
Forced-Choice: Are Forensic Interviewers Asking the Right Questions?

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Abstract

In spite of exhortations to the contrary, forensic interviewers typically ask forced-choice questions, especially yes/no and multiple-choice. In this study, older and younger preschoolers' responses to yes/no and multiple-choice questions were compared. For yes/no questions, half were correctly answered by "yes" and half by "no." For 2-option multiple-choice questions, the first option was correct for a third of them, the second option was correct for another third, and neither option was correct for the remainder. Half the children were instructed they could say "I don't know." Both older and younger preschoolers demonstrated a response bias toward saying "yes" to yes/no questions; they did not exhibit response biases for multiple-choice questions, choosing the two given options equivalently often. When neither option was correct, they more frequently said "I don't know", especially younger preschoolers. "I don't know" was almost never given in response to yes/no questions. Furthermore, instructions allowing "I don't know" had no effect. These results have implications for forensic interviews; they suggest that responses to yes/no questions are more unreliable and information from them more suspect than responses to multiple-choice questions.

Résumé

Malgré les avis contraires, les intervieweurs judiciaires posent généralement des questions avec choix limité de réponse, particulièrement des questions supposant une réponse oui ou non ou un choix de réponse. Dans la présente étude, les réponses d'enfants d'âge préscolaire à des questions demandant une réponse oui ou non et à choix multiple ont été comparées. En ce qui concerne les réponses oui ou non, les enfants ont bien répondu à la moitié des réponses par « oui » et à l'autre moitié, par « non ». En ce qui a trait aux questions à deux choix de réponse, le premier choix était le bon pour le tiers d'entre elles, le deuxième choix était le bon pour un autre tiers et l'un ou l'autre choix n'était pas le bon pour les autres. On a indiqué à la moitié des enfants qu'ils pouvaient répon-

dre « je ne sais pas ». Tant les plus vieux que les plus jeunes enfants d'âge préscolaire ont démontré un biais favorisant la réponse « oui » à des questions oui ou non; ils ne montraient toutefois pas de biais de réponse dans les questions à choix de réponse, en choisissant autant de fois l'un que l'autre, les deux choix possibles. Lorsque ni l'une ni l'autre réponse proposée n'était correcte, ils répondaient le plus souvent « je ne sais pas », surtout les plus jeunes. « Je ne sais pas » n'a presque jamais été donné comme réponse à une question attendant un oui ou un non. De plus, la possibilité de répondre « je ne sais pas » n'a pas eu d'effet. Ces résultats laissent supposer, en ce qui touche les entrevues judiciaires, que les réponses aux questions oui ou non sont moins fiables et l'information qu'on en tire est plus suspecte que les réponses aux questions à choix multiple.

In forensic situations, children of all ages are often only minimally encouraged to provide free recall, in spite of repeated warnings to interviewers about the importance of eliciting free recall and using open-ended questions. A complicating factor is that children who are preschool-aged seldom provide much information in response to free recall probes (Ceci & Bruck, 1995; Fivush, Peterson, & Schwarzmüller, in press; Peterson & Bell, 1996), so more specific questions are almost always required to obtain information about their experiences. In McGough and Warren's (1994) study of interviews of children between 2 and 13 years of age by the Tennessee Child Protective Services, professionals began asking specific questions almost immediately. Lamb et al. (1996) similarly found that only 2% of the questions by specially trained Israeli youth investigators, when questioning 5-11-year-old alleged victims of sexual abuse, were open-ended or "invitational," defined as encouraging open-ended, narrative responses. Likewise, court records document overwhelming use of specific questions by attorneys in the courtroom (Ceci & Bruck, 1995). Although guidelines for good interviewing practice recommend

the avoidance of specific questions (Bull, 1992, 1995; Home Office, 1992; Poole & Lamb, 1998; White, 1990; Yuille, 1988), the preponderance of such questions requires us to understand the implications of their use. In particular, we need to understand how different question formats may bias children's responses. This is particularly true when exploring the responses of preschool-aged children, since the information they provide is more dependent upon the exact questions they are asked (Fivush et al., in press).

A beginning has been made in understanding how question format influences children's responses. Considerable work has shown that suggestive or leading questions impair children's responses (see reviews in Ceci & Bruck, 1993, 1995). As well, open-ended rather than close-ended questions elicit richer responses (Lamb et al., 1996), although this is less true for younger children. Furthermore, difficult syntax or "lawyeresque" impairs children's responses (Perry et al., 1995), whereas language that is appropriate to their age is helpful (Imhoff & Baker-Ward, 1999; Walker, 1993). However, relatively little work has focused on forced-choice questions, in spite of the fact that they are used with considerable frequency in forensic situations.

Forced-choice questions may take the form of yes/no or multiple-choice questions. McGough and Warren (1994) found that 64% of questions asked by child protective services professionals when interviewing alleged child victims were yes/no and 4% were multiple-choice. However, although less numerous, multiple-choice questions were often used to obtain the most forensically critical information (Perry & Hunt, 1997). In spite of the usage of multiple-choice questions by investigators and attorneys, little attention has focused upon this question format. Nor have there been systematic comparisons of such questions with yes/no ones. This is the purpose of the present study.

Yes/no questions have been shown to be especially problematic for preschool-aged children because they often have a response bias when answering them. Peterson and Biggs (1997) found that when preschool-aged children answered yes/no questions about traumatic injuries, a "yes" response was likely to be correct whereas a "no" response was equally likely to be wrong or right. In a follow-up laboratory investigation with counterbalanced questions, where the correct response about each queried topic was "yes" for half the children and "no" for the remainder, Peterson, Dowden, and Tobin (1999) confirmed that children produce these two responses with different frequencies. In other words, one cannot count upon a yes/no response being veridical because children are biased

toward making one of the two responses, usually "yes." Indeed, children have been found to answer "yes" to patently ridiculous questions such as "is red heavier than yellow?" (Hughes & Grieve, 1980), and even to questions that are in a language that they do not understand as long as the question conforms to the rising intonation that signals a yes/no question in English, such as "El camino real?" (Fay, 1975). Such a bias to respond "yes" nonveridically can lead to serious difficulties in forensic situations. In the review by Ceci and Bruck (1995), the authors list a number of potentially compromising questions asked by various researchers where the children responded "yes," even though the correct response should have been "no." Such questions include the following: "Did the man remove some of the children's clothes?" (from Lepore & SESCO, 1994), and "Did the man touch your private parts?" (from Goodman, Hirschman, Hepps, & Rudy, 1991). In summary, yes/no questions are problematic because preschool-aged children are often more likely to make one response rather than the other (especially "yes"), regardless of the veridicality of the response they have chosen.

A similar systematic investigation of multiple-choice questions has seldom been done, and when such questions are specifically mentioned, recommendations are mixed. On the one hand, recommendations of good interviewing practice suggest avoidance of these questions as well as of yes/no questions. (See, for example, the Home Office's [Britain] *Memorandum of Good Practice*, paragraph 3.31 and 3.34.) On the other hand, memory researchers sometimes see responses to yes/no questions as reflecting children's *verbal reports* whereas their responses to multiple-choice questions reflect their *memory representations* (Bjorklund, Bjorklund, Brown, & Cassel, 1998; Cassel & Bjorklund, 1995). In other words, these researchers consider responses to multiple-choice questions to be more veridical than responses to yes/no questions.

In a systematic laboratory study of multiple-choice questions, Walker, Lunning, and Eilts (1996) showed children in grades K, 2, and 4 a videotaped incident, and then asked a series of multiple-choice questions about the video. Two choices were presented: sometimes the correct option was the first one, sometimes the second, and sometimes neither. Walker et al. found that children did more poorly when neither of the stated options was the correct one. Rather, they tended to reply with one of the stated options, and this was especially true for the kindergartners. Furthermore, kindergartners demonstrated a response bias for choosing the second option. Others have also found recency effects in young children (e.g., Hood, 1962); that is, when questions are difficult, children are more

likely to choose the last option they are given. This is particularly true for 3-year-olds but is less characteristic of 5-year-olds (Siegel & Goldstein, 1969).

Thus, there are reasons to be concerned about multiple-choice questions, but little research has explicitly focused on them. Because of their common use and often considerable importance in forensic interviewing and in court, the implications of asking such questions, as well as response biases generated by them when children answer these questions, need to be understood. The present study extends Walker et al.'s study in several ways: we study preschoolers' responses to multiple-choice questions (for which we could find no extant research), and we compare children's responses to such questions with their responses to yes/no questions. Furthermore, because other research has suggested that children's responses are often more accurate when describing situations in which they have been personally involved rather than have merely observed (Rudy & Goodman, 1991), we questioned children only about a scenario in which they participated.

A second focus of the present research is the effect of informing preschool-aged children that they can say "I don't know" in response to a question. Recommendations of good interviewing practice (Bull, 1992, 1995; Home Office, 1992; Poole & Lamb, 1998; White, 1990; Yuille, 1988) stress the importance of giving children the option of saying "I don't know" when being questioned, although court records document frequent instances in which attorneys require children to select one of the presented options (Walker et al., 1996).

A number of investigators have suggested that children seldom spontaneously say "I don't know" (or its equivalent) when they are questioned (e.g., Ceci & Bruck, 1995; King & Yuille, 1987; Parker & Carranza, 1989). However, such an assertion may need qualification. Although young children almost never spontaneously say "I don't know" when asked a yes/no question (Hughes & Grieve, 1980; Nesbitt & Markham, 1999), this may not be true when asked *wh*-format questions that use question words such as "who, when, or where." Peterson et al. (1999) asked preschoolers not only yes/no questions but also *wh*-format questions about the same content, and found that while "I don't know" responses were extremely rare in response to yes/no questions (regardless of whether the veridical response should have been either "yes" or "no"), such responses were often produced in answer to *wh*-questions, especially about content that they recalled poorly. In fact, fully 71% of questions about the characteristics of a target environment (something that children recalled poorly) elicited

"I don't know" responses versus less than 10% to questions about people's actions. Thus, preschoolers often spontaneously acknowledged ignorance when questioned by means of a *wh*-question, but almost never when questioned by means of a yes/no question. Since yes/no questions are so predominant in investigative and courtroom interviews, this patina of certainty engendered by yes/no questions is a serious concern. As yet, only one study to our knowledge has assessed children's likelihood of saying "I don't know" to multiple-choice questions. Walker et al. (1996) found that school-aged children seldom said "I don't know" spontaneously, although such a response increased if they were trained to say it.

Several investigators have explicitly instructed children between 6 and 11 years to say "I don't know" when they did not know the answer to a question, and such instructions indeed increase the likelihood of children saying "I don't know" (Moston, 1987; Saywitz & Moan-Hardie, 1994; Saywitz & Snyder, 1993; Walker et al., 1996). However, this was also often accompanied by a decrease in the number of items that were answered correctly. In other words, a response set to say "I don't know" seems to have been fostered. However, more intensive training, particularly if it included training in providing an answer if it was known, was more effective in getting school-aged children to say "I don't know" more appropriately (Saywitz & Moan-Hardie, 1994, Experiment 2).

To our knowledge, only one study has instructed preschool-aged children to say "I don't know" (Nesbitt & Markham, 1999), and it employed an extensive training program. Although this training program helped children say "I don't know" more frequently with fewer false reports, children also made fewer correct responses, which is unfortunate. That is, a response set to say "I don't know" was engendered. It should be noted that only yes/no questions were asked.

In forensic investigations, police and attorneys seldom engage in the kind of extensive training to say "I don't know" that researchers have generally used. Often, children are simply told that this is an allowable response, and sometimes even these instructions are not given (Ceci & Bruck, 1995). In the present study, we investigate preschool-aged children's likelihood of saying "I don't know" when children are simply instructed that this is an allowable response, similar to the instructions many children are given in forensic interviews. Furthermore, we investigate their likelihood of using this response to both yes/no and multiple-choice questions.

We hypothesize that children's responses to yes/no questions will be different depending upon

TABLE 1
Examples of the Different Question Formats Asked of the Children

Question Format	Examples
Yes	Did the (man/woman) wear a flowered hat? Did the (man/woman) knock over the crayons?
No	Did the (man/woman) wear a straw hat? Did the (man/woman) knock over the fruitloops?
Choice 1	Did the (man/woman) wear a flowered hat or a straw hat? Did the (man/woman) knock over the crayons or the fruitloops?
Choice 2	Did the (man/woman) wear a straw hat or a flowered hat? Did the (man/woman) knock over the fruitloops or the crayons?
Neither Choice	Did the (central exp.) wear a baseball hat or a straw hat? Did the (man/woman) knock over the fruitloops or the paper?

Note: The experimenters were referred to as "the man" or "the woman," depending upon the gender of the experimenter.

whether the correct answer should be "yes" or "no," parallel to previous research. Of more interest is children's responses to multiple-choice questions. We hypothesize that multiple-choice questions will be less likely to elicit response biases than are yes/no questions. We also hypothesize that children will seldom spontaneously choose "neither" when both of the provided answers are incorrect. Finally, we have no a priori hypotheses about the effectiveness of our "I don't know" instructions on children's responses to multiple-choice questions.

METHOD

Participants

Thirty-two preschoolers (14 boys and 18 girls) participated individually, with parental permission. They were divided into a younger group ($n = 16$, range = 3;2 - 4;4, mean age = 3;9) and an older group ($n = 16$, range = 4;8 - 5;1, mean age = 4;10). The children were recruited from three daycare centres associated with educational institutions.

Design

Two variables besides age were investigated in this study: question format and explicit permission to say "I don't know." Five question formats were used, namely (1) yes/no questions for which the correct answer was "yes" (hereafter termed "yes" questions), (2) yes/no questions for which the correct answer was "no" (hereafter termed "no" questions), (3) 2-option multiple-choice questions for which the correct answer was choice 1 (hereafter termed "choice 1" questions), (4) 2-option multiple-choice questions for

which the correct answer was choice 2 (hereafter termed "choice 2" questions), and (5) 2-option multiple-choice questions for which neither of the options was correct (hereafter termed "neither choice" questions). Half of the children were further instructed that they could say "I don't know" if they did not know the answer to a question, and they were periodically reminded of this option.

The children participated in two sessions. In Session 1, they participated in a choreographed scenario with two experimenters, and in Session 2 a week later, they were questioned about what had happened in the prior session. The interviewer in Session 2 did not participate in the earlier session.

Question Format. A series of questions were asked of the children about twenty separate pieces of information. Every child was asked four each of the five different types of questions. That is, there were four "yes" questions, four "no" questions, four "choice 1" questions, four "choice 2" questions, and four "neither choice" questions. However, the question format was alternated among children such that for each of the twenty different items of information being queried, an approximately equal number of children was asked each type of question (see Table 1).

Procedure

There were two experimenters in Session 1. One was the primary experimenter, who constantly was present and interacting with the child. The secondary experimenter came and went, and had various short interactions with the central experimenter and the child. The

TABLE 2

The Mean Number (SD) of Accurate Responses and "I Don't Know" Responses to Different Question Formats by Older and Younger Preschoolers, as Well as Presence ("Inst.") or Absence ("No Inst.") of "I Don't Know" Instruction

Group	Question Format									
	Yes		No		Choice 1		Choice 2		Neither Choice	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Accurate Responses (Maximum = 4)										
Younger										
Inst.	3.2	0.6	1.9	1.2	2.2	1.5	1.9	1.2	1.6	0.8
No Inst.	2.8	1.2	1.0	0.9	2.5	1.0	2.8	0.8	0.7	0.8
Older										
Inst.	2.7	1.3	2.2	1.2	3.2	1.3	2.5	1.4	2.3	1.2
No Inst.	3.4	0.5	2.0	0.9	2.9	0.6	3.1	1.3	2.1	0.7
Mean	3.1	0.9	1.8	1.1	2.7	1.2	2.6	1.2	1.7	1.0
"I Don't Know" Responses (Maximum = 4)										
Younger										
Inst.	0.3	0.5	0.4	1.0	0.8	1.2	0.7	1.2	1.7	0.9
No Inst.	0.2	0.4	0.2	0.4	0.5	0.5	0.3	0.5	1.5	1.0
Older										
Inst.	0.5	1.2	0.3	0.5	0.2	0.4	0.5	0.8	1.0	0.9
No Inst.	0.2	0.4	0.6	0.8	0.4	0.5	0.3	0.7	0.8	0.9
Mean	0.3	0.6	0.4	0.8	0.5	0.8	0.5	0.9	1.3	1.0

gender of the experimenters was varied such that half of the children had a male central experimenter and a female peripheral experimenter, while the other half had the reverse. This was also counter-balanced across the child's gender. The appearance of the two experimenters was carefully distinguished: the central experimenter wore a flowered hat, large glasses and a large colourful tie while the peripheral experimenter wore a straw hat, a t-shirt with a large happy face emblem, shorts, and slippers.

In Session 1, after rapport was established with the central experimenter, the children were taken to a room with a table, easel, and crayons for colouring. Then various scenes were enacted for the child. For example, the central experimenter and the child both drew for a few minutes on their respective pieces of paper; then the experimenter broke a crayon while exclaiming over the accident because that was her favourite colour. After a few minutes of drawing, the peripheral experimenter ran into the room and demanded a red crayon while grabbing for the crayon container. The central experimenter also reached for

the crayon container while saying angrily "No, you can't have it!" and knocked the container over so that the crayons spilled all over the floor. The peripheral experimenter then took the red crayon and departed. Similarly, the central experimenter and child made fruitloop necklaces (with the peripheral experimenter entering to abscond with the purple fruitloop container), and the two experimenters briefly played different instruments for the children.

Session 2 took place a week later, when a third experimenter individually asked the children questions about the appearance, actions, speech, and emotions of the two experimenters in the previous week's experience. At the beginning of Session 2, half of the children were told that sometimes people did not know the answer to questions they were asked, and that it was fine to say "I don't know" if they did not know the answer to a question. They were subsequently occasionally reminded of this. The remainder of the children were given no such instructions. The children's responses were written on a scoresheet immediately after each response, and they were asked

to repeat a response if the interviewer did not hear it clearly. In addition, the interview was audio-recorded to confirm accurate scoring.

RESULTS

Five question formats were explored in this study as well as the efficacy of instructions giving permission to say "I don't know." There were also two age groups. See Table 2 for means and standard deviations for the data; the maximum number of possible correct responses for each question format was four. Preliminary analyses were done to assess the effect of gender (both of the experimenter and of the child), and there were no significant effects related to gender, so the data are collapsed over this variable in all analyses.

To see if children's likelihood of making correct responses was related to the format of the question they were asked, an ANOVA was calculated on the number of correct responses they made with Age (2 levels: older versus younger) and Instruction (2 levels: present versus absent) the between-subjects factors, and Question Format (5 levels: "yes," "no," "choice 1," "choice 2," and "neither choice") the within-subject factor. Older children ($M = 2.6$) provided more correct responses than younger children ($M = 2.1$), $F(1, 28) = 6.32$, $p = .018$, but there was no main effect of Instruction. That is, the children's responses were equivalent regardless of whether or not they were given instructions about saying "I don't know." Question format was also significant, $F(4, 112) = 12.09$, $p < .001$. Planned comparisons compared each question format with the others, and "yes" questions, "choice 1" questions and "choice 2" questions were all answered equivalently accurately, and all were answered more accurately than "no" and "neither choice" questions ($ps < .05$), which did not differ from each other (see Figure 1).¹

A second ANOVA was calculated on the number of times children said "I don't know" in answer to a question. Again, Age and Instruction (2 levels each) were the between-subjects factors and Question Format (5 levels) was the within-subject factor. As before, there was no main effect for Instruction.

1 The number of incorrect responses was also analyzed in a separate ANOVA and the results were parallel to those in the analysis of the number of correct responses, with one difference. "No" questions elicited the most incorrect responses whereas none of the other question forms differed. That is, although both "no" and "neither choice" questions were equivalent to each other in the analysis of correct responses (and elicited the fewest accurate responses), only "no" questions elicited responses that were significantly worse when incorrect responses were analyzed.

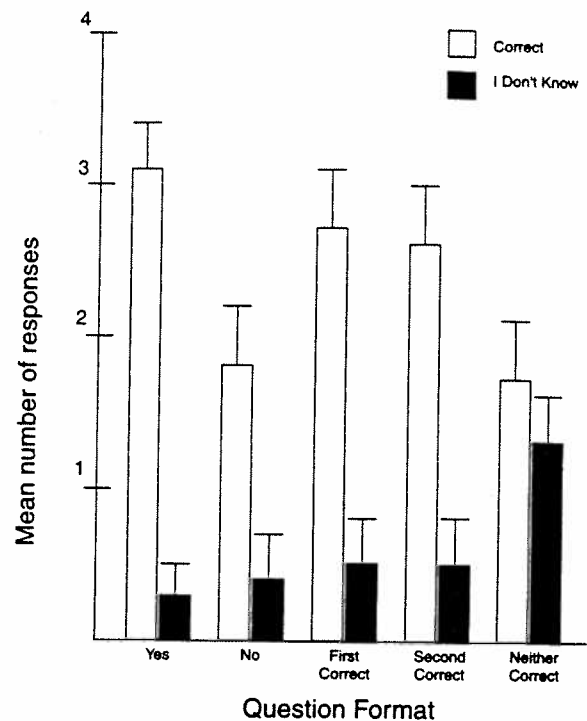


Figure 1. Mean number of children's correct and "I don't know" responses to different question formats.

Question format made a difference, $F(4, 112) = 15.03$, $p < .001$. Planned comparisons showed that children were significantly more likely to say "I don't know" in response to "neither choice" questions than to any other question format, which in turn did not differ from each other (see Figure 1). In other words, when neither option was correct, children were more likely to respond with "I don't know." There was no main effect for age, although there was an Age X Question interaction, $F(4, 112) = 3.31$, $p = .013$. To assess this interaction, each question type was analyzed separately, and only the "neither choice" questions showed a significant age effect. Younger children ($M = 1.60$) were more likely to say "I don't know" than were older children ($M = 0.90$) when asked "neither choice" questions.

In summary, multiple-choice questions in which the correct answer was encoded by either of the two options were answered just as accurately as yes/no questions where the answer was "yes." They were also equally likely to elicit "I don't know" as a response. "No" questions elicited the most incorrect responses, and children made fewer correct responses to "no" questions than to questions of all other formats with the exception of multiple-choice questions in which neither of the stated options is correct. For these latter "neither choice" questions, children are more likely to

say "I don't know," whether or not they have been instructed to give this response, especially younger preschoolers.

All of the above analyses have included instructions to say "I don't know" as a variable, and it is notable that it was never statistically significant, either alone or in interaction. Thus, the simple instructions that we provided were not enough to influence children's responses, regardless of the format or content of the questions that they were asked.

DISCUSSION

The major focus of this study was a comparison of multiple-choice with yes/no questions. Both are forced-choice questions, and both play an important role in investigative interviewing in forensic situations, especially yes/no questions. For example, in a case cited by Brainerd and Reyna (1996), 100% of the responses that formed the basis of an investigation of alleged sexual abuse of a 2-year-old were answers to yes/no questions. Even trained professionals use mostly forced-choice questions, and particularly yes/no questions, when interviewing alleged child victims (Lamb et al., 1996; McGough & Warren, 1994). Although advocates of good interviewing practice, such as the British Home Office's *Memorandum of Good Practice* (1992), emphasize open-ended questioning and a minimization of forced-choice questions, investigative practices often do not conform to these recommendations. Thus, research on how children respond to forced-choice questions is urgently needed.

In the present study, children were asked both multiple-choice and yes/no questions. The multiple-choice questions provided two options, and the correct answer for different questions was one of the given options (sometimes the first and sometimes the second), or "neither". Both "yes" and "no" were correct for different yes/no questions. We found that children were equally accurate in responding to multiple-choice questions when one of the two stated options was correct and to yes/no questions in which the correct answer was "yes." However, in investigative or forensic situations, one seldom knows a priori whether the answer to a yes/no question is "yes" or "no." If the correct answer is "no," children make lots of errors. In fact, almost half of their responses in this study are wrong. This is consistent with the findings of Peterson and Biggs (1997) and Peterson et al. (1999). Both studies found that "no" responses were often wrong; moreover, they were about as likely to be accurate as is a coin toss – a totally unacceptable error rate in real-world forensic interviews. Thus, overall, yes/no questions are more problematic than multiple-choice questions because of children's bias toward

responding "yes" to these questions. Such a response is fine if the answer to the question happens to indeed be "yes," but it is a serious problem if the correct answer instead is "no."

An equally serious problem could arise if children had a prepotent response bias for answering multiple-choice questions. Such a response bias could take one of two forms: children might always choose the last of the stated options (in this case, the second one), or for questions where none of the stated options were correct they might choose an option nevertheless, rather than stating that none (or in this case, neither) was correct. Neither of these response biases was found in the present study. When neither of the stated response options was correct, children often said "I don't know" rather than choose a stated option. Although a quarter of their responses involved choosing one of the provided options, neither of which was correct, this error rate was not different from that in response to questions where one of the given options was correct and the children chose the wrong one. Thus, the fact that neither of the stated options was correct did not seriously jeopardize children's responses in this study. In terms of whether children displayed a recency effect in their choices, such a bias was not found here among preschoolers. Instead, children were as likely to choose the first option as the second, and there was no difference in the number of correct answers, incorrect answers, or "I don't know" responses depending upon which of the two options was correct.

Walker et al. (1996), however, found evidence for both biases in that the children in their study were likely to choose one of the stated options when neither was correct, and kindergarten children tended to demonstrate a recency effect by choosing the last option more than the first. As well, Siegel and Goldstein (1969) found that 3-year-olds were particularly vulnerable to recency effects when asked questions about a difficult cognitive concept, namely conservation of number. Our results may differ from Siegel and Goldstein's because children were not asked about such difficult content. However, it is not clear why we found no evidence of response bias in answering multiple-choice questions as Walker et al. did. After all, the children in this study were younger than those in Walker et al. One possibility is that in Walker et al.'s study, children simply watched a short video clip and then answered questions about it. In contrast, children in the present study were personally involved with the events about which they were questioned. Other research has suggested that personal involvement is important for young children (Rudy & Goodman, 1991), and this may partly explain the divergent findings of these two studies.

The children in this study were divided into an older and a younger group, and for the most part children in both age groups responded the same way. Older children were more accurate, but the pattern of responses was identical when assessing the number of correct responses provided by the children as well as the number of "I don't know" responses, with one exception. Younger children were more likely to say "I don't know" than were older children when neither of the stated options was correct – a counter-intuitive finding. One would expect that if age differences were found, they would be more likely to favour older children. We have no good explanation for this finding; perhaps older children are more likely to believe that they are "supposed to" choose one of the suggested answers.

Half of the children in this study were explicitly told that they could say "I don't know" if they did not know the answer to a question, but such instructions were not successful in influencing children's likelihood of using this response. Indeed, none of the analyses showed a significant effect. Preschoolers clearly can be taught to say "I don't know," as shown by Nesbitt and Markham (1999). However, in their study children were exposed to an extensive training program, and furthermore, one that took place prior to the children's exposure to the "to-be-remembered" event. In contrast, the sort of instructions we gave are much more likely to be similar to the ones given by interviewers in forensic situations; furthermore, in real-world situations children are not given training prior to exposure to the "to-be-remembered" event. It is clear that simple instructions to preschoolers giving permission to say "I don't know" do not work. Thus, this study suggests that interviewers of preschoolers need to take very seriously the problem that children seldom spontaneously say "I don't know" when some types of question are asked. In particular, yes/no questions seem to be more dangerous than *wh-* questions (as found by Peterson et al., 1999) or multiple-choice questions (as found here). Thus, training children to say "I don't know," paired with training in the importance of providing a response if one is known, to avoid fostering a response set to say "I don't know" even to questions to which the answer is known (Saywitz & Moan-Hardie, 1994; Saywitz & Snyder, 1993) is important, especially with preschoolers. But the form of the questions used to elicit information is also important.

The present study does not represent a forensic interview. Children participated in their preschool; they were doing activities that were fun; the interview events were in no way distressing; and they had excellent rapport with the primary experimenter as well as

the interviewer. As well, the interview took place one week after the initial event, a time gap between event and interview that may be much shorter than in real-world forensic settings. Furthermore, children were not questioned aggressively or leadingly, and they were not directly affected by target actions but rather mostly observed them (although the children were still participants in the events). Nevertheless, this study does allow for different types of forced-choice question to be systematically compared. Because forced-choice questions are so prevalent in investigative and courtroom interviews, such comparisons have value.

In conclusion, multiple-choice questions were found to be preferable to yes/no questions because children displayed marked response biases when responding to yes/no questions, but little or no such biases when responding to multiple-choice questions. Indeed, if the options that were presented to them in a multiple-choice question did not include the correct answer, children often spontaneously provided an "I don't know" response. In comparison, yes/no questions were very unlikely to elicit an "I don't know" response under any circumstance. It is important for these findings to be replicated as well as extended to situations that are more comparable to forensic ones, to see if equivalent findings hold. If they do hold up, it may well be that forensic interviewers should use multiple-choice questions in place of yes/no questions in those situations where forced-choice questions are required.

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References

- Bjorklund, D.F., Bjorklund, B.R., Brown, R.D., & Cassel, W.S. (1998). Children's susceptibility to repeated questions: How misinformation changes children's answers and their minds. *Applied Developmental Science*, 2, 99-111.
- Brainerd, C.J., & Reyna, V.F. (1996). Mere memory testing creates false memories in children. *Developmental Psychology*, 32, 467-478.
- Bull, R. (1992). Obtaining evidence expertly: The reliability

- ty of interviews with child witnesses. *The International Digest of Human Behaviour Science and Law*, 1 5-12.
- Bull, R. (1995). Interviewing children in legal contexts. In R. Bull & D. Carson (Eds.), *Handbook of Psychology in Legal Contexts* (pp. 235-246). New York: Wiley.
- Cassel, W.S., & Bjorklund, D.F. (1995). Developmental patterns of eyewitness memory and suggestibility: An ecologically based short-term longitudinal study. *Law & Human Behavior*, 19, 507-532.
- Ceci, S.J., & Bruck, M. (1993). The suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin*, 113, 403-439.
- Ceci, S.J., & Bruck, M. (1995). *Jeopardy in the courtroom*. Washington, DC: American Psychological Association.
- Fay, W.H. (1975). Occurrence of children's echoic responses according to interlocutory question types. *Journal of Speech and Hearing Research*, 18, 336-345.
- Fivush, R., Peterson, C., & Schwarzmueller, A. (in press). Questions and answers: The credibility of child witnesses in the context of specific questioning techniques. In M.L. Eisen, G.S. Goodman, & J.A. Quas (Eds.), *Memory and suggestibility in the forensic interview*. Hillsdale, NJ: Erlbaum.
- Goodman, G.S., Hirschman, J.E., Hepps, D., & Rudy, L. (1991). Children's memory for stressful events. *Merrill-Palmer Quarterly*, 37, 109-158.
- Home Office. (1992). *Memorandum of good practice: On video recorded interviews with child witnesses for criminal proceedings*. London: Author.
- Hood, H.B. (1962). An experimental study of Piaget's theory of the development of number in children. *British Journal of Psychology*, 53, 273-286.
- Hughes, M., & Grieve, R. (1980). On asking children bizarre questions. *First Language*, 1, 149-160.
- Imhoff, M.C., & Baker-Ward, L. (1999). Preschoolers' suggestibility: Effects of developmentally appropriate language and interviewer supportiveness. *Journal of Applied Developmental Psychology*, 20, 407-429.
- King, M.A., & Yuille, J.C. (1987). Suggestibility and the child witness. In S.J. Ceci, M.P. Toglia, & D.F. Ross (Eds.), *Children's eyewitness memory* (pp. 24-35). New York: Springer-Verlag.
- Lamb, M.E., Hershkowitz, I., Sternberg, K.J., Esplin, P.W., Hovav, M., Manor, T., & Yudilevitch, L. (1996). Effects of investigative utterance types on Israeli children's responses. *International Journal of Behavioral Development*, 19, 627-637.
- Lepore, S.J., & SESCO, B. (1994). Distorting children's reports and interpretations of events through suggestion. *Journal of Applied Psychology*, 79, 108-120.
- McGough, L.S., & Warren, A.R. (1994). The all-important investigative interview. *Juvenile and Family Court Journal*, 45, 13-29.
- Moston, S. (1987). The suggestibility of children in interview studies. *First Language*, 7, 67-78.
- Nesbitt, M., & Markham, R. (1999). Improving young children's accuracy of recall for an eyewitness event. *Journal of Applied Developmental Psychology*, 20, 449-459.
- Parker, J.F., & Carranza, L.E. (1989). Eyewitness testimony of children in target-present and target-absent line-ups. *Law & Human Behavior*, 13, 133-149.
- Perry, N.W., & Hunt, J.S. (1997). Interviewing child victim-witnesses: What you ask is what you get. In C.P. Thompson, D. Bruce, J.D. Read, D. Payne, M. Herrmann, & M. Toglia (Eds.), *Proceedings of the meeting of the Society for Applied Research in Memory and Cognition*. Hillsdale, NJ: Erlbaum.
- Perry, N.W., McAuliff, B.D., Tam, P., Claycomb, L., Dostal, C., & Flanagan, C. (1995). When lawyers question children: Is justice served? *Law & Human Behavior*, 19, 609-629.
- Peterson, C., & Bell, M. (1996). Children's memory for traumatic injury. *Child Development*, 67, 3045-3070.
- Peterson, C., & Biggs, M. (1997). Interviewing children about trauma: Problems with "specific" questions. *Journal of Traumatic Stress*, 10, 279-290.
- Peterson, C., Dowden, C., & Tobin, J. (1999). Interviewing preschoolers: Comparisons of yes/no and *wh-* questions. *Journal of Law & Human Behavior*, 23, 539-556.
- Poole, D.A., & Lamb, M.E. (1998). *Investigative interviews of children: A guide for helping professionals*. Washington, DC: American Psychological Association.
- Rudy, L., & Goodman, G.S. (1991). Effects of participation on children's reports: Implications for children's testimony. *Developmental Psychology*, 27, 527-538.
- Saywitz, K.J., & Moan-Hardie, S. (1994). Reducing the potential for distortion of childhood memories. *Consciousness & Cognition*, 3, 408-425.
- Saywitz, K.J., & Snyder, L. (1993). Improving children's testimony with preparation. In G. Goodman & B. Bottoms (Eds.), *Child victims, child witnesses* (pp. 117-146). New York: Guilford Press.
- Siegel, L.S., & Goldstein, A.G. (1969). Conservation of number in young children: Recency versus relational response strategies. *Developmental Psychology*, 1, 128-130.
- Walker, A.G. (1993). Questioning young children in court: A linguistic case study. *Law & Human Behavior*, 17, 59-81.
- Walker, N.E., Lunning, S.M., & Eilts, J.L. (1996). *Do children respond accurately to forced-choice questions? Yes or no*. Presented at the NATO Advanced Study Institute on Recollections of Trauma: Scientific Research and Clinical Practice. Talmont Saint Hilaire, France.
- White, S. (1990). The investigatory interview with sus-

pected victims of child sexual abuse. In A. La Greco
(Ed.), *Through the eyes of a child*. Boston, MA: Allyn &
Bacon.

Yuille, J.C. (1988). The systematic assessment of children's
testimony. *Canadian Psychology*, 29, 247-262.

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