = .07$. In addition, this analysis revealed the interaction effects between the detail nature and detail type, $F(2, 54) = 3.68$, $p < .05$, $\eta^2 = .12$ and between the detail nature and age, $F(2, 108) = 3.03$, $p < .05$, $\eta^2 = .053$ on the proportion of details children produced in their second interview. Proportions were computed using the original amount of details obtained in the first interview. In the second interview, there were larger proportions of omitted details ($M = 30.95$, $SD = .93$) and new details ($M = 29.24$, $SD = 2.58$) than repeated details ($M = 18.99$, $SD = .85$). There were also more central details ($M = 38.90$, $SD = 1.51$) in comparison to peripheral details ($M = 13.89$, $SD = .84$). The interaction between detail nature and detail type suggests that the higher proportion of central versus peripheral details was especially marked in repeated details (central: $M = 31.23$, $SD = 11.53$, peripheral details: $M = 6.75$, $SD = .72$), while this difference was smaller for omitted details (central: $M = 45.67$, $SD = 1.89$; peripheral: $M = 16.23$, $SD = 1.35$) and for new details (central: $M = 39.81$, $SD = 3.64$; peripheral: $M = 18.68$, $SD = 1.97$). The nature by age interaction suggests that younger children provided higher proportions of new details ($M = 68.74$, $SD = 47.14$) than older children, but that age had little effect on repeated (younger: $M = 38.11$, $SD = 14.93$; older: $M = 37.88$, $SD = 10.54$) and omitted (younger: $M = 61.88$, $SD = 14.93$; older: $M = 62.11$, $SD = 10.54$) details.

The Second Interview: The Role of the Prompt Type

A 2 (detail nature: new, repeated) × 2 (detail type: central, peripheral) × 2 (age group: 5–10, 11–14) × 3 (prompt type: open-ended, directive, option posing) analysis confirmed that there were main effects for detail nature and for detail type and revealed a main effect for prompt type, $F(2, 102) = 167.65$, $p < .001$, $\eta^2 = .85$. This analysis also revealed interaction effects between prompt type and detail nature, $F(2, 102) = 62.83$, $p < .001$, $\eta^2 = .53$, detail type, $F(2, 102) = 44.82$, $p < .001$, $\eta^2 = .53$, and age $F(2, 102) = 4.59$, $p < .01$, $\eta^2 = .14$ and that a three way interaction existed between prompt type, detail nature, and detail type, $F(2, 102) = 33.76$, $p < .001$, $\eta^2 = .82$ on the proportion of details in the second interview.

The main effect for the prompt suggests that open-ended prompts yielded more information ($M = 15.22$, $SD = .89$) than directive prompts and directive prompts yielded more information ($M = 7.55$, $SD = .82$) than option-posing prompts ($M = .85$, $SD = .17$). The prompt by detail nature interaction suggests that open-ended prompts yielded more repeated details ($M = 17.01$, $SD = 1.01$) than new details ($M = 13.45$, $SD = 1.20$), but directive and option-posing prompts yielded more new details (directive: $M = 13.36$, $SD = 1.50$; option posing: $M = 1.69$, $SD = .35$) than repeated details (directive: $M = 1.74$, $SD = .38$; option posing: $M = .01$, $SD = .009$). The prompt by detail type interaction suggests that open-ended prompts yielded considerably more central details ($M = 23.21$, $SD = 1.51$) than directives ($M = 10.76$, $SD = 1.28$) and that directive prompts yielded more details than option-posing prompts ($M = .77$, $SD = .13$). However, the prompt effect on peripheral details was attenuated (open-ended: $M = 7.23$, $SD = .70$; directive: $M = 4.35$, $SD = .61$; option posing: $M = .94$, $SD = .23$). Finally, the three-way interaction suggests that the prompt by detail type interaction differed in its effect on new details and repeated details. While both open-ended and directive prompts yielded more new central details than option-posing prompts (open-ended: $M = 18.45$, $SD = 1.96$; directive: $M = 18.63$, $SD = 2.30$; option posing: $M = 1.52$, $SD = .28$), open-ended prompts yielded more repeated central details than did either directive or option-posing prompts (open-ended: $M = 27.88$, $SD = 1.75$; directive: $M = 2.89$, $SD = .67$; option posing: $M = .02$, $SD = .01$).

Hypermnesia Versus Reminiscence

Although hypermnesia was not evident in the second interview for the whole sample, it was evident for a subsample of children

($n = 18$) who provided up to 2.5 times more detail in the second interview ($M = 247.72$, $SD = 83.15$) than in the first interview ($M = 185.11$, $SD = 95.86$).

Observing the percent of details produced in the second interview, A 3 (detail nature: new, repeated, omitted) $\times$ 2 (detail type: central, peripheral) $\times$ 2 (age group: 5–10, 11–14) $\times$ 2 (second interview outcomes: hypermnesia, reminiscence, between subjects) analysis revealed interaction effects between interview outcome and detail nature, $F(2, 51) = 41.45$, $p < .001$, $\eta^2 = .61$ and detail type, $F(2, 51) = 7.96$, $p < .01$, $\eta^2 = .13$. This analysis also revealed a three-way interaction between interview outcome, nature, and type of detail, $F(2, 51) = 6.67$, $p < .01$, $\eta^2 = .20$. Interviews resulting in hypermnesia contained a higher percent of new details ($M = 48.35$; $SD = 3.03$) than either repeated ($M = 23.07$; $SD = 1.47$) or omitted details ($M = 26.92$; $SD = 1.65$). However, interviews resulting in reminiscence contained a higher percent of omitted details ($M = 32.92$; $SD = 1.09$) than new ($M = 19.07$; $SD = 1.99$) or repeated ($M = 16.99$; $SD = .97$) details. In addition, the increase in the proportion of central details in interviews resulting in hypermnesia compared to those resulting in reminiscence ($M = 48.57$, $SD = 2.10$ vs. $M = 33.69$, $SD = 1.38$) was larger than the increase in the proportion of peripheral details ($M = 16.99$, $SD = 1.50$ vs. $M = 12.29$, $SD = .99$). The three-way interaction between interview outcome, detail type, and detail nature suggests that in interviews resulting in hypermnesia, the statements were remarkably richer in new central details (rather than in new peripheral details) in comparison to interviews resulting in reminiscence.

In an attempt to predict interview outcomes with respect to hypermnesia versus reminiscence, a logistic regression model was employed using age, time delay, and the initial number of details in the first interview as predictors. The initial number of details in the first interview appears to be a significant predictor of second interview outcomes, $X^2(13) = 14.21$; $p < .05$; $Exp(B) = 1.008$, with first interviews that yielded fewer details being more likely to be followed by second interviews resulting in hypermnesia. This model correctly classified 74% of the sample, including 85.7% of instances of reminiscence and 46.7% of instances of hypermnesia, explaining over 35% of the variance (Nagelkerke $R^2 = .301$).

Analysis of Contradictions

No contradictions in details were found within or across interviews.

Discussion and Application to Practice

The main aim of the current study was to examine the effectiveness of repeated interviews in real-life investigations of children and, in doing so, following best practice recommendations more closely than has been performed in previous studies. Relevant laboratory research has shown that repeated interviews based on open-ended questioning revealed large amounts of new and accurate information (La Rooy et al., 2010). However, although past research pointed to the effectiveness of the combination of repeated and open-ended techniques, it was difficult to assess the value of each technique in investigative interviews of children because these interviews are typically based on various types of prompts rather than solely on open-ended prompts (Lamb et al., 2008). Perhaps for this reason, repeated interviews of children in Hershkowitz and Terner's field study (2007) yielded significant yet moderate amounts of new additional information. In addition, because the first interview in that study contained non open-ended prompts, repeated interviews might have compromised the accuracy of the information.

The challenge of the current study was to generate high quality interviews in the field, and for the first interview, each child's interview was conducted using only open-ended prompts. This aim was achieved with the guidance of the NICHD protocol, which has been systematically shown to produce best-practice interviews (Lamb et al., 2008) and with intensive individual and group supervision provided to a small group of dedicated investigators during data collection. Most impressively, the initial interviews consisted entirely of open-ended prompts, with an average of 36 prompts addressed to each child. A similar number of open-ended and directive prompts followed in the second interview, while very few option posing and nonsuggestive prompts were used in the second interview. Forensic interviews of such high quality have not been reported before in the research literature, and therefore, these interviews form a new standard for investigative interviewers.

The high quality of the interviews may have allowed the effect of repeated interviewing to be more apparent than it has been in previous research. Many new details were obtained in the second interviews (58%), most of which were central, addressing core aspects of the alleged abuse. This increase in new forensic information is more than double that reported by Hershkowitz and Terner (2007) in their study of repeated investigations, in which the quality of interviews was lower.

About half of the new information in the current study was obtained in response to free-recall prompts, and over 96% of the new information was obtained following recall prompts, including open-ended and directive prompts. The strong reliance on recall processes makes it quite likely that the new information was accurate (Dale, Loftus, & Rathbun, 1978; Dent, 1986; Lamb et al., 2007, 2008; Poole & Lamb, 1998). Moreover, in the present study, a coding of contradictory statements was conducted to provide another indicator of the accuracy of the children's testimonies. The contradictions analysis revealed no contradictions in any of the interviews. The same measure of contradiction has previously been used as an alternative to accuracy measures in field studies (Lamb & Fauchier, 2001; Orbach & Lamb, 2001), and it has been shown to be prompt sensitive.

The high level of reminiscence manifested in the data supports the claim that the first retrieval from memory is unlikely to be exhaustive and that a subsequent retrieval is very likely to result in additional information (La Rooy et al., 2009). In fact, all children in our sample provided additional

information in their second interview, with rates ranging from 16% to 210%. Interestingly, younger children appeared to benefit more from repeated interviews than did older children in terms of the amount of additional information obtained, perhaps because younger children are less independent in the employment of retrieval strategies and consequently, they rely more on external support (Poole & Lamb, 1998). Age effects have been mixed and inconsistent in previous research on repeated interviews, possibly reflecting some complexity related to inter-vening factors, such as the nature of the event and children's knowledge about the event or the questioning style (La Rooy et al., 2009). However, the current findings make it clear that repeated interviews, as used in this study, can be successfully applied to sexual abuse investigations of younger children, who often pose challenges to investigators and yield only partial accounts.

An examination of the information consistently repeated in both interviews revealed that it was especially low (38% of the original information) in comparison to the same figure in nonfield studies (Fivush et al., 2004; Salmon & Pipe, 1997; Steward & Steward, 1996), although it was quite similar to that reported by Hershkowitz and Terner (2007). Different outcomes in laboratory and field studies may occur because the consistency of the questions posed by interviewers across interviews differs in the two types of studies. Specifically, in laboratory studies interviewers often repeated the same questions across interviews, whereas in real life investigations, interviewers address new questions to the children and explore additional aspects of the target event (La Rooy et al., 2009).

It is also possible that the short break between interviews (7 min in the current study and 30 min in the study Hershkowitz & Terner, 2007) employed in the field studies produced low rates of repeated information because it emphasized the redundancy of this information, encouraging the children to avoid it, which is unlikely to occur following long delays of weeks, months, or years. To encourage the repetition of details following a short break, it might be helpful to have a different investigator perform the second interview. The involvement of a naïve investigator in the second retrieval might increase the efforts made by the child to inform the interviewer on one hand while enhancing the use of new prompts from the interviewer on the other hand. Evidence suggests that a second interview with a different interviewer is likely to be beneficial, not just with respect to repeated information but also with respect to the new information children produce (Fivush et al., 1991).

However, although children tended to repeat a limited number of details, the data show that they repeated mostly central details rather than peripheral ones, possibly reflecting the process of memory consolidation and narrative organiza-tion across repeated interviews. More than any other details, repeated details emerged in response to invitations in the sec-ond interview and were initially evoked by invitations in the first retrieval, suggesting that repeated details were of high quality and likely to be accurate.

Interestingly, beyond the impressive rates of reminiscence, hypermnesia was also manifest in approximately one third of the interviews. In line with our findings, hypermnesia has been reported mostly when open-ended interviews were conducted soon after the event and were separated by relatively short delays (Bruck et al., 2002; Dent & Stephanson, 1979; La Rooy et al., 2005; but see also Pipe, Sutherland, Webster, Jones, & La Rooy, 2004). In the present study, hypermnesia was more likely to occur when the children provided relatively short accounts in their first interview, suggesting that the second interview played a compensatory role. The data in this study allowed for an exploration of the different dynamics of repeated interviews resulting in hypermnesia versus those resulting in reminiscence. The analysis revealed that although hypermnesia was associated with increased amounts of repeated details across interviews and decreased amounts of omitted details, it was mostly affected by the retrieval of new details in the second interview.

The findings of the current field study should be considered following the limitations of the study. Because this is a field study the reliability of the children's testimonies cannot be evaluated and, as a result, the impact of repeated interviewing on children's reliability should be assessed in future studies. However, the current findings support the effectiveness of open-ended repeated interviews during the course of child investigations. The findings suggest that the specific format of repeated interviews presented in this study can be applied as a practical tool for enhancing the forensic statements children provide, especially when the children are younger or when their initial accounts are poor. Moreover, the current study stresses the notion that the first retrieval from memory is usually never sufficient and that this fact should have practical implications on the work of social workers in the forensic context and other contexts.

As for future research, it will be interesting to further explore the effects of repeated interviewing on children's narratives outside of the forensic context. For instance, it may be that this interviewing strategy can also be applied in the clinical context in work with children at risk. Another contribu-tion of the current study is evidence regarding the effective-ness, for both practitioners and the children, of a simple temporal break in the interviewing process. We propose that this interviewing strategy should be employed in other fields.

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