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Can paraphrasing increase the amount and accuracy of reports from child eyewitnesses?:

A comparison of two techniques

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THE EFFECTS OF DIFFERENT PARAPHRASING STYLES ON THE QUALITY OF
REPORTS FROM YOUNG CHILD WITNESSES

Abstract

Young children's descriptions of sexual abuse are often sparse thus creating the need for techniques that elicit lengthier accounts. 'Paraphrasing', or repeating information children have just disclosed, is a technique sometimes used by forensic interviewers to clarify or elicit information. (e.g., if a child stated "He touched me", an interviewer could respond "He touched you?"). However, the effects of paraphrasing have yet to be scientifically assessed. The impact of different paraphrasing styles on young children's reports was investigated. Overall, paraphrasing *per se* did not improve the length, richness, or accuracy of reports when compared to open-ended prompts such as "tell me more," but some styles of paraphrasing were more beneficial than others. The results provide clear recommendations for investigative interviewers about how to use paraphrasing appropriately, and which practices can compromise the quality of children's reports.

KEY WORDS: child eyewitness, child witness, children's memory, interviewing, investigative

The Effects of Different Paraphrasing Styles on the Quality of Reports From Young Child Witnesses

Children's reports of alleged incidents often constitute the main evidence in investigations of sexual abuse (Myers, 1992). Hence, interviewers are charged with eliciting lengthy and accurate accounts from child witnesses who typically provide sparse reports (McCauley & Fisher, 1995a; Saywitz & Snyder, 1996). Some investigative interviewers thus use 'paraphrasing', a technique that involves repeating children's responses in whole or in part (e.g., responding to the disclosure "he touched me" with "he touched you"; Roberts & Lamb, 1999). Paraphrasing has been found to be commonly used in investigative interviews (Evans, Roberts, Price & Stefek, 2008; Thoresen, Lonnum, Melinder, Stridbeck, & Magnussen, 2006). For example, Evans et al. found that paraphrasing was used, on average, nine times in protocol investigative interviews conducted by police and social workers. Paraphrasing may be used in attempts to increase the completeness of children's reports, or to request clarification on details children have disclosed. However, paraphrasing may also have some costs, thus an investigation of the impact of paraphrasing on the length and accuracy of children's reports is warranted, especially given its widespread use. Further, because there are different ways to paraphrase (e.g., verbatim repetition, rephrasing utterances) and there is no consensus in the forensic literature on how best to paraphrase, it is important to directly compare the effects of different ways of paraphrasing. Although paraphrasing is sometimes used in clinical style interviews this study specifically assesses effects on memory reports in investigative-style interviewing. Thus, the systematic study of paraphrasing will provide scientifically-based recommendations for investigative interviewers. Such information will enable interviewers to make informed choices

about the costs and benefits of paraphrasing when interviewing alleged child sexual abuse victims.

In the current study, we focused specifically on investigating two methods of repetition paraphrasing: a) 'yes/no paraphrasing' (e.g., following the disclosure "I took off my shoes" with "You took off your shoes?") and b) 'expansion paraphrasing' (e.g., "You took off your shoes. Tell me more"). From hereon, the term paraphrasing refers to the repetition of children's utterances.

Paraphrasing is a technique that can be conceptualized as an interactive exchange between child witnesses and interviewers. Because paraphrases are dependent on the information children provide, children are able to "lead" the interview as recommended by some protocols such as the Revised Cognitive Interview protocol (Fisher & Geiselman, 1992; McCauley & Fisher, 1995a). In pilot work, we found different ways to paraphrase that may be contributing to the development of the interview by the way in which interviewers frame their repetition of children's testimony. Thus, the current research serves to extend the theoretical idea that investigative interviewing of children is a bidirectional process (rather than a unidirectional process where the interviewer 'extracts' the information from a passive child; Gilstrap & Papierno, 2004), as well as providing practical benefits to investigative interviewers. In the current study, we investigated a) whether paraphrasing increased the amount and accuracy of information children reported about an event, and b) whether different paraphrasing styles differentially affected children's reports.

Why specifically might paraphrasing improve the quality of children's reports about personally-experienced events? First, paraphrasing may encourage rapport between child witnesses and interviewers because it is clear that interviewers are paying attention to children's

disclosures and are interested in their reports. This in turn might motivate children to disclose additional information thus providing lengthier reports than when paraphrasing is not used. Indeed, interviews that include ‘cued invitations’ where children’s previous disclosures are combined with open-ended prompts such as “You said [he touched you]. Tell me more about that” (Poole & Lamb, 1998, p. 141) are successful in eliciting lengthier disclosures from alleged child abuse victims than interviews characterized by an absence of invitational prompts (Orbach, Hershkowitz, Lamb, Sternberg, Esplin, & Horowitz, 2000; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001).

Second, paraphrasing may prevent interviewers from intruding too quickly with their own interpretations of what may have happened. Paraphrasing may also allow interviewers time to think and thoughtfully prepare their questions. Working memory refers to the part of the cognitive system whereby adults can hold information in mind while performing concurrent tasks (Kopke & Nespoulous, 2006; Turnbull, Evans, Bunce, Carzolio, & O’Connor, 2005). When paraphrasing, interviewers would be able to keep the exact representation of what the child stated in working memory and then repeat it back to the child. As the verbal representation is in working memory, and thus does not require much attention or cognitive resources, interviewers can prepare their next question at the same time as they are paraphrasing. Such a procedure may reduce the number of suggestive utterances, increase the use of more open-ended questions, and prevent contamination of children’s testimony.

Allowing child witnesses to lead the interview and acknowledging them as the experts on what may have happened are aspects of the ‘transfer of control’ component of the Revised Cognitive Interview (for a detailed description, see Fisher & Geiselman, 1992). Children interviewed with the Revised Cognitive Interview procedure report 46-84% more correct

information than those interviewed with standard techniques (McCauley & Fisher, 1995a, b). Although the Revised Cognitive Interview also elicited a greater number of inaccurate details, the overall accuracy rates in both types of interviews was 85-90%. Paraphrasing may be one technique that is effective in transferring control because it highlights witnesses' responses more than interviewers'.

Paraphrasing may also have some costs, however. Because of the repetition of information, interviews containing paraphrasing may be longer than those without the technique. The consequent risk of fatigue in children is problematic because interviews sometimes need to be terminated before full disclosures have been given, resulting in a lack of central evidence or the need to repeatedly interview children (Poole & Lamb, 1998). Second, research on question repetition demonstrates that children's accuracy declines as a result of repeated questions because children sometimes change their responses (Krähenbühl & Blades, 2006; Poole & White, 1991; Zajac & Hayne, 2003). Since paraphrasing (as defined in the current study) involves the repetition of children's utterances, children may perceive paraphrasing as indirect requests to change their responses regardless of accuracy. Indeed, adults typically only repeat questions when the desired answer was not obtained (Siegal, 1991). The use of yes/no paraphrasing in particular may strongly influence children to change their answers due to the challenging nature of yes/no paraphrasing that requires only a yes or no close-ended response from children with no rationale for repeating the question. In contrast, expansion paraphrasing's may be less likely to result in children revising their answer due to the request for additional information.

Third, excessive use of paraphrasing increases the risk that interviewers unintentionally distort children's utterances. Roberts and Lamb (1999) examined inaccurate paraphrases that

were spontaneously made during investigative interviews of child abuse, for example, responding to the utterance “[he] touched me in private” with “[he] touched you in your privates”. Of concern is the finding that only a third of these distortions were corrected by the children, and interviewers continued to use the uncorrected descriptions later in the interviews (Roberts & Lamb, 1999). In addition, yes/no inaccurate paraphrases are analogous to misleading questions because they appear to request a yes response to false statement. Children have consistently been found to be highly suggestible so such leading questions (Melinder et al., 2005; Lamb, Sternberg, & Esplin, 1994; Wakefield & Underwager, 1989). Thus, it is expected that children are likely to be more inaccurate in response to such leading questions. Because of the potential cost of inaccurately paraphrasing, we compared children’s reports after accurate and inaccurate paraphrasing, for each of the styles mentioned above.

Although there is no research isolating the effects of paraphrasing, there is some evidence that paraphrasing in conjunction with other techniques may encourage lengthier reports (Roberts, Berkel, Patel, & Serrine, 2001). Roberts and colleagues (2001) compared the effects of interviewer style on 3- to 9-year-old children’s reports of a staged event. One interviewer in this study paraphrased more, paused more often and for longer, and used more facilitators (e.g., “OK”) than the other interviewer. Children who were interviewed by the interviewer who paraphrased more often, paused more often and for longer, and used more facilitators reported more information about a staged event than did children interviewed by the other interviewer, regardless of the age of the children. However, it is unclear how much paraphrasing may have uniquely contributed to the extended reports because it was assessed in conjunction with the two other devices.

In the study reported below, we controlled for interviewer style (the same interviewer conducted interviews with and without paraphrasing), type of prompt to elicit information (e.g., open-ended questions; all interviews contained the same total number of prompts, and all prompts that did not contain paraphrasing were of identical format across interviews), and event memory (all children experienced the same event and were interviewed after the same delay). We were especially interested in how paraphrasing might impact the quality of reports from young witnesses given that young children typically provide few details in recall (Goodman & Reed, 1986) but are often sensitive to manipulations of interview style (Roberts, Lamb, & Sternberg, 2004).

As our first aim was to determine whether paraphrasing improves children's testimony, children's reports of a staged event elicited by interviews containing paraphrasing were compared in terms of length, informativeness, and accuracy with reports gleaned without using paraphrasing. As paraphrasing may transfer control, better motivate children to provide additional information, and reduce suggestibility, we expected that reports in interviews with paraphrasing would overall be longer and contain a greater number of accurate details than reports from interviews without paraphrasing (Hypothesis 1). As conclusions sometimes differ based on whether children's reports were elicited by scripted or unscripted exchanges (see Gilstrap & Papierno, 2004), we compared the effects of paraphrasing on responses to scripted prompts that were identical for all children (e.g., the first invitation to describe the event) and unscripted prompts (i.e., when interviewers were free to elicit information as they saw fit). However, we expected paraphrasing to improve the quality of responses to both scripted and unscripted prompts.

Our second aim was to investigate whether different styles of paraphrasing differentially affected responses. Specifically, we compared two techniques observed in forensic interviews. One type of paraphrase (the *expansion paraphrase*) comprised a simple re-statement of children's utterances followed by a general, open-ended prompt (e.g., "He touched you. Tell me more"; note that children in the no-paraphrasing condition would be prompted with the same open-ended prompt but without the paraphrase). The use of expansion paraphrases were compared to reports given in interviews with *yes/no paraphrasing*. Intonation was used in yes/no paraphrasing to convert the paraphrase into a yes/no question (e.g., "He touched you?"). We expected expansion-paraphrasing to more effectively elicit further details from children than yes/no paraphrasing, whilst maintaining accuracy (Hypothesis 2). As children tend to be more accurate when prompted with explicit than implicit questions (Newcombe & Siegal, 1997), expansion-paraphrasing should motivate children to report additional information because there is an explicit request to provide more details, whereas the yes/no or paraphrasing-only styles include only implicit requests for more information. Further, yes/no questions typically elicit one-word responses ('yes' or 'no') and children rarely provide lengthy descriptions following these types of questions (e.g., Hershkowitz, 2001; Roberts et al., 2004). Yes/no paraphrases may also indicate suspicion, mistrust, or doubt on the part of the interviewer. Thus, children may be dissuaded from reporting more information.

As interviewers in the paraphrasing conditions were instructed to paraphrase both accurately and inaccurately, our third hypothesis addressed how the faithfulness of paraphrases to children's statements affected their subsequent reports. Given the low levels of correction after inaccurate paraphrasing (see Hunt & Borgida, 2001; Roberts & Lamb, 1999), we expected that

accurately-phrased paraphrases would more effectively elicit further details than paraphrases that distorted children's words (Hypothesis 3).

Method

Participants

Forty-nine children, between 3 and 6 years of age, were recruited from a middle class daycare in a mostly Caucasian neighborhood in [city]. All parents provided informed consent, all children provided assent prior to participation in the study, and the ethical principles of APA were followed. Children were randomly assigned to one of three conditions: expansion paraphrasing, yes/no paraphrasing, or no-paraphrasing (control). Eight children, distributed across the three conditions, were excluded from the study: three were absent for the interview, one was not able to speak English, and four due to technical difficulties. This resulted in a final sample of 41 children, approximately half of whom were females. The mean ages in years in the expansion-paraphrasing, yes/no-paraphrasing, and no-paraphrasing conditions, respectively, were $M = 4.25$ years ($SD = 1.06$, $N = 15$), $M = 3.99$ years ($SD = .89$, $N = 13$), and $M = 4.03$ years ($SD = .88$, $N = 13$) and these means did not differ significantly, $F < 1$, *ns*.

Materials

The staged event comprised a photography session similar to that described by Roberts, Lamb, and Sternberg (1999). Activities such as touching, dressing, and undressing, were chosen so that the content of the interviews were similar to that of investigations (e.g., touching, action sequences, where the child was touched, etc). During the event, the child dressed up in a pirate costume comprising a cape, eye-patch, badge, hat and belt. The adult wore a cowboy costume comprising a vest, cowboy boots, bandana, sheriff's badge, rope and cowboy hat. Photographs

were taken using a camera mounted on a tripod and the whole event was video-recorded. The interview sessions were video and audiotape-recorded and later transcribed.

Procedure

Children participated in the events in groups of two to three and were escorted to the 'photography studio' by the female confederate photographer. Once in the photography studio the photographer and the group of children placed different parts of the costumes on each other, two photographs were taken of each child (one alone, one with the photographer), and the costumes were removed. All costume items were placed over the children's own clothing and only the costume items were put on and taken off. The children were then thanked for their time and escorted back to the classroom. Two versions of the event were scripted with slight variations in each version. For example, in one version the child wore a white cape and in the other version they wore a black cape. Each child was randomly assigned to one of the two event versions. The entire event was scripted and lasted about 10 minutes.

All children were interviewed individually 7 to 10 days after the staged event by an unfamiliar female who had been trained in open-ended interviewing. This interviewer conducted interviews in all conditions and was blind to which version of the event the child participated in. The interviewer approached each child individually and said "I understand that you met a photographer last week and I'd like to find out what happened when you met the photographer. Can I ask you a few questions about meeting the photographer?" All children agreed to participate and were escorted to a quiet room. Once the child was seated comfortably, the interviewer began by explaining the 'ground rules' to the child including practice saying "You made a mistake" (when the interviewer erred) and "I don't know" (if the child did not know the answer to a question). Children were also instructed to tell the interviewer only about things that

had really happened. In the rapport-building phase that followed, the interviewer engaged the child in discussion for approximately two to three minutes about what the child had been previously doing in class.

The interviewer then probed the children's memories of the target event. A summary of the memory portion of the interview for each condition is presented in Table 1. The interviewer first conducted the recall phase. In the *no-paraphrasing* control condition the interviewer oriented the child to the staged event with an open-ended prompt that was identical for all children, "Now let's talk about the person who came and took your picture. I wasn't there that day but I would really like to know what happened. Tell me everything you can remember from the very beginning to the very end. Try not to leave anything out. I want you to tell me as much as you can." A narrative account of the event was then elicited using open-ended prompts such as "Tell me more" and "What happened next?". Interviewers were free to choose appropriate prompts as long as they were open-ended. When the child could provide no more information about the event, the interviewer used two additional scripted prompts (from Poole & Lindsay, 1995). First, "Sometimes we remember a lot about how things look. Think of all the things the photographer had that day. Tell me how everything looked", followed by "Sometimes we remember a lot about how things sound. Tell me everything you heard the day you met the photographer". Children again received open-ended prompts after each of these scripted prompts until they could provide no more information.

(insert table 1 here)

The interview for children in the two paraphrasing conditions was identical to that in the no-paraphrasing control condition except that at least five prompts included paraphrasing. The interviewer was instructed to paraphrase accurately at least four times and inaccurately at least

once for both conditions. In accurate paraphrasing, the interviewer was faithful to the child's words (e.g., in response to, "I wore a white cape." the interviewer says "You wore a white cape.",); in inaccurate paraphrasing, the interviewer distorted the child's words (e.g., in response to "I wore a white cape." the interviewer says "You wore a black cape."). (As the interviewer was blind to which event the child participated in, she paraphrased the child's statement regardless of the accuracy of the child's statement). Interviewers were instructed to paraphrase accurately more often than inaccurately to ensure that children did not become frustrated with the interview process (consistent with the suggestibility literature, e.g., Eisen, Qin, Goodman, & Davis, 2002; Tobey & Goodman, 1992). On average, 5.13 accurate paraphrases and 1.73 inaccurate paraphrases per interview were made. The ratio of accurate to inaccurate paraphrases is similar to that found in actual investigative interviews (Roberts & Lamb, 1999; Evans et al., 2008).

The style of paraphrasing differed between the conditions. In the *expansion-paraphrasing* condition, the interviewer simply paraphrased children's responses and followed up with standard prompts (e.g., responding to the child's statement "She put the *black* eye-patch on me" with "She put the black eye-patch on you. Tell me more"). An inaccurate paraphrase to the same statement might be "She put the *white* eye-patch on you. Tell me more". In the *yes/no-paraphrasing* condition, the interviewer used intonation to convert the paraphrase into a yes/no question (e.g., by saying "She put the black eye-patch on you?" for the above example; or "She put the *white* eye-patch on you?" for an inaccurate paraphrase). See Table 1 for a summary of prompts used in each condition. Particular care was taken to ensure that tone was varied in the yes/no paraphrasing condition only to indicate a question; these interviews were no more aggressive in tone than interviews in the other conditions.¹

Coding

All coders were blind to the hypotheses of the study. The prompts used by the interviewer were coded as ‘open-ended’ (i.e., prompts used without the use of paraphrasing such as “tell me more”), ‘scripted’ (i.e., the very first prompt, and the “how things looked” and “how things sound” prompts), ‘accurate paraphrase’ (if the interviewer paraphrased accurately) and ‘inaccurate paraphrase’ (if the interviewer paraphrased inaccurately). Interviewer utterances were also coded for the number of facilitators to ensure that no other facilitative devices skewed the results.

The children’s reports were coded for length (number of words), richness (number of details), and accuracy (number of accurate and number of inaccurate details), according to widely used coding systems (e.g., Roberts et al., 1999; Sternberg et al., 1996; Alexander et al., 2002; Quas & Schaaf, 2002). A detail was defined as a subject, verb, object, or other meaningful detail regardless of the accuracy of the information, provided the children were recalling the staged event. Duplicate, irrelevant or off-topic details (e.g., talking about the tape recorder) were excluded. For example, the utterance “She put the black eye-patch on me” would be coded as five details: *she*, *put_on*, *black*, *the eye-patch*, *me*.

The coders used the videotape recording of the event to check the *accuracy* of the reported details. Each detail was coded as ‘accurate’ (when a detail was reported as it had happened in the event), or ‘inaccurate’ (when a detail was distorted or not present during the event). For example, the utterance “She put the white eye-patch on me” would be coded as four accurate details, *she*, *put_on* (verb), *the eye-patch*, and *me*, and one inaccurate detail, *white*. Each detail was coded for accuracy rather than the full statement as a whole because each piece of information provided by the child is important in investigative interviews and thus, a whole

statement should not be disregarded when one piece of information is inaccurate (i.e., the color of an object) and because the gist is true.

Two research assistants were trained on interviews of children who had participated in a previous study using the same event until 80% reliability was reached with one another and with another experienced coder on the number of details, accuracy and interviewer prompts. To ensure that the coding was consistent over time, 15% of the transcripts were randomly selected and an overall inter-rater reliability between the two coders was calculated using Cohen's Kappa at .80. Cohen's Kappa for each individual code ranged from .87 to .75. These agreement figures are similar to those reported in other research of this type (e.g., Roberts et al., 1999; Sternberg et al., 1996).

Manipulation checks

The mean number of paraphrases was calculated for each condition to check adherence by the interviewer to the manipulations. The mean number of accurate paraphrases in the expansion-paraphrase ($M = 5.40$, $SD = 2.59$) and yes/no-paraphrase ($M = 4.77$, $SD = 2.59$) conditions did not differ, $F < 1$, and the mean number of accurate paraphrases in the no-paraphrasing control condition was approximately zero ($M = 0.08$, $SD = 0.28$) as per the protocol. Further, the mean number of inaccurate paraphrases in the expansion-paraphrase ($M = 1.93$, $SD = 1.03$) and yes/no-paraphrase ($M = 1.54$, $SD = 0.78$) conditions did not differ, $F < 1$, and there were no inaccurate paraphrases in the no-paraphrasing control condition ($M = 0.00$, $SD = 0.00$). No outliers were found for the number of accurate and inaccurate paraphrases and the proportion of accurate to inaccurate paraphrases was comparable for all participants. Facilitative utterances were rare and their number did not differ between conditions ($M_s < 1.00$), $F < 1$, *ns*.

Results

Does paraphrasing improve children's reports?

All children were asked two kinds of prompts (scripted and open-ended). As Hypothesis 1 predicted that interviews with paraphrasing would be longer and more detailed than interviews without paraphrasing, we first compared reports from children in all three conditions in response to the scripted and open-ended prompts. This analysis also allows us to test Hypothesis 2 (that expansion-paraphrasing would elicit longer and more detailed reports than yes/no paraphrasing).

In all analyses, the relevant scores were computed *per prompt* to control for the number of prompts in each interview. For example, the total number of words in response to open-ended prompts was divided by the number of open-ended prompts asked in that interview. Age (in months) was correlated with some but not all of the dependent variables. Analyses of covariance (ANCOVAs) controlling for age in months were run when age was correlated with one or more of the dependent variables in each analysis; otherwise analyses of variance (ANOVAs) were used. All significant findings using an ANOVA were maintained when age was covaried.

A 3 (condition: expansion-paraphrase, yes/no-paraphrase, no-paraphrase control) x 2 (prompt: scripted, open-ended) ANOVA was run on the number of *words* reported after each kind of prompt, using repeated measures on the latter variable. The means are presented in the top third of Table 2 but there were no significant effects, $F_s < 1.12$, $p_s > .54$, η_p^2 's $< .04$.

Responses from children in the control condition were as long as those from children in the two paraphrasing conditions.

(insert table 2 here)

Similarly, a 3 (condition: expansion-paraphrase, yes/no-paraphrase, no-paraphrase control) x 2 (prompt: scripted, open-ended) ANCOVA controlling for age in months on the number of *accurate details*, also revealed no main effects, $F_s < 1.18$, $p_s > .30$, η_p^2 's $< .07$. There

was a non-significant Condition x Prompt interaction, $F(2, 33) = 2.98, p = .098, \eta_p^2 = .12$. The means are presented in the middle third of Table 2.

A 3 (condition: expansion-paraphrase, yes/no-paraphrase, no-paraphrase control) x 2 (prompt: scripted, open-ended) ANOVA was run on the number of *inaccurate details*. There were no main effects, $F_s < 1.10, p_s > .35, \eta_p^2_s < .06$, but the analysis revealed a significant Condition x Prompt interaction, $F(2, 34) = 3.43, p < .05, \eta_p^2 = .17$. As can be seen in Figure 1, children in the yes/no paraphrasing condition responded to open-ended prompts with a greater number of inaccurate details than did children in the expansion-paraphrase (Cohen's $d = 0.64$) and no-paraphrase control (Cohen's $d = 0.66$) conditions. Although follow-up t -tests did not reveal any significant findings after applying a Bonferroni adjustment, the effect sizes were clearly of medium magnitude. The means are presented in the bottom third of Table 2.

(insert figure 1 here)

Comparing the two paraphrasing techniques

To further test Hypothesis 2 (that expansion-paraphrasing would elicit longer and more detailed reports than yes/no paraphrasing) and to test Hypothesis 3 (that accurate paraphrases would elicit longer and more detailed reports than inaccurate paraphrases), we directly compared responses in the two paraphrasing conditions. As paraphrasing was not used in the no-paraphrasing condition, these interviews were not included in these analyses.

A 2 (condition: expansion-paraphrase, yes/no-paraphrase) x 2 (prompt: accurate-paraphrase, inaccurate-paraphrase) ANOVA was run on the number of *words* following each kind of prompt, using repeated measures on the latter variable. An outlier was removed who provided almost 20 times as many words as the other children. There was no main effect of condition, $F < 1, ns, \eta_p^2 = .01$, but there was a significant Condition x Prompt interaction, $F(1,$

18) = 3.38, $p = .04$ (1-tailed), $\eta_p^2 = .16$. Children in the expansion-paraphrasing condition provided longer responses following accurate paraphrases than did children in the yes/no paraphrasing condition, $t(18) = 1.49$, $p = .035$ (Cohen's $d = 0.74$), but there were no group differences in response to the inaccurate paraphrases. The full set of means is presented in the top third of Table 3.

(insert table 3 here)

A 2 (condition: expansion-paraphrase, yes/no-paraphrase) x 2 (prompt: accurate-paraphrase, inaccurate-paraphrase) ANCOVA controlling for age in months on the number of *accurate details* revealed no significant main effects, $F_s < 1.40$, $p_s > .25$, η_p^2 s $< .06$, but there was a significant Condition x Prompt interaction, $F(1, 23) = 2.98$, $p < .05$ (1-tailed), $\eta_p^2 = .12$. As shown in Figure 2, children in the expansion-paraphrasing condition responded to accurate paraphrases with a greater number of accurate details than did children in the yes/no paraphrasing condition, $t(26) = 1.95$, $p < .05$, Cohen's $d = 0.77$. The full set of means is displayed in the middle third of Table 3.

(insert figure 2 here)

A 2 (condition: expansion-paraphrase, yes/no-paraphrase) x 2 (prompt: accurate-paraphrase, inaccurate-paraphrase) ANOVA on the number of *inaccurate details* revealed a significant main effect of condition, $F(1, 24) = 3.81$, $p = .03$ (1-tailed), $\eta_p^2 = .14$. Responses from children in the expansion-paraphrase condition contained a greater number of inaccurate details than did responses from those in the yes/no paraphrasing condition. The full set of means is in the bottom third of Table 3.

Discussion

Children are quite capable of providing accurate and meaningful information but their descriptions are often incomplete (Goodman & Reed, 1986). In response, paraphrasing is a relatively common technique used to improve the quality of children's reports (Roberts & Lamb, 1999; Evans et al., 2008; Hunt & Borgida, 1999). Despite its widespread use, the potential positive and negative effects of different styles of paraphrasing have not been elucidated. In the present study, the effects of paraphrasing on children's reports were compared to reports elicited without paraphrasing, and the effects of different types of paraphrasing were compared. To the best of our knowledge, this is the first systematic investigation of the effects of paraphrasing on children's reports.

In general, there was no evidence that paraphrasing *per se* elicited longer, richer, or more accurate reports of a staged event than did open-ended requests for expansion (e.g., "tell me more"). The style of paraphrasing, however, did have effects on children's reports. Specifically, expansion paraphrasing (when the paraphrase was faithful to children's words) elicited reports that were twice as long and contained six times the number of accurate details than did yes/no paraphrasing. Although children in the expansion-paraphrasing condition reported a small but significantly higher number of inaccurate details in response to paraphrasing than did their counterparts in the yes/no paraphrasing condition, they were not disproportionately inaccurate (all reports were 68-74% accurate). These results are consistent with previous research on child interviewing indicating that techniques used to increase recall often increase the number of both accurate and inaccurate details (e.g., Köhnken, Milne, Memon, & Bull, 1999; Roberts et al., 2004). Given that there were proportionally no differences in accuracy across conditions, it is arguably preferable to elicit longer and richer accounts that are predominantly accurate. Although a small number of errors about central details could have disastrous consequences, the

more information gained from child witnesses, the more opportunities there are to corroborate or refute their accounts and thus pursue a more effective investigation.²

Researchers have suggested that children glean interpersonal information during forensic interviews and that support given to children during such interviews improves children's reports (Davis & Bottoms, 2002; Fischer, 1980). Expansion-paraphrasing may be a superior paraphrasing technique because it conveys interest, rather than disbelief, and makes an explicit request for information. Children may be more motivated to provide further information because of the sincerity and interest shown by the interviewer as well as allowing the child to act as the expert and control the interview (McCauley & Fisher, 1995). Also, defining children as experts may help to convey the naïveté of interviewers, a concept that needs to be reinforced for children who are learning that adults do not always have access to the same knowledge as children (Welch-Ross, 1999).

In contrast, yes/no paraphrasing may have been perceived as challenging, suggesting that the interviewer did not believe their reports. Although care was taken to ensure that no interviewer was aggressive in tone, children may have responded to the yes/no paraphrases in a similar way to how they respond to yes/no questions. That is, the children may have 'closed down' following yes/no paraphrases resulting in few details or one-word answers, as typically occurs in response to yes/no questions (e.g., Hershkowitz, 2001; Roberts et al., 1999, Sternberg et al., 1997). Thus, it is likely in the present study that yes/no paraphrasing had a negative effect on rapport between children and interviewers, dissuading children from giving lengthy and accurate accounts.

The results raise several issues for future research. For example, the role of tone when paraphrasing could be studied. In the current study, interviewers used a non-aggressive and non-

skeptical interviewing style in all conditions to control for differences in tone. It was necessary, however, for the interviewers to use intonation to convert paraphrases to yes/no questions in the yes/no paraphrasing condition while this intonation was intentionally absent in the expansion-paraphrasing condition. It is possible that yes/no paraphrases that are also delivered with an aggressive or confrontational tone have a different effect on children's willingness to disclose further information than yes/no paraphrases delivered in a non-aggressive style.

Although expansion paraphrasing was a superior technique compared to yes/no paraphrasing, it is unclear whether the style of paraphrasing in the expansion-paraphrasing condition or the explicit request for expansion (e.g., "tell me more") improved children's reports. A third possibility is that the combination of paraphrasing with a request for expansion was responsible for the effects. Future studies are required to break down these possibilities.

Although the present study focused on young informants, it would be interesting in future studies to assess whether there are developmental differences in children's responses to paraphrasing. Perhaps younger children are more likely to report information than older children when paraphrasing is used, or perhaps there are more socio-emotional benefits for younger children than for older children. This is an important next step for research on the use of paraphrasing in forensic interviews.

These results have implications for forensic investigators who interview alleged child victims. There was no evidence that paraphrasing *per se* was beneficial in enhancing children's reports above and beyond open-ended prompts. However, expansion paraphrasing in general, in the absence of misphrasing, was successful in eliciting accurate and detailed reports from children and can be a useful technique for forensic interviewers. As mentioned earlier, paraphrasing may prevent interviewers from intruding too quickly with their own interpretations,

allowing the child to lead the interview and ‘buying’ the interviewer more time to formulate their follow-up questions. However, if paraphrasing is relied on as an investigative technique, care should be taken to: a) combine the paraphrase with an open-ended prompt that explicitly requests further information (as in the NICHD Structured Interview Protocol, Orbach et al., 2000); b) take care to paraphrase accurately (cf. Roberts & Lamb, 1999); and c) avoid the use of yes/no paraphrasing. Future research is necessary to explore how paraphrasing affects children’s reports of events that children are less willing to disclose, and whether paraphrasing has any benefits on the socio-emotional aspects of interviews. If paraphrasing reduces negative feelings when disclosing traumatic events, this would be a laudable goal even in the absence of any increases in the length or accuracy of disclosures.

In sum, it is clear that further research on the costs and benefits of paraphrasing would be informative. For now, the results suggest that yes/no paraphrasing should be avoided. When paraphrasing is used, it should be combined with open-ended, explicit requests for expansion to allow children to provide the most informative accounts of their experiences. Further research may reveal other ways of using paraphrasing to empower child witnesses in the justice system.

REFERENCES

- Alexander, K. W., Goodman, G. S., Schaaf, J. M., Edelstein, R. S., Quas, J. A., & Shaver, P. R. (2002). The role of attachment and cognitive inhibition in children's memory and suggestibility for a stressful event. *Journal of Experimental Child Psychology*, 83, 262-290.
- Davis, S.L., & Bottoms, B.L. (2002). The Effects of social support on children's eyewitness reports: A Test of the underlying mechanism. *Law and Human Behavior*, 26, 185-215.
- Evans, A. D., Roberts, K. P., Price, H. L., & Stefek, C. (March, 2008). *The use of paraphrasing in investigative interviews*. Paper presented at the biennial meeting of the American Psychology and Law Society, Jacksonville, FL.
- Fisher, K. W. (1980). A theory of cognitive development: The control and construction of hierarchies of skills. *Psychological Review*, 87, 477-531.
- Fisher, R.P., & Geiselman, R.E. (1992). *Memory-enhancing techniques for investigative interviewing: The Cognitive Interview*. Springfield, IL: Thomas.
- Eisen, M., Qin, J., Goodman, G. S., & Davis, S. (2002). Memory and suggestibility in maltreated children: Age, stress, arousal, dissociation, and psychopathology. *Journal of Experimental Child Psychology*, 83, 167-2112.
- Gilstrap, L.L., & Papierno, P. B. (2004). Is the cart pushing the horse? The effects of child characteristics on children's and adults' interview behaviors. *Applied Cognitive Science*, 18, 1059-1078.
- Gleason, J. B. (1977). Code switching in children's language. In E. M. Hetherington & R. D. Parke (Eds.), *Contemporary readings in child psychology* (pp. 138-143). New York, NY: McGraw Hill.

- Goodman G.S., & Reed, D.S. (1986). Age differences in eyewitness testimony. *Law and Human Behavior, 10*, 317-322.
- Hershkowitz, I. (2001). Children's responses to open-ended utterances in investigative interviews. *Legal and Criminological Psychology, 6*, 49-63.
- Hunt, J.S., & Borgida, E. (2001). Is that what I said? Witnesses' responses to interviewer modifications. *Law and Human Behavior, 25*, 583-603.
- Krähenbühl, S., & Blades, M. (2006). The effect of interviewing techniques on young children's responses to questions. *Child: Care, Health and Development, 32*, 321-331.
- Köhnken, G., Milne, R., Memon, A., Bull, R. (1999). The cognitive interview: A meta-analysis. *Psychology, Crime & Law, 5*, 3-27.
- Lamb, M. E., Sternberg, K. J., & Esplin, P. W. (1994). Factors influencing the reliability and validity of statements made by young victims of sexual maltreatment. *Journal of Applied Developmental Psychology, 15*, 255-280.
- McCauley, M.R., & Fisher, R.P. (1995a). Facilitating children's eyewitness recall with the revised cognitive interview. *Journal of Applied Psychology, 80*, 510-516.
- McCauley, M.R., & Fisher, R.P. (1995b). Enhancing children's eyewitness testimony with the Cognitive Interview. In G. Davies, S. Lloyd-Bostock, M. McMurrin, & C. Wilson (Eds.). *Psychology, Law, and Criminal Justice: International Developments in Research and Practice* (pp. 127-134). Walter de Gruyter: Oxford, UK.
- Melinder, A., Scullin, M. H., Gunnerod, V., & Nyborg, E. (2005). Generalizability of a two factor measure of young children's suggestibility in Norway and the USA. *Psychology, Crime & Law, 11*, 123-145.
- Myers, J.E.B. (1992). *Evidence in child abuse and neglect cases*. New York: Wiley.

- Newcombe, P. A., & Siegal, M. (1997). Explicitly questioning the nature of suggestibility in preschoolers' memory and retention. *Journal of Experimental Child Psychology*, 67, 185-203.
- Orbach, Y., Hershkowitz, I., Lamb, M.E., Sternberg, K.J., Esplin, P.W., & Horowitz, D. (2000). Assessing the value of structured protocols for forensic interviews of alleged child abuse victims. *Child Abuse & Neglect*, 24, 733-752.
- Poole D. A., & Lamb, M. E. (1998). *Investigative interviews of children: A guide for helping professionals*. Washington, DC, American Psychological Association.
- Poole, D.A., & White, L.T. (1991). Effects of question repetition on the eyewitness testimony of children and adults. *Developmental Psychology*, 27, 975-986.
- Quas, J. A. & Schaaf, J. M. (2002). Children's memories of experienced and nonexperienced events following repeated interviews. *Journal of Experimental Child Psychology*, 83, 304-338.
- Roberts, K.P., Berkel, C., Patel, K.K., & Surrine, N.S. (2001, April). *The effects of interviewer style on children's reports of a staged event*. Poster presented to the biennial meeting of the Society for Research in Child Development, Minneapolis, MN.
- Roberts, K. P., Lamb, M. E., & Sternberg, K. J. (1999). Effects of timing of postevent information on preschoolers' memory of an event. *Applied Cognitive Psychology*, 13, 541-559.
- Roberts, K.P., Lamb, M.E., & Sternberg, K.J. (2004). The effects of rapport-building style on children's reports of a staged event. *Applied Cognitive Psychology*, 18, 189-202.
- Roberts, K.P., & Lamb, M.E. (1999). Children's responses when interviewers distort details during investigative interviews. *Legal and Criminological Psychology*, 4, 23-31.

- Saywitz, K.J., & Snyder, L. (1996). Narrative Elaboration: test of a new procedure for interviewing children. *Journal of Consulting and Clinical Psychology, 64*, 1347-1357.
- Siegal, M. (1991). Concerns for the conversational environment: Questioning children in custody disputes. *Professional Psychology: Research and Practice, 22*, 473-478.
- Siegal, M. (1996). Conversation and cognition. In R. Gelman & T. Kit-Fong (Eds.). *Perceptual and cognitive development* . (pp. 243-282). San Diego, CA: Academic Press.
- Sternberg, K.J., Lamb, M.E., Hershkowitz, I., Esplin, P. W., Redlich, A., & Sunshine, N. (1996). The relation between investigative utterance types and the informativeness of child witnesses. *Journal of Applied Developmental Psychology, 17*, 439-451.
- Sternberg, K.J., Lamb, M.E., Hershkowitz, I., Yudilevitch, L., Orbach, Y., Esplin, P. W., & Hovav, M. (1997). Effects of introductory style on children's abilities to describe experiences of sexual abuse. *Child Abuse & Neglect, 21*, 1133-1146.
- Sternberg, K.J., Lamb, M.E., Orbach, Y., Esplin, P.W., & Mitchell, K.J. (2001). Use of a structured investigative protocol enhances young children's responses to free-recall prompts in the course of forensic interviews. *Journal of Applied Psychology, 86*, 997-1005.
- Thoresen, C., Lonnum, K., Melinder, A., Stridbeck, U., & Magnussen, S. (2006). Theory and practice in interviewing young children: A study of Norwegian police interviews 1985-2002. *Psychology, Crime & Law, 12*, 629-640.
- Tobey, A. E., & Goodman, G. S. (1992). Children's eyewitness memory: Effects of participation and forensic contact. *Child Abuse & Neglect, 16*, 779-796.

- Turnbull, O. H., Evans, C. E. Y., Bruce, A., Carzolio, B., & O'Connor, J. (2005). Emotion based learning and central executive resources: An investigation of intuition and the Iowa Gambling Task. *Brain and Cognition, 57*, 244-247.
- Wakefield, H., & Underwager, R. (1989). Evaluating the child witness in sexual abuse cases: Interview or inquisition? *American Journal of Forensic Psychology, 7*, 43-69.
- Welch-Ross, M.K. (1999). Interviewer knowledge and preschooler's reasoning about knowledge states moderate suggestibility. *Cognitive Development, 14*, 1-20.
- Wilson, J. C. & Powell, M. (2001). *A guide to interviewing children: Essential skills for counselors, police, lawyers and social workers*. New York, NY: Routledge/Taylor & Francis Group.
- Zajac, R. & Hayne, H. (2003). I don't think that's what really happened: The effects of cross-examination on the accuracy of children's reports. *Journal of Experimental Psychology: Applied, 9*, 187-195.

FOOTNOTES

¹ Five interviews from each paraphrasing condition, in each study, were independently coded for interviewer aggressiveness (on a scale of 1 to 5) and challenging tone (on a scale of 1 to 5). In general, interviewers were considered to be very low in aggression (Experiment 1: $M_s = 1.04$, 1.044 , $SD_s = 0.04$, 0.05 , for the yes/no-paraphrasing and expansion-paraphrasing condition, respectively; Experiment 2: $M_s = 1.25$, 1.30 , $SD_s = 0.10$, 0.20 , for the expansion-paraphrasing and paraphrasing-only condition, respectively) and challenging tone (Experiment 1: $M_s = 1.03$, 1.04 , $SD_s = 0.04$, for the yes/no-paraphrasing and expansion-paraphrasing condition, respectively; Experiment 2: $M_s = 1.23$, 1.18 , $SD_s = .20$, $.12$, for the expansion-paraphrasing and paraphrasing-only condition, respectively). Thus, there were no differences across condition, $t_s < .50$, all *ns*.

² The finding that children provided fewer inaccurate details after yes/no paraphrases than expansion paraphrases could also be explained by a ‘yes bias’. Some researchers have noted that children’s tendency to reply with a yes bias may increase children’s accuracy to yes/no questions if the correct response is ‘yes’ (Peterson, Dowden, & Tobin, 1999; Steffensen, 1978). Given that in the present study children’s responses were for the most part accurately paraphrased, the correct response to yes/no paraphrases would indeed be “yes”. Thus, a yes bias may help explain why children’s responses contained a greater number of inaccurate details after expansion paraphrases than yes/no paraphrases. Since children in the yes/no paraphrasing condition were likely to give a simple “yes” response (which would most often be coded as accurate) while children in the expansion paraphrase condition gave additional details (which could be coded as accurate or inaccurate), children in the expansion paraphrase condition provided both more accurate and inaccurate details.

Table 1

Examples of prompts used in each condition.

Type of Prompt	Condition		
	No-paraphrasing (control)	Yes/No Paraphrasing	Expansion Paraphrasing
<i>Scripted</i> : Sometimes we remember a lot about how things sound. Tell me everything you heard....	X	X	X
<i>Open-ended</i> : Tell me more, What else happened?	X	X	X
<i>Accurate Paraphrase*</i> : Child says “I dressed up”		X “You dressed up?”	X “You dressed up. Tell me more”
<i>Inaccurate Paraphrase*</i> : Child says “It was black”		X “It was brown?”	X “It was brown. Tell me more”

Note. *There were no differences in the overall number of prompts per condition.

Table 2

Mean responses (and standard deviations) per scripted and open-ended prompts.

Condition	Type of prompt		
	Scripted	Open-ended	Total
Number of words			
Expansion-paraphrase	12.41 (10.64)	13.42 (12.65)	12.91 (11.65)
Yes/no-paraphrase	9.33 (7.85)	8.68 (6.59)	9.01 (7.22)
No-paraphrase control	10.49 (8.88)	10.42 (10.48)	10.46 (9.68)
Total	10.65 (8.94)	10.70 (9.96)	10.68 (9.45)
Number of accurate details			
Expansion-paraphrase	2.29 (3.05)	2.75 (6.51)	2.52 (4.78)
Yes/no-paraphrase	2.42 (3.87)	1.20 (1.65)	1.81 (2.76)
No-paraphrase control	3.84 (5.58)	1.45 (1.93)	2.65 (3.76)
Total	2.88 (4.41)	1.75 (3.79)	2.32 (4.10)
Number of inaccurate details			
Expansion-paraphrase	0.64 (1.66)	0.09 (0.30) ^a	0.37 (0.98)
Yes/no-paraphrase	0.51 (1.28)	1.40 (2.88) ^{a,b}	0.96 (2.08)
No-paraphrase control	0.38 (0.69)	0.10 (0.20) ^b	0.24 (0.45)
Total	0.50 (1.22)	0.55 (1.79)	0.53 (1.51)

Notes. Means sharing the same superscript differed significantly, $p < .05$.

Table 3

Mean responses (and standard deviations) per paraphrases.

Condition	Type of prompt		
	Accurate Paraphrase	Inaccurate Paraphrase	Total
	Number of words		
Expansion-paraphrase	10.08 (10.12) ^a	4.73 (4.56)	7.41 (7.34)
Yes/no-paraphrase	4.23 (2.51) ^a	7.90 (11.35)	6.07 (6.93)
Total	8.03 (8.66)	5.84 (7.50)	6.07 (8.08)
	Number of accurate details		
Expansion-paraphrase	1.89 (2.56) ^b	1.02 (1.98)	1.46 (2.27)
Yes/no-paraphrase	0.29 (0.74) ^b	0.46 (1.05)	0.38 (0.90)
Total	1.21 (2.12)	0.78 (1.64)	1.00 (1.88)
	Number of inaccurate details		
Expansion-paraphrase	0.46 (0.87)	0.07 (0.20)	0.27 (0.54) ^c
Yes/no-paraphrase	0.02 (0.07)	0.00 (0.00)	0.01 (0.04) ^c
Total	0.27 (0.69)	0.04 (0.15)	0.16 (0.42)

Notes. Means sharing the same superscript differed significantly, $p < .05$.

FIGURE CAPTIONS

Figure 1. Mean number of inaccurate details reported in response to scripted and open-ended prompts by condition

Figure 2. Mean number of accurate details reported in response to accurate and inaccurate paraphrases by paraphrasing conditions .

Figure 1.

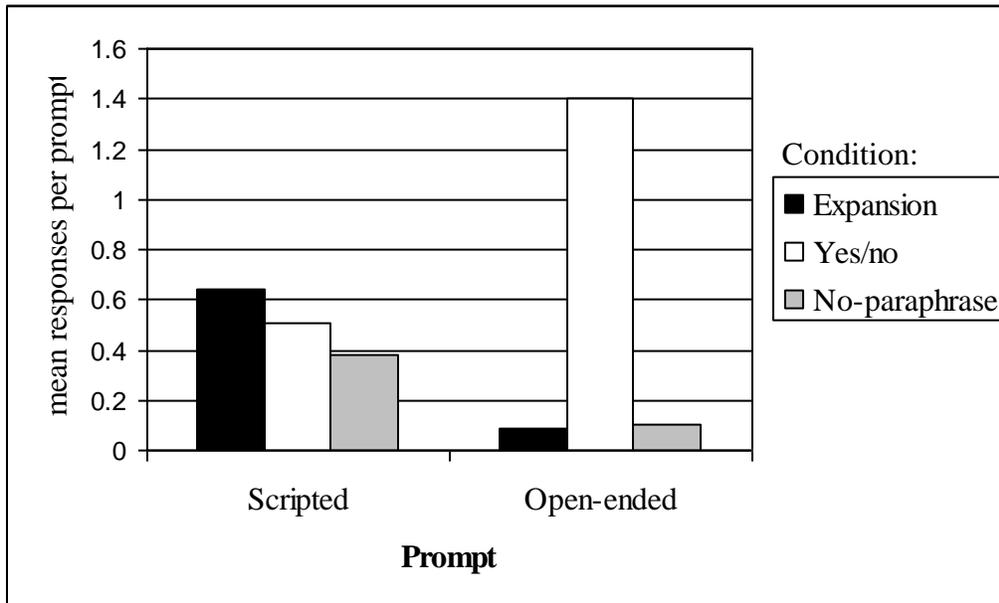


Figure 2.

