

Does the Type of Prompt Affect the Accuracy of Information Provided by Alleged Victims of Abuse in Forensic Interviews?[†]

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SUMMARY

Forty-three victims of sexual abuse averaging 9.78 years of age and 52 youths who admitted abusing them were interviewed about the abusive incidents. Forensically relevant details provided by the victims were categorised as confirmed, contradicted or ignored by the perpetrators. Most (66.6%) of the details were ignored, but details were more likely to be confirmed when they were elicited using invitations (open-ended free-recall prompts) rather than focused prompts. However, similar effects were not evident with respect to contradictions. The results support predictions that information elicited using free-recall prompts is more likely to be accurate than information elicited using focused prompts. Published in 2007 by John Wiley & Sons, Ltd.

In the last 2 decades, researchers have repeatedly documented that information retrieved from memory using free-recall processes is more likely to be accurate than information retrieved using recognition processes, including yes/no and 'forced-choice' prompts. This fact has major implications when accuracy is very important such as in the course of forensic interviews. Young children, especially preschoolers, are more likely than older children to respond erroneously to suggestive questions about their experiences and to select erroneous options when responding to yes/no and forced-choice questions (Bruck, Ceci, Francouer, & Renick, 1995; Ceci & Bruck, 1995; Goodman & Aman, 1990; Oates & Shrimpton, 1991; Poole & Lindsay, 1998; Walker, Lunning, & Eilts, 1996). Regardless of age, furthermore, responses to free-recall open-ended questions are more likely to be accurate than responses to more focused questions (Dale, Loftus, & Rathbun, 1978; Dent, 1982, 1986; Dent & Stephenson, 1979; Goodman & Aman, 1990; Goodman, Bottoms, Schwartz-Kenney, & Rudy, 1991; Hutcheson, Baxter, Telfer, & Warden, 1995; Lamb & Fauchier, 2001; Oates & Shrimpton, 1991; Orbach & Lamb, 2001; Ornstein, Gordon, & Larus, 1992). Although young children tend to remember less information and provide briefer accounts of their experiences than older children do (Baker-Ward, Gordon,

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Ornstein, Larus, & Clubb, 1993; Lamb, Hershkowitz, Sternberg, Boat, & Everson, 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996; Lamb, Sternberg, & Esplin, 2000; Lamb et al., 2003; Ornstein et al., 1992; Sternberg et al., 1996), their recall reports are not less accurate (Goodman & Reed, 1986; Johnson & Foley, 1984; Marin, Holmes, Guth, & Kovac, 1979; Oates & Shrimpton, 1991).

Such findings have helped foster a remarkable consensus concerning the ways in which investigative interviews should be conducted. Professional and expert guidelines recommend that forensic interviewers should rely as much as possible on free-recall open-ended questions when obtaining information from alleged victims of child sexual abuse and take special care to avoid risky questions when interviewing young children (American Professional Society on the Abuse of Children, 1990; Bull, 1992, 1996; Fisher & Geiselman, 1992; Jones, 1992; Lamb, Sternberg, & Esplin, 1998; Lamb, Sternberg, Orbach, Hershkowitz, & Esplin, 1999; Home Office & Department of Health, 1992, 2002; Poole & Lamb, 1998; Raskin & Esplin, 1991).

Researchers at the National Institute of Child Health and Human Development (NICHD) have incorporated these principles into an investigative interview protocol, the use of which has been shown to triple the amount of information obtained from alleged victims using recall rather than recognition prompts (Orbach et al., 2000; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001). The recommendation that interviewers should obtain as much information as possible using open-ended prompts is well supported by laboratory analogue studies. Because forensic interviewers seldom know what actually happened in the incidents described by interviewees, they have largely had to rely on generalisation from laboratory analogue research when assuming that freely recalled information was more likely to be accurate than information retrieved in other ways. There have been, however, few attempts to explore the effects of prompt type on accuracy in actual forensic contexts. In one case study, Orbach and Lamb (1999) examined a child's account of an abusive encounter that she surreptitiously recorded; details provided in response to open-ended free-recall prompts were more accurate than those provided in response to more focused recognition prompts. Using an alternative approach to the estimation of accuracy, Orbach and Lamb (2001) and Lamb and Fauchier (2001) identified self-contradictions in two case studies, respectively examining within-interview contradictions in a single forensic interview of a 5-year-old alleged victim, and within and across-interview contradictions in 24 forensic interviews of seven (5.5–8.8 years old) alleged victims. In both studies, details elicited using suggestive and option-posing prompts were most likely to be contradicted by the same informants (66 and 94%, respectively), whereas those elicited using open-ended invitations were never contradicted themselves and never contradicted earlier reported details. Such findings are consistent with those obtained in laboratory analogue studies but they are limited because the number of subjects studied was small and the measure of accuracy was indirect.

In the present study, we were able to assess accuracy in terms of the convergence between details provided by alleged victims and suspects when describing the same incidents. In all cases, the perpetrators admitted (fully or partially) the offences, allowing us to examine the effects of the eliciting prompt type on the accuracy of information reported by the young victims. The present study represents the first known attempt to assess the relative accuracy of forensically relevant details about actual criminal events retrieved from victims using contrasting types of prompts. In this study, we carefully identified each forensically relevant detail reported by the victims and the type of prompt by which it was elicited. We then determined whether the detail was confirmed,

contradicted or ignored (not mentioned) by the perpetrator. In light of the extensive analogue research base and the field research discussed earlier, we predicted that information elicited from victims using open-ended invitation prompts would be more accurate (i.e. more likely to be confirmed and less likely to be contradicted), than information elicited using focused (i.e. directive, option-posing and suggestive) prompts. We also explored age differences in the extent to which free-recall prompts and focused prompts elicited confirmed and contradicted details.

METHODS

Participants

Twenty-three experienced youth investigators employed by the Israeli Ministry of Labor and Social Affairs participated in the study. Among them, the investigators interviewed 52 children and adolescents ranging in age from 9 to 14 years ($M = 12.31$ years, $SD = 1.39$) who were believed to have committed sexual offences against 43 young victims who ranged in age from 3.5 to 13.67 years ($M = 9.78$, $SD = 2.84$). Of the 43 cases, 20 described one incident and 23 described multiple incidents. In six of the cases, more than one perpetrator was involved. All interviews of suspects conducted by these investigators using the 'suspect' protocol (see below) during the study period were included in the sample provided that a victim had alleged abuse in a forensic interview and the suspect had admitted committing at least some components of the alleged offence. Thus, only interviews with alleged perpetrators who had fully or partially admitted the alleged offences were included whereas those who denied the allegations were excluded. In addition, most of the victims' (and suspects') accounts were corroborated by witnesses or other suspects.

Four of the suspects were unfamiliar to the alleged victims, 37 were familiar and two were family members. Fourteen of the offences involved vaginal, anal or oral penetration, 18 involved fondling under the clothes, 10 involved fondling over the clothes and 1 case involved exposure. All incidents described by the alleged victims were acknowledged in at least general terms by the suspects and seemed likely to have happened.

For purposes of analysis, we divided the victims into roughly equal-sized groups on the basis of age, thus distinguishing among alleged victims who ranged in age from 3.5 to 8.42 years of age ($M = 6.27$, $SD = 1.53$), 16 who ranged in age from 9.0 to 11.5 years ($M = 10.40$, $SD = 0.83$) and 13 who ranged in age from 12.0 to 13.67 years ($M = 12.80$, $SD = 0.41$).

The interviews were legally mandated and were performed by the youth investigators who are required by Israeli law to conduct all forensic interviews with juveniles. All identifying information was removed from the transcripts before they were made available to the researchers. The NICHD Institutional Review Board (IRB) and the National Institutes of Health (NIH) Office of Human Subjects Research (OHSR) determined that it was not necessary to obtain informed consent from the suspects and victims whose interviews were studied because the interviews were legally mandated and the transcripts available to the researchers had been anonymised.

Procedure

All alleged victims were interviewed by trained and experienced investigators using the NICHD Investigative Interview Protocol described and validated by Orbach et al. (2000).

This Protocol has been mandatory throughout the state of Israel since 1998. Youthful suspects were interviewed by other trained and experienced investigators using the NICHD Suspect Interview Protocol described and validated by Hershkowitz, Horowitz, Lamb, Orbach, and Sternberg (2004).

Alleged victims

When interviewing alleged victims using the NICHD Protocol, the interviewer introduces him/herself, clarifies the child's task (the need to describe events in detail and to tell the truth) and explains the ground rules and expectations (i.e. that the child can and should say 'I don't remember', 'I don't know', 'I don't understand' or correct the interviewer when appropriate). The rapport-building phase comprises two sections. The first is a structured open-ended section designed to create a relaxed, supportive environment for children and to establish rapport between the child and the interviewer. In the second section, children are prompted to describe a recently experienced neutral event in detail. This training in the pre-substantive phase of the interview is designed to simulate the open-ended investigative strategies and techniques used in the substantive phase and the related pattern of interaction between interviewers and children, while demonstrating to children the specific level of detail expected.

The substantive phase of the interview commences with a series of prompts used by the interviewer to non-suggestively identify the suspected incident/s under investigation, beginning with: 'Tell me the reason you came to talk with me today'. The interviewer only moves on to some carefully scripted and increasingly focused prompts (in sequence) if the child fails to identify the target incident/s.

Following disclosure of the allegation, the free recall phase begins with the main invitation ('Tell me everything that happened from the beginning to the end as best you can remember'). Follow-up free-recall prompts (i.e. 'invitations') are then recommended ('Tell me more about that'; 'Then what happened?'). As soon as the first narrative is completed, the interviewer prompts the child to indicate whether the incident occurred 'one time or more than one time' and then proceeds to secure incident-specific information using follow-up and 'cued-invitations' (e.g. 'Earlier you mentioned a [person/object/action]. Tell me everything about that'), making reference to details mentioned by the child and using them as cues to elicit uncontaminated accounts of the alleged incident/s.

Only after exhaustive free-recall prompting do interviewers proceed to directive questions (focused questions [mainly 'Wh'] that address details previously mentioned by the child and request information within specific categories (e.g. time and appearance) such as 'When did it happen?' or 'What color was his car?' after the child mentioned a car. If crucial details are still missing, interviewers then ask limited option-posing questions (mostly yes/no questions referencing new issues that the child did not address previously) such as 'Did he touch any part of your body?' Suggestive utterances, which communicate to the child what response is expected ('He was lying on top of you, wasn't he?') or introduce/assume information not mentioned by the child ('Did he say anything when he touched you?' when the child had not mentioned being touched) are strongly discouraged in all phases of the interview.

Suspects

When interviewing suspects, interviewers begin by explaining the purpose of the interview and warning the suspects, as required by Israeli law, that their statements can be used

against them in legal proceedings. Attempts are then made to establish rapport before the investigators switch focus to the substantive topic—the alleged abuse. Whereas victim interviews conducted using the NICHD Protocol include efforts to entrain narrative responsive style in the pre-substantive portion of the interview and to switch focus to substantive issues in a non-suggestive fashion, neither of these strategies was employed in the suspect interviews. Open-ended prompts were encouraged, but pilot research confirmed expectations that most suspects would deny the incidents or fail to provide useful information when questioned using such prompts. As a result, more focused and even suggestive prompts (guided by reports of the incident by alleged victims or the results of investigative work by the police) were developed. Whenever possible, however, interviewers were instructed to ask for open-ended elaboration of information provided in response to more focused prompts. Further details about the structure of the Suspect Protocol and the informativeness of interviews with suspects were provided by Hershkowitz et al. (2004).

Coding

Victim and suspect interviews were audio recorded, transcribed and checked for accuracy and completeness before all identifying information was removed and the transcripts were given to the researchers. Native Hebrew speakers then examined the substantive portion of the interviews with victims, operationally defined as those portions of the interview concerned with the alleged incidents of abuse, coding both the interviewers' prompts and the information provided by the victims. All utterances by the interviewers (defined as 'turns' in the discourse) were classified using the four categories introduced by Lamb and his colleagues (Lamb, Hershkowitz, Sternberg, Boat et al., 1996; Lamb, Hershkowitz, Sternberg, Esplin, et al., 1996): invitations, directive, option-posing and suggestive prompts.

Our coding scheme focuses on the association between the information retrieved by children and the eliciting prompt type. The coding of the eliciting prompt is determined by its formulation (e.g. open-ended, yes/no and forced-choice) and by the extent to which the interviewer introduced undisclosed information. Thus the same prompt may be coded differently, depending on its timing in relation to information disclosed earlier.

1. *Invitations* were input-free prompts which prompted free-recall responses from the child. Such utterances did not limit the child's focus except in a general way (e.g. 'Tell me everything that happened') or used details disclosed by the child as cues (e.g. 'You mentioned that you touched him. Tell me everything about the touching').
2. *Directive utterances* refocused the child's attention on details or aspects of the alleged incident that s/he had already mentioned and, mostly, requested additional information, typically in the form of 'Wh-' questions. Examples include 'When did it happen?' (when the child disclosed that something happened), or 'What color was his T-shirt?' (when the child mentioned a T-shirt).
3. *Option-posing utterances* focused the child's attention on details or aspects of the alleged incident that the child had not previously mentioned. These utterances prompt the child to affirm, negate or select an investigator-given option (i.e. yes/no and 'forced-choice' questions) using recognition memory processes, but do not imply that a particular response is expected. For example, the investigator might ask the suspect 'Did you touch her over or under her clothes?' (when the suspect had mentioned touching the victim).

4. *Suggestive utterances* were stated in such a way that the interviewer strongly communicated what response was expected (e.g. 'You forced him to do that, didn't you?'), or assumed/introduced details that had not been revealed by the child (e.g. *Child*: 'We laid on the sofa'. *Interviewer*: 'You laid on her or she laid on you?'; 'I heard from the victim that you threatened her ...').

All disclosed details were defined by reference to their respective eliciting prompt types so that we could compare details elicited in response to open-ended invitations (free-recall) with those elicited in response to 'focused prompts', that is directive, option-posing and suggestive.

Focused prompts differ among themselves with respect to interviewer input, with directive prompts involving the introduction of a category, narrowing response possibilities, whereas option-posing and suggestive prompts (implicitly or explicitly) introduce information not disclosed by the informant and are mostly 'recognition prompts', that is requests that the interviewee confirm, negate or select among options given by the interviewer, rather than generate a response themselves.

Coders then employed a technique developed by Yuille and Cutshall (1986) and elaborated by Lamb, Hershkowitz, Sternberg, Esplin, et al. (1996) to tabulate the number of new details conveyed by the interviewee. By definition, details involved the identification of individuals, objects, or events and descriptions of their features (e.g. appearance, actions and locations). All were thus forensically relevant. Those details that were 'plot relevant' (i.e. they defined by reference to sexual actions, sexual body parts, threats or use of force what had allegedly happened, in terms of details that delineated the structure of the incident) were defined and classified as central, whereas those that were not plot relevant (e.g. descriptions of clothing) were defined as peripheral even though they were, by definition, forensically relevant. Details were only counted when they added to understanding of the target incidents, so restatements of facts were not counted. Details provided following facilitators (non-suggestive words, such as 'ok' or 'yes', that encouraged the respondent to continue with an ongoing response to the previous utterance) were attributed to the preceding substantive utterance (invitation, directive, option-posing or suggestive).

For analytic purposes, spontaneous details, provided following non-substantive prompts or after responsively reporting the information requested by the interviewer, were combined with details provided in response to invitations (i.e. input-free prompts).

Each detail reported by the alleged victim was then classified as Confirmed, Contradicted, Ambiguous or Ignored by comparing the victim's statement with that provided by the suspect. Details were deemed to have been confirmed when the suspect reported exactly the same information, contradicted when the detail reported by the alleged victim was incompatible with those reported by the suspect, ambiguous when one suspect reported details that were consistent and another suspect reported details that were inconsistent with those reported by the alleged victim and ignored when the suspect made no reference to details similar to those reported by the alleged victim. Analyses below focus on details that were confirmed or contradicted.

Inter-rater reliability

All coding of the utterance types was conducted by one of three graduate assistants who were trained by NICHD researchers, using an independent set of transcripts, until they agreed with one another concerning the classification of at least 90% of the utterance types

and details. During the course of rating, 40% of the transcripts were independently coded by two or more of the raters to ensure that they remained equivalently reliable. In these assessments, raters agreed regarding the classification of at least 98% of the interviewer utterances and 95% of the details provided by the alleged victims and suspects. Agreement in classification of the details as confirmed, contradicted, ambiguous or ignored was 100%.

RESULTS

Total details

Number of total details

On average, the victims provided a total of 357.44 ($SD = 255.50$) details, with 185.77 ($SD = 182.18$) elicited using invitations, 112.51 ($SD = 93.64$) elicited using directive prompts, 34.28 ($SD = 30.62$) elicited using option-posing prompts and 24.88 ($SD = 26.04$) elicited using suggestive prompts (see Table 1). A type of prompt by age within-subjects ANOVA revealed significant effects for type of prompt ($F(3, 120) = 34.31, p < 0.0001, \eta^2 = 0.46$), and age group ($F(2, 40) = 7.42, p < 0.002, \eta^2 = 0.27$) as well as a significant age by type of prompt interaction ($F(6, 120) = 5.42, p < 0.0001, \eta^2 = 0.21$). Pairwise comparisons revealed that significantly more details were elicited from victims using invitations than all other prompt types ($ps < 0.003$), and that significantly more details were elicited in response to directive than to option-posing and suggestive prompts ($ps < 0.001$). There were no differences in the number of details elicited in response to option-posing and suggestive prompts, however.

With respect to age, pairwise comparisons showed that the 12- to 13-year-old children produced significantly more details on average than either the 9- to 11-year-olds or the 3.5- to 8-year-olds ($ps < 0.01$), but that the means for children in the two younger groups did not differ significantly. The type of prompt by age interaction showed that, whereas the number of details elicited using option-posing and suggestive prompts did not vary by age, the numbers elicited using directive prompts and invitations increased dramatically with age, and were especially large for the oldest children.

Of the total number of elicited details, an average of 24.25% ($SD_{\%} = 11.39; M = 73.12, SD = 47.97$) were confirmed, 8.73% ($SD_{\%} = 7.54; M = 29.49, SD = 35.08$) were contradicted, 0.39% ($SD_{\%} = 1.39; M = 1.12, SD = 3.97$) were ambiguous and 66.63% ($SD_{\%} = 11.40; M = 253.72, SD = 214.53$) were ignored by the suspects.

Table 1. Total number of details elicited by interviewer prompts

Prompt type	Age in years			
	3.5–8.4 ($n = 14$) M (SD)	9.0–11.5 ($n = 16$) M (SD)	12.0–13.7 ($n = 13$) M (SD)	Total ($N = 43$) M (SD)
Invitation	102.86 (93.90)	143.19 (116.14)	327.46 (239.93)	185.77 (182.18)
Directive	89.86 (64.09)	94.19 (55.83)	159.46 (137.51)	112.51 (93.64)
Option-posing	28.29 (26.91)	39.69 (26.75)	34.08 (39.00)	34.28 (30.62)
Suggestive	21.21 (17.61)	21.75 (30.06)	32.69 (28.50)	24.88 (26.03)
Total	242.21 (153.10)	298.81 (164.22)	553.69 (328.00)	357.44 (255.50)

Table 2. Proportion of total details confirmed by suspects

Prompt type	Age in years			
	3.5–8.4 (<i>n</i> = 13) <i>M</i> (<i>SD</i>)	9.0–11.5 (<i>n</i> = 13) <i>M</i> (<i>SD</i>)	12.0–13.7 (<i>n</i> = 11) <i>M</i> (<i>SD</i>)	Total (<i>N</i> = 37) <i>M</i> (<i>SD</i>)
Invitation	0.3380 (0.1680)	0.3301 (0.2178)	0.2073 (0.1158)	0.2964 (0.1800)
Directive	0.2229 (0.1040)	0.2381 (0.1433)	0.1362 (0.1346)	0.2025 (0.1320)
Option-posing	0.2520 (0.2033)	0.1993 (0.1235)	0.1665 (0.1380)	0.2081 (0.1594)
Suggestive	0.2327 (0.2144)	0.1820 (0.2273)	0.1100 (0.1224)	0.1784 (0.1980)
Total	0.2757 (0.0939)	0.2496 (0.1211)	0.1767 (0.1156)	0.2371 (0.1151)

Confirmation of total details

Analyses comparing the proportions of total details elicited using each type of prompt that were confirmed or contradicted centred on 37 reports provided by 13 (3.5- to 8-year-olds), 13 (9- to 11-year-olds) and 11 (12- to 13-year olds). Although 43 victim-suspect pairs were included in the database, 6 of the victims did not provide details in response to suggestive prompts, so it was not possible to include these children in the analyses. The average proportion of total details confirmed are reported in Table 2. Inspection of means for the total sample showed that 29.64% ($SD = 18.00$) of the details elicited using invitations were confirmed, compared with 20.25% ($SD = 13.20$) of those elicited using directive prompts, 20.81% ($SD = 15.94$) of those elicited using option-posing prompts and 17.84% ($SD = 19.79$) of those elicited using suggestive prompts. A type of prompt by age group within-subjects ANOVA yielded a significant effect for type of prompt ($F(3, 102) = 4.91$, $p < 0.003$, $\eta^2 = 0.13$), a near-significant trend for age ($F(2, 34) = 2.74$, $p < 0.08$, $\eta^2 = 0.14$) and no significant interaction between age and type of prompt. Mean contrasts revealed that invitations were significantly superior to focused prompts ($M = 19.63\%$ for directive, option-posing and suggestive prompts combined) with respect to the proportion of reported details that were confirmed ($F(1, 34) = 16.06$, $p < 0.001$, $\eta^2 = 0.32$), but there were no significant differences in the proportion of details elicited using directive and recognition prompts ($M = 19.33\%$ for option-posing and suggestive prompts combined) that were confirmed, or between the proportion of details elicited using option-posing and suggestive prompts that were confirmed.

The near significant age effect with respect to the proportion of details confirmed by suspects was accounted for by the fact that this figure was greatest where the youngest children were concerned, and declined progressively with age from 27.57% ($SD = 9.39$) to 24.96% ($SD = 12.11$) to 17.67% ($SD = 11.51$), respectively.

Contradiction of total details

A type of prompt by age within-subjects ANOVA yielded no significant effects for type of prompt, age group or age by type of prompt with respect to the proportion of details contradicted.

Central details

On average, 52.73% ($SD = 12.47$) of the total number of details that victims provided were central details. The proportion of central details within each prompt type was similar, with 55.31% ($SD = 16.37$) of the total number of details elicited using invitations, 56.29% ($SD = 17.34$) of all details elicited using directive prompts, 50.79% ($SD = 25.08$) of the

Table 3. Number of central details elicited by interviewer prompts

Prompt type	Age in years			
	3.5–8.4 (<i>n</i> = 14) <i>M</i> (<i>SD</i>)	9.0–11.5 (<i>n</i> = 16) <i>M</i> (<i>SD</i>)	12.0–13.7 (<i>n</i> = 13) <i>M</i> (<i>SD</i>)	Total (<i>N</i> = 43) <i>M</i> (<i>SD</i>)
Invitation	59.93 (51.45)	68.88 (50.11)	159.08 (141.39)	93.23 (96.78)
Directive	54.00 (46.80)	51.19 (33.96)	76.62 (52.47)	59.79 (44.76)
Option-posing	12.43 (16.37)	20.56 (14.38)	16.69 (19.54)	16.74 (16.66)
Suggestive	14.50 (13.94)	11.50 (16.42)	13.62 (12.59)	13.12 (14.26)
Total	140.86 (104.43)	152.13 (78.74)	266.00 (184.07)	182.88 (135.49)

details elicited using option-posing prompts and 54.15% ($SD = 30.30$) of the details elicited using suggestive prompts were central.

Number of central details

On average, the victims provided a total of 182.88 ($SD = 135.49$) central details, with 93.23 ($SD = 96.78$) elicited using invitations, 59.79 ($SD = 44.76$) elicited using directive prompts, 16.74 ($SD = 16.66$) elicited using option-posing prompts and 13.12 ($SD = 14.26$) elicited using suggestive prompts (see Table 3). A type of prompt by age within-subjects ANOVA revealed significant effects for type of prompt ($F(3, 120) = 31.75$, $p < 0.001$, $\eta^2 = 0.44$), and age group ($F(2, 40) = 4.04$, $p < 0.05$, $\eta^2 = 0.17$) as well as a significant age by type of prompt interaction ($F(6, 120) = 4.39$, $p < 0.001$, $\eta^2 = 0.18$). Pairwise comparisons revealed that significantly more central details were elicited by invitations as opposed to the other three types of prompts ($ps < 0.01$), and that significantly more central details were elicited by directive rather than option-posing and suggestive prompts ($ps < 0.001$). However, there were no differences in the numbers of central details elicited by option-posing and suggestive prompts. With respect to age, pairwise comparisons showed that the 12- to 13-year-old children produced significantly more central details, on average, than either the 9- to 11-year-olds or the 3.5- to 8-year-olds ($ps < 0.05$), but that the means for children in the two younger groups did not differ significantly. The type of prompt by age interaction showed that, whereas the number of central details elicited using option-posing and suggestive prompts did not vary by age, the numbers elicited using directive prompts and invitations increased dramatically with age, and were especially large for the oldest children.

Of the total number of central details reported by victims, an average of 30.79% ($SD_{\%} = 14.86$; $M = 48.72$, $SD = 32.81$) were confirmed, 13.05% ($SD_{\%} = 11.54$; $M = 22.37$, $SD = 25.66$) were contradicted, 0.64% ($SD_{\%} = 2.42$; $M = 1.00$, $SD = 3.91$) were ambiguous and 55.52% ($SD_{\%} = 13.44$; $M = 110.79$; $SD = 110.39$) were ignored by suspects.

Confirmation of central details

Analyses of the proportion of central details confirmed or contradicted by the suspects focused on 33 subjects, because nine children provided no central details in response to suggestive prompts and one provided no central details in response to option-posing prompts. Inspection of means showed that 35.77% ($SD = 22.12$) of the central details elicited using invitations were confirmed, compared with 25.78% ($SD = 18.93$) of those elicited using directive prompts, 30.89% ($SD = 22.73$) of those elicited using option-posing prompts and 22.84% ($SD = 24.82$) of those elicited using suggestive

Table 4. Proportion of central details confirmed by suspects

Prompt type	Age in years			
	3.5–8.4 (<i>n</i> = 13) <i>M</i> (<i>SD</i>)	9.0–11.5 (<i>n</i> = 12) <i>M</i> (<i>SD</i>)	12.0–13.7 (<i>n</i> = 8) <i>M</i> (<i>SD</i>)	Total (<i>N</i> = 33) <i>M</i> (<i>SD</i>)
Invitation	0.3958 (0.1996)	0.4054 (0.2633)	0.2242 (0.1396)	0.3577 (0.2212)
Directive	0.2484 (0.1261)	0.3504 (0.2403)	0.1341 (0.1156)	0.2578 (0.1893)
Option-posing	0.3485 (0.2716)	0.2948 (0.2153)	0.2656 (0.1771)	0.3089 (0.2273)
Suggestive	0.2614 (0.2430)	0.2424 (0.3045)	0.1539 (0.1611)	0.2284 (0.2482)
Total	0.3227 (0.0933)	0.3444 (0.2010)	0.1901 (0.1211)	0.2984 (0.1560)

prompts (see Table 4). A type of prompt by age group within-subjects ANOVA on the proportion of central details confirmed yielded a significant effect for type of prompt ($F(3, 90) = 2.82$, $p < 0.05$, $\eta^2 = 0.09$) but no significant effects for age or for the interaction between age and type of prompt. Mean contrasts revealed that invitations were significantly superior to focused prompts ($M = 26.50\%$ for directive, option-posing and suggestive prompts combined) with respect to the proportion of reported central details that were confirmed ($F(1, 30) = 6.25$, $p < 0.05$, $\eta^2 = 0.17$), but there were no significant differences in the proportion of central details elicited using directive and recognition prompts ($M = 26.87\%$ for option-posing and suggestive prompts combined) that were confirmed, or between the proportion of central details elicited using option-posing and suggestive prompts that were confirmed.

Contradiction of central details

A type of prompt by age within-subjects ANOVA yielded no significant effects for type of prompt, age group or age by type of prompt interaction with respect to the proportion of central details contradicted.

DISCUSSION

The results partially supported our predictions, based on laboratory analogue and a limited number of field studies, suggesting that information retrieved using open-ended free-recall prompts is more likely to be accurate than information elicited using focused prompts, including those that triggered recognition processes. On average, only 33.37% of the total number of details reported by the victims were related to by the suspects and 66.63% were ignored. Details reported by victims were deemed confirmed when the suspects specifically agreed with the victims' reports and only 24% of all details reported by victims were confirmed in this way. Of the details reported by victims that were not ignored (i.e. of those that were related to in some way) by the suspects, however, 70.50% were confirmed and 28.43% were contradicted.

Although information provided by alleged perpetrators may not be complete and in rare cases may even be false because suspects tend to minimise their own involvement and culpability, the alleged perpetrators we studied were a unique group, because all had at least partially admitted their involvement and were willing to recall and disclose considerable amounts of information about the alleged incidents. Although significantly fewer invitations than suggestive prompts were addressed to the suspects by the

interviewers, the suspects reported significantly more information in response to invitations as opposed to suggestive prompts, as well as more details in response to each invitation than in response to each suggestive prompt (see Hershkowitz et al., 2004). The confessional accounts were perceived by the authors as truthful, and this enhanced our ability to draw inferences about the details they confirmed or contradicted.

As expected, based on previous field studies and laboratory studies involving known events (Dale et al., 1978; Dent, 1982, 1986; Dent & Stephenson, 1979; Goodman & Aman, 1990; Goodman et al., 1991; Hutcheson et al., 1995; Oates & Shrimpton, 1991; Ornstein et al., 1992) or examining within and across interview contradictions (Lamb & Fauchier, 2001; Orbach & Lamb, 2001), analyses focused on the confirmation of details in the present study showed that information produced in response to open ended free-recall prompts was more likely to be confirmed by the suspects than information produced in response to focused prompts. In the present study, nearly 30% of the details retrieved in response to free-recall invitations were confirmed by the suspects, whereas a third fewer—around 20%—of those elicited by focused prompts were confirmed. Similar findings were revealed in the analyses of the number and proportion of central details confirmed by the suspects. Analyses showed that absolutely and proportionally more central details produced in response to open ended free-recall prompts were confirmed by the suspects than central details produced in response to focused prompts. These findings are in line with earlier reports showing that details elicited in response to free-recall invitations are more likely to be accurate than information retrieved in response to focused prompts.

Laboratory and field research shows that, as interviewer input increases, the likely accuracy of the elicited details diminishes such that details elicited using free-recall prompts are more likely to be accurate than details elicited in response to focused prompts. There were no significant differences in the proportion of central details reported by the victims in response to the different types of prompts (all over 50%). This is somewhat puzzling: recognition prompts should yield proportionally more central details than free-recall prompts because the content of recognition prompts is determined by the investigator who provides the options and because responses to recognition prompts are much shorter than responses to free-recall prompts.

There was a significant difference, however, between the proportion of central details elicited using free-recall invitations that were confirmed by the suspects and the proportions of those elicited by focused prompts. The findings thus support our prediction, and suggest that central details elicited using free-recall prompts are more valuable because they are more likely to be accurate. Moreover, our findings show that young children are capable of reporting essential—central—forensic information in response to free-recall prompts, contrary to a widespread assumption among researchers and practitioners that option posing ('yes/no' and 'forced-choice') questions are needed to elicit sensitive and forensically crucial information from children.

Although these results confirmed our expectations about the superiority of invitations—proportionally more of the victims' free-recall details than details elicited using focused prompts were confirmed by the suspects—they did not confirm our expectations that details elicited in response to invitations would be less likely to be contradicted. The results of the analyses involving contradictions also showed that, contrary to our prediction, the rate of contradiction of both overall details and central details did not vary depending on the type of prompts used to elicit the information. These unexpected findings may reflect the fact that relatively few details reported by the child victims were contradicted by the suspects, and this is likely to have reduced the sensitivity of the analyses. The small number

of contradictions may be explained by the fact that only cooperative suspects (i.e. those who fully or partially admitted the allegation) were included in the sample.

The age differences were also unexpected, although they were not surprising. The proportion of details confirmed decreased substantially with age, presumably because the accounts provided by the younger children were significantly less detailed but perhaps especially rich in the most important and salient details which were, in turn, the details most likely to be confirmed by the other participants. Stated differently, the greater verbosity of the older victims may have led them to include many more elaborative (even if central) details that were less likely to be mentioned by the suspects describing the same incidents and events. Interestingly, there were no age effects or type of prompt by age interactions with respect to both numbers and proportions of details and central details confirmed or contradicted. Unfortunately, our ability to explore and clarify age differences was limited by the fact that the youngest group was very heterogeneous because it included children with a wide range of ages.

Our attempt to study the accuracy of forensic statements in terms of the convergence between details provided by alleged victims and suspects describing the same incidents yielded interesting findings. It is rare to have access to recorded accounts of suspect statements that include free-recall accounts and our unique opportunity was made possible because interviews of young perpetrators are conducted in Israel by youth investigators rather than police detectives. Youth investigators in Israel use the NICHD Suspect Protocol (Hershkowitz et al., 2004), a unique investigative tool that allows suspects to give free-recall descriptions of the alleged incidents under investigation, before focused prompts are employed, thereby permitting the types of comparisons made in this study. In addition to demonstrating that free-recall prompts were more likely to elicit accurate information, we showed that the proportion of details confirmed by the suspects was greatest where the youngest children were concerned. These findings strengthen previous evidence that, although young children tend to remember less information and provide briefer accounts of their experiences than older children do, their free-recall reports are not less accurate. Such findings strengthen the existing consensus concerning the ways in which investigative interviews should be conducted.

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