

Exploring the Role of Parental Hearsay when Children Witness a Crime

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Approval

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Abstract

In cases of potential child abuse, parents may provide hearsay testimony on behalf of a child, retelling events from the child's perspective. However, according to the limited research that exists, parents may have a negative impact on their child's memory of an event (Principe, DiPuppo, & Gammel, 2013). In order to gain a better understanding of parental hearsay, parents' descriptions of information children provided in recorded parent-child discussions were compared to the actual information the children provided in the initial discussion and in a 1-week follow-up interview. Children interviewed by parents were also compared to children interviewed by a trained interviewer. To date, 11 children between the ages of 6-9 years have been assessed. While the current sample size was too small to yield many significant results, graphs and effect sizes suggest there are differences in memory accuracy and completeness between parents and children and across children's interview condition. Whether hearsay testimony or children's testimony is preferable may depend on how suggestive the initial parent-child discussion is.

Exploring the Role of Parental Hearsay when Children witness a Crime

With suspected incidents of child abuse, parents tend to be the first to question their child concerning the potential abuse (Goodman, 2006). As the number of such incidents presented in front of the courts continues to increase, legal changes have been put in place in order to allow hearsay testimony on behalf of child witnesses (Bruck, Ceci & Francoeur, 1999). This means that under certain circumstances parents and guardians may testify on behalf of a child, retelling the child's account of an event based upon the original discussion of the event the parent had with the child. Research has demonstrated that children's memory is more fragile than adults' memory, in that children are more likely to forget important aspects of an event and are more prone to accept suggested details as having actually occurred (Ceci & Bruck, 1993). While there is an abundance of research that exists acknowledging the limitations of children's memory, there exists little research concerning the reliability of hearsay testimony. In particular, hearsay testimony has yet to be thoroughly compared to children's testimony to determine whether or not parents are in fact able to provide more complete and accurate accounts of an event than a child witness.

When children provide accounts of an event, the goal is to ensure that the results are complete and accurate. Completeness is generally defined as a child providing as much information about an event as he/she can possibly remember (Quin, Quas, Redlich, & Goodman, 1997). Oftentimes, in order to ensure that a child's memory is complete, researchers must ask children questions that can lead the child to make mistakes in his/her recall (Ceci & Bruck, 1995). Obviously this is problematic because showing that a child has made mistakes in recalling information can lead individuals who are

evaluating the child's recall to assume the child's account is not credible. The goal then is to strike a balance between obtaining as complete a report as possible from a child without interfering with the child's accuracy (Bruck et al., 1999).

The worry with parental hearsay then is whether the parent has obtained as complete a report as possible from the child, whether parent questioning styles cause children to remember less information and/or less accurate information that will subsequently be carried over into parents' accounts, and finally whether parents are able to recall everything the child has told them. The few studies that have assessed parent-child discussion suggest that parents may have a negative impact on their child's later memory for specific events and that this may be a result of poor questioning techniques on the part of the parent (e.g., Principe, DiPuppo & Gammel, 2013; Warren & Peterson, 2014). Therefore, when assessing the effectiveness and accuracy of parental hearsay testimony, parents questioning styles should be considered. To date no known study has directly compared children's recall to parental hearsay, very few studies have assessed the completeness of the reports children provide to a parent, and only one study has assessed what information parents provide in recalling an account of an event that was described to them by their child (Bruck et al., 1999; Poole & Lindsay, 1995; Principe et al., 2013; Warren & Peterson, 2014). It is difficult then to get a true sense of just how effective hearsay testimony would be.

Accuracy of Children's Memory

In research assessing how children are questioned about an event, questions are typically categorized as being either free recall (simply asking a child what he/she remembers, e.g., what happened in the video?), open-ended (asking a child about

something but not really giving any indication of the answer you are expecting to hear, e.g., what happened at the park?) or direct questions (asking a child a question that acknowledges the information you want to hear, e.g., what was the man wearing?). In terms of accuracy, much of the research conducted concerning interview questions suggests that children give more accurate descriptions of past events when prompted with free recall questions as opposed to specific questions (Bruck et al., 1999). That is, a child responds more accurately when asked to recount everything he/she can remember regarding a specific event versus when asked about a specific detail. This was demonstrated by Peterson and Bell (1996) as they found that children who had been prompted with direct questions only showed an accuracy rate of 45%, much lower than the 91% accuracy rate shown by children responding to free-recall questions. Free-recall questions produce more accurate responses among children as this type of question limits the suggestion placed upon the child, something direct questions fail to do. However, children often omit important information when prompted solely with free-recall questions, meaning direct questions are sometimes needed to encourage children to give a more complete account of their memory for a specific event (Ceci & Bruck, 1995). The issue then becomes whether direct questions are being posed by parents, and whether these questions jeopardize the accuracy of children's responses and ultimately any hearsay testimony based on the children's responses (Bruck et al., 1999).

Research has consistently shown that children are more suggestible than adults, meaning that when they are provided with suggestions they are more likely to incorporate these suggestions into their memory of an event, potentially influencing the reliability of hearsay testimony (Ceci & Bruck, 1993; Pathak & Thompson, 1999). Two cases in

particular that have made waves in the field of child suggestibility are the McMartin Preschool Case and the Wee Care Nursery Case, both of which involved hundreds of supposed accounts of sexual abuse by daycare staff and both of which received international media coverage in what many call the “daycare abuse outbreak” (Schreiber et al., 2006).

In the McMartin Preschool Case, teachers were accused of not only sexually abusing hundreds of children over the span of a decade but also involving these children in satanic rituals and exposing them to the torture of animals (Howe & Knott, 2015). Similarly, in the Wee Care Nursery case, a staff member, Kelly Michaels, was accused of sexually abusing 20 children (Howe & Knott, 2015). Both of these cases were eventually thrown out as it was shown that the manner with which the children were questioned was so problematic that the actual accuracy of what happened was impossible to determine. Studies that have since been conducted analyzing the interviewing techniques that were used by the interviewers involved in these cases have confirmed that it was their heavy reliance upon suggestive questioning that invited speculation on behalf of the children (Garven, Wood, Malpass & Shaw, 2000; Wood et al., 1997).

While many of the false allegations in these cases resulted from poor interviewing techniques and suggestion, it has been speculated that parental questioning perhaps played a role in influencing the accuracy of children’s memory (Wood, Nathan, Nezworski, & Uhl, 2009). After being informed of potential allegations of sexual abuse, there is no doubt that many, if not all parents involved in both the McMartin Preschool Case and the Wee Care Nursery Case, questioned their children regarding the potential abuse. These parent-child conversations may have proven to be important in regards to

determining the effects parents have on children's memory and ultimately on the accuracy of the information parents obtain from their children. However, there was no way of directly assessing the parent-child discussions in the same way that researchers were able to assess the interviews that had been carried out with children by investigators.

Many studies have since recognized the role that parents may play in influencing children's memory, and a number of studies have been completed to assess the possibility that parents may be a source of misinformation for children (e.g., Poole & Lindsay, 1995; Principe et al., 2013). A study by Poole and Lindsay (1995) was the first to specifically explore this. The children involved in this study experienced a one-on-one interactive demonstration with a confederate, 'Mr. Science', with half of the participants being questioned using open-ended non-suggestive questions, and the other half being provided with misinformation and being interviewed in a much more suggestive manner (Poole & Lindsay, 1995). The misinformation came from a book that parents read to their children in the days before their interview that was similar but not identical to the event children had experienced. The results suggested that children in the first condition reported limited false information during their interview, confirming children's abilities to provide interviewers with accurate accounts when suggestibility and question types are controlled (Poole & Lindsay, 1995). However, reports provided by children in the second condition were highly inaccurate and responses were heavily influenced by the book parents had read and by suggestive questions about the event (Poole & Lindsay, 1995).

More recently, Principe et al. (2013) looked at the effects that misinformed mothers had on children's memory of a magic show that the mothers did not attend.

Mothers were misinformed in the sense that they were provided with false information regarding the magic show their son/daughter had watched (Principe et al., 2013). As with Poole and Lindsay's (1995) study, the results suggested that mothers may be a source of memory error as children of misinformed mothers were more likely to recall false information when compared to children of mothers who were not given any misinformation (Principe et al., 2013).

It is evident that parents are able to influence their children's memory. However, research on source misattribution does not really provide researchers with a clear picture of reality, especially when parents are being explicitly provided with the misinformation. It is important then to determine not just what happens when parents are provided with misinformation but what happens when parents simply question their children about an event their child has witnessed or experienced in their absence. Warren and Peterson (2014) attempted to assess this by having children watch a video of a theft prior to being interviewed by their parents. Results of the study suggested that parents tend to ask more direct questions as opposed to open ended questions. Results also showed that while only 28% of parents used direct questions that included suggestive information when discussing the nature of the video with their children, 39% of the incorrect suggestions made by parents were incorporated into children's recall of the video (Warren & Peterson, 2014). In this circumstance it seems plausible then that parents would have provided incorrect accounts of what their child had seen if asked to give a hearsay account, however, this possibility was not explored.

Accuracy of Hearsay Testimony

While in theory, hearsay testimony provides a viable alternative to placing young children on the stand, in actuality as suggested by the previously discussed research, hearsay testimony may be less reliable than testimony given directly by a victim (Kehn, Gray, & Nunez, 2007). When contemplating the reliability of hearsay testimony, one must consider not only the accuracy and completeness of children's accounts, but just as importantly, how accurately and completely children's accounts are being presented through hearsay testimony (Warren & Woodall, 1999). Although research is sparse within this domain, results of such research have been fairly consistent, suggesting that hearsay accounts are of lesser quality in terms of accuracy and completeness, when compared to child witness' accounts (Bruck et al., 1999; Pathak & Thompson, 1999; Warren & Woodall, 1999).

Demonstrating this, a study conducted by Warren and Woodall (1999) had children experience either a magic show or a doctor's visit, both of which were carried out by confederates. These children were then paired with an unknown adult (interviewer) who was given limited instructions in terms of how to question the child. The adults were later asked to provide verbatim accounts of the entire interview, including the questions that were posed, as well as the children's responses. The researchers' analysis of adults' recollections of the interviews revealed that in comparison to the 2.37 details reported by children, adults reported an average of 2.04 details during an audiotaped interview, and 2.00 details in a written analysis. Some adult participants were even incorporating incorrect details that had not been mentioned by the children (Warren & Woodall, 1999). Similar results were obtained by Pathak and

Thompson (1999) who found that hearsay accounts (again carried out with strangers as interviewers, not parents) were a degraded version of the child's original account, regardless of whether the child had been questioned in a neutral or a suggestive manner.

Unlike the previously mentioned studies which used strangers, a study conducted by Bruck et al. (1999) assessed mothers' hearsay accounts. The findings suggested that mothers were good at recalling the gist of the situation but not at recalling specific verbatim details (Bruck et al., 1999). While the mothers in this study did not make a great deal of errors when providing their hearsay accounts, they were only able to correctly remember 16% of the questions they had asked their children and they were unable to provide a complete and accurate representation of the structure of the conversations they had with their children (Bruck et al., 1999). Failure to accurately recall the structure of the interview can be equally as problematic as failing to recall details expressed by children since it is important to know how the information was obtained, for example, via open-ended questions versus leading questions.

In the only other known assessment of what parents recall from children's accounts of an event, Korkman, Laajasalo, Juusola, Uusivuori and Santtila (2015), had parents watch a conversation between a mother and a child with the intention of analyzing how well parents were able to judge what the child told the mother and how this information was elicited. Only 37% of the information recalled by the parents viewing the video was information that was spontaneously recalled by the child (Korkman et al., 2015). The majority of parents who viewed the video tended to recall information that had been suggested by the mother during the parent-child discussion (Korkman et al., 2015). The parents viewing the video were more accurate in their recall

of who said what in the conversation if parents were asking direct questions as opposed to open-ended questions (Korkman et al., 2015). An earlier study by Korkman et al. (2014) had similar findings, suggesting that adults tended to report prompted information as if it were spontaneous. As previously indicated, it is important that both the content of the conversation and the structure of it be recalled.

By combining results from the various studies, it seems as though parents ask more specific questions than open-ended questions and this may be explained by the fact that parents seem to have a better sense of what is happening when direct questions are used. However, as has been shown, it may be that the information parents are being provided with is incorrect as children have a tendency to provide more inaccurate information to direct questions than they do to open-ended questions (Bruck et al., 1999; Peterson & Bell, 1996). Without a direct comparison of children's accounts and parental hearsay accounts, it is impossible to determine which is more complete and more accurate.

Jurors Reactions to Hearsay Testimony

Beyond the accuracy and completeness of hearsay testimony, a separate consideration that must be taken into account when evaluating hearsay testimony is jurors' perceptions. Some suggest that the use of hearsay testimony in itself may negatively impact jurors' impressions of the defendant (Ross, Lindsay, & Marsil, 1999). By implying that children are either too traumatized or frightened of the defendant to testify in court, this may taint the jurors' perceptions of the defendant even prior to hearing any testimony (Ross et al., 1999). Additionally, research suggests that children's eyewitness testimony may be more important in regards to reaching a verdict than

hearsay testimony is (Myers, Redlich, Goodman, Prizmich, & Imwinkelried, 1999). This was supported in a study conducted by Ross et al. (1999) as they found that mock jurors were more likely to convict a defendant based on a child's testimony rather than hearsay testimony. Participants in the same study rated child witnesses as more credible in terms of their general impression, their believability, and their accuracy (Ross et al., 1999). However, research regarding jurors' perceptions of hearsay testimony has not been consistent, as other studies have found that mock jurors actually rate adults' hearsay testimony as more accurate and credible than testimony given by a child witness (Warren, Nunez, Keeney, Buck, & Smith, 2002).

Jurors' perceptions can also be influenced by the perceived quality of child interviews (Buck, Warren, & Brigham, 2004). When comparing mock jurors' reactions to children's eyewitness testimony with their reactions to hearsay testimony, findings suggested that when jurors perceived child-interview quality to be poor, there were fewer convictions with the children's testimony than with the hearsay testimony (Bruck et al., 2004). However, when interview quality was perceived as good there was little to no difference in conviction rates between child testimony and hearsay testimony (Bruck et al., 2004). This being said, what mock jurors were considering to be a "good" interview was by no means a perfect interview, as interviewers relied strongly upon both direct and suggestive questions (Bruck et al., 2004).

Given the mixed reactions on the part of jurors with respect to the believability of hearsay testimony and that this is sometimes judged on the perceived quality of the interview with a child, it is important to know how good hearsay testimony is. If parents' recall is more accurate, jurors could be educated as to the suitability of parent hearsay in

cases involving a child. Alternatively, if parent hearsay is less complete and accurate than a child's account, this is something that needs to be considered in evaluating the information parents provide.

The Present Study

While there has been a progressive interest within the domain of hearsay testimony, the majority of studies that have been conducted thus far have failed to create a situation where parents question their children and where parent reports are compared to children's reports. Therefore, the purpose of the present study was to compare the accuracy and completeness of children's recall with that of parental hearsay. Parent interviews were also assessed for the types of questions asked, open-ended versus direct. It was hypothesized that children would provide more accurate and complete accounts than the hearsay provided by parents, and secondly, that parents/guardians would rely upon direct questions as opposed to open-ended questions when questioning their children.

Method

Participants

The current study was comprised of 11 children between the ages of 6-9 years of age (5 girls, 6 boys), and 6 parent participants, all of whom were female. Both parent and child participants were recruited through a local primary school. The participation of all individuals was voluntary and both parent consent and child assent were obtained prior to child and adult participation.

Materials

The video that was used is a portion of a YouTube video. The video depicts a social experiment conducted by a YouTube star under the account name Joey Salads. Permission to use the video for the purposes of this study was obtained. In the video a male stranger approaches a female child at a park. Using a puppy, the stranger initiates a conversation with the young child, asking her if she likes the puppy. Once she shows interest, the man in the video offers to show her some more puppies and she is lured away with the man and the dog.

Procedure

For the purposes of this study, permission to recruit parents and children was obtained from the principal and teachers of a local school. Once permission was obtained, parent letters were handed out to students at the school, targeting those between the ages of 5 and 9 years. To ensure the letter did not influence parents' questioning, but at the same time gave parents sufficient information as to decide whether to permit their child to participate, a number of possible options for what the video might contain were given to parents rather than telling them exactly what was on the video. Parents who returned

completed consent forms to teachers were then contacted to set up a time and location to carry out the study. The time and location were determined such that they were convenient for the participants.

Each parent-child dyad participated individually. On the day of the study, parents and/or guardians were given an informed consent form detailing what was required of the parents that they were required to read, sign, and date prior to returning it to the researcher. Child assent was also obtained prior to beginning the study. Children were placed in a room with an interviewer where they were instructed to watch the brief video. After the video, depending on their experimental condition, children were either questioned by their parent/guardian or by an unknown female interviewer. If the parent asked the child the questions, an interviewer then questioned the parent or guardian about what the child had told him/her. During this time, a second interviewer took the child into a separate room and discussed the nature of the video with the child, explaining to the child that the video was not real, and discussing the importance of never going with a stranger. This second interviewer also provided children with a “stranger danger” handout and a coloring sheet that the researcher completed with the child as they waited for the parent or guardian to finish her interview. One week later, children were once again questioned regarding the video they saw the previous week, this time by a different interviewer using a semi-structured interview (See Appendix A). All interviews were audio-recorded, transcribed, and evaluated based on specific coding procedures. Upon completion of the study, parents or guardians were given a debriefing form and were informed that if they were interested in obtaining the results, they could do so after May 2016.

Coding

To develop a coding scheme for the study, the video was watched repeatedly by four individuals, each of whom recorded all of the details they saw present in the video. Each individual watched the video as many times as necessary in order to ensure that any information provided by the children could be clearly identified as being part of the video or not. The video was broken down into four separate categories, looking specifically at details of the setting, the actions that took place, a description of the man's appearance, and a description of the young girl's appearance (see Appendix B for coding outline).

Due to the fact that each separate category (setting, actions, girl, man) of information had a different numbers of details that could potentially be recalled, the proportion of information provided was used (i.e., a completeness score) to compare recall across parents and children and across categories of information, rather than the number of details provided. In order to calculate the completeness score, the total number of descriptors in each category that a child/parent provided were summed to get a total number of descriptors. The number of descriptors reported was then divided by the total number of descriptors that could have been potentially and reasonably recalled. There were a total of 12 descriptors for the setting, 8 descriptors of the actions, 8 descriptors for the man, and 9 descriptors of the young girl; thus a total of 37 descriptors. To calculate proportion accuracy scores, the number of correct details participants provided for each category of information and overall, was divided by the number of details the participants provided in each category respectively.

Parents' questions were also assessed to determine the type of questions they asked during the parent-child interview. Specifically, conversations were assessed to

determine the number of open-ended questions and direct prompts parents used. Any questions that provided children with the opportunity to restate everything they could remember (e.g., what did you see in the video?) were considered open-ended questions. Any questions that contained specific information or were suggestive were considered specific questions (e.g., what colour was the dog?).

Results

Parents' and children's interviews were compared to determine differences in the completeness and accuracy of recall. This involved comparing overall recall and recall for each category of information. Additionally, comparisons were made to determine whether certain categories of information were better recalled than others and whether this differed according to whether the interview was completed by a child or a parent. Results are organized by completeness and accuracy of recall, as well as, a brief mention of the content of parents' questioning. Bonferroni correction was used in all analyses that involved multiple comparisons.

Completeness of Children's and Parents' Descriptions

Figure 1 shows the completeness of children's recall in the initial and follow-up interviews compared to the parents' recall. A repeated measures analysis of variance was used to compare the completeness of participants' memory across the three interview conditions (initial child interview, parent-interview, child follow-up interview). For the purposes of this analysis only children who had initially been interviewed by their parents were included. There was a significant difference in overall completeness across interviews, $F(2, 10) = 9.36, p = .005, \eta_p^2 = .65$. Pairwise comparisons were completed and revealed that children had significantly higher overall completeness scores in the child follow-up interview than parents did in the parent-interview (mean difference = 0.15, $p < .001$, 95% CI [0.11, 0.19]). There was no difference in overall completeness scores between the initial child interview and the parent-interview or between the initial child interview and the child follow-up interview. See Table 1 for descriptive statistics.

A series of repeated measures analyses of variance was then completed to determine differences in the completeness of recall across interviews for each category of information. As with the overall analysis, for the purposes of these analyses only children who had initially been interviewed by their parents were included. The results are provided separately in the sections that follow.

Actions. When comparing the completeness of participants' memory for actions across all three interviews, there was no significant effect of interview, $F(2, 10) = 3.29, p = .080, \eta_p^2 = .40$. Given the high effect size, pairwise comparisons were completed. These revealed that children had significantly higher completeness scores for actions during the follow-up interview than parents did during the parent-interview (mean difference = 0.25, $p = .041$, 95% CI [0.02, 0.49]). Children had similar completeness scores for details concerning the actions across the initial child interview and the child follow-up interview and children's completeness scores in the initial child interview were similar to those of their parents in the parent-interview. See Table 1 for descriptive statistics.

Man. When comparing the completeness of participants' memory for details about the man across all three interviews, there was no significant effect of interview, $F(2, 10) = 0.84, p = .458, \eta_p^2 = .14$. Both parents and children had similar completeness scores for details concerning the man across all three interviews. See Table 1 for descriptive statistics.

Girl. When comparing the completeness of participants' memory for the girl across all three interviews, there was a significant effect of interview, $F(2, 10) = 4.09, p =$

.050, $\eta_p^2 = .45$. Given the high effect size, pairwise comparisons revealed that children had significantly higher completeness scores for the girl during the child follow-up interview than parents did during the parent-interview (mean difference = 0.11, $p = .041$, 95% CI [0.01, 0.22]). Children had similar completeness scores for details concerning the girl across the initial child interview and the child follow-up interview and children's completeness scores in the initial child interview were similar to those of their parents in the parent-interview. See Table 1 for descriptive statistics.

Setting. When comparing the completeness of participants' memory for the setting across all three interviews, there was a significant effect of interview, $F(2, 10) = 10.88$, $p = .003$, $\eta_p^2 = .69$. Given the large effect size, pairwise comparisons revealed that children had significantly higher completeness scores for the setting during the follow-up interview than parents did during the parent-interview (mean difference = 0.19, $p = .003$, 95% CI [0.10, 0.29]). Children had similar completeness scores for the setting across the initial child interview and the child follow-up interview and children's completeness scores in the initial child interview were similar to those of their parents in the parent-interview. See Table 1 for descriptive statistics.

Accuracy of Children's and Parents' Descriptions

Figure 2 shows the accuracy of children's recall in the initial and follow-up interviews compared to the parents' recall during the parent-interview. A repeated measures analysis of variance was used to compare the accuracy of participants' memory across the three interview conditions (initial-interview, parent-interview, follow-up interview). Again, for the purposes of this analysis only children who had initially been interviewed by their parents were included. There was a significant difference in overall

accuracy across interviews, $F(2, 8) = 4.75, p = .044, \eta_p^2 = .54$. Pairwise comparisons were completed and revealed that children had significantly higher overall accuracy in the follow-up interview than they did in the initial interview (mean difference = 0.18, $p = .012$, 95% CI [0.06, 0.92]). There was no difference in overall accuracy between the initial child interview and the parent-interview or between the parent-interview and the child follow-up interview. See Table 2 for descriptive statistics.

A series of repeated measures analyses of variance was then completed to determine differences in the accuracy of recall across interviews for each category of information. In these analyses only children who had initially been interviewed by their parents were included. The results are provided separately in the sections that follow.

Actions. When comparing the accuracy of participants' memory for actions across all three interviews, there was no significant effect of interview, $F(2, 6) = 1.00, p = .422, \eta_p^2 = .25$. Given the large effect size, pairwise comparisons were completed. Both parents and children had similar accuracy rates for action across all three interviews. See Table 2 for descriptive statistics.

Man. Likewise, when comparing the accuracy of participants memory for details concerning the man across all three interviews there was no significant effect of interview, $F(2,8) = 0.15, p = .864, \eta_p^2 = .04$. Both parents and children had similar accuracy rates for details about the man across all three interviews. See Table 2 for descriptive statistics.

Girl. When comparing the accuracy of participants' memory for details about the girl across all three interviews, there was a significant effect of interview, $F(2, 8) = 4.79, p = .043, \eta_p^2 = .55$. While the overall F for accuracy for details provided about the girl

was significant, the pairwise comparisons were not. This may be due to the Bonferroni correction factor. When looking at the means for accuracy rates concerning details about the girl across all three interviews, there is a notable difference in mean accuracy rates between the initial interview ($M = 0.78$) and the parent interview ($M = 0.83$) when compared to children's follow up interview ($M = 0.52$). This suggests that children are less accurate in the follow-up interview than they are in the initial-interview and that their parents are in the parent-interview. See Table 2 for descriptive statistics.

Setting. When comparing the accuracy of participants' recall for details about the setting across all three interviews, there was a significant effect of interview, $F(2, 10) = 4.44, p = .042, \eta_p^2 = .47$. Pairwise comparisons revealed participants had a significantly higher accuracy rates in the initial child interview than in the child follow-up interview (mean difference = 0.23, $p = .049$, 95% CI [0.002, 0.46]). Children's accuracy in the initial-interview was similar to that of their parents in the parent-interview and parents' accuracy was similar to that of children's during the follow-up interview. See Table 2 for descriptive statistics.

Parental Questioning

On average, parents asked their children 14 questions during the parent-child interview. A paired sample t -test was used to compare the number of open-ended versus direct questions asked. The analysis revealed a significant difference in the types of questions asked by parents, $t(6) = 2.85, p = .029, r^2 = .58, 95\% \text{ CI } [0.55, 7.17]$. Specifically, parents asked significantly more direct questions ($M = 9.00, SD = 5.68$) than open-ended questions ($M = 5.14, SD = 2.73$) when questioning their child about the video.

Discussion

The current study was intended to assess the reliability of hearsay testimony by comparing the accuracy and completeness of children's recall against parental hearsay accounts. It is important to note that while the majority of the inferential statistics were not significant, this is likely a result of the small sample size, and not that there were no differences between children's and parents' recall. This is supported by the differences across interviews that are illustrated in the figures and by the large effect sizes seen when evaluating differences in overall recall as well as recall across the various categories of information. Specifically, the results suggest that children gave more complete and accurate accounts than did their parents, supporting the first hypothesis. The second hypothesis, that parents and guardians would ask more upon direct questions as opposed to open-ended questions, was also supported.

Content of Children's and Parents' Descriptions

When comparing parents' and children's recall, although not all differences were significant, children recalled more details about all categories of information (the setting, the actions, the young girl, and the man) than their parents did. This was particularly true when parents' accounts in the parent-interview were compared to the children's accounts in the child follow-up interview. This is important as it suggests that parents did not incorporate all of the details provided to them by their child, particularly details about the actions, girl, and setting, into their hearsay account. Essentially, it appears as though, similar to past research (Bruck et al., 1999; Principe et al., 2013; Warren & Woodall, 1999), parents in the present study were good at recalling "the gist" of a situation, but failed to recall specific details and verbatim accounts of their children's statements.

Alternatively, it may be that parents did not ask their children questions that would allow them to obtain a complete report from the children. It appears as though parents were not asking their children enough questions, nor were they asking the right questions. Research has suggested that children provide more complete accounts when prompted first with free-recall or open-ended questions, followed by more specific questions (Ceci & Bruck, 1995). Child interview scripts used by trained interviewers in the present study to complete the follow-up interview were developed using such findings, ensuring that open-ended questions had been exhausted prior to the use of specific questions. In contrast, as suggested by comparisons between the parents' use of open-ended versus specific questions, parents were more likely to ask specific questions. Therefore, it may be that the increase seen in children's recall from the initial-interview to the follow-up interview as well as the discrepancy between children's recall and parents' recall are a result of better questioning on behalf of trained interviewers than parents.

Similar to completeness, in the current study accuracy differed across interviews (initial child interview, parent-interview, child follow-up interview) with children's recall in the initial child interview being notably more accurate than during the child follow-up interview for details concerning both the girl and the setting. Fortunately, there did not appear to be any difference in the accuracy of children's recall when compared to parents' recall. Therefore, the decrease in the accuracy of children's recall from the initial interview to the follow-up interview would suggest that something interfered with children's ability to accurately recall details between the two interviews. One possible explanation would be the parents' style of questioning. This coincides with research

which has suggested that parents may have a negative impact on their child's memory of an event (Principe et al., 2013). Parents reliance on direct questions may impose details on the child that can deteriorate the accuracy of children's memory to the point where they develop elaborative narratives surrounding these false events, eventually coming to believe that these false events have actually occurred (Ceci et al., 1994). Consequently, if parental questioning causes children's memory to be more inaccurate, then despite the fact that children are providing more information than parents, parental hearsay may be the best option when children have been interviewed using direct questions that introduced suggestive information.

Parent-Child Discussion

As hypothesized, parents relied more on direct questions as opposed to open-ended questions. This finding is consistent with past research as studies have shown that parents are unaware of their use of direct questions, often overestimating their use of free recall questions while underestimating their use of leading questions (Bruck et al., 1999). Warren and Woodall (1999) found that of the questions parents asked their children, as many as 80% of those questions were open-ended, with an additional 16% being direct or leading questions. Comparing these statistics with the current study shows a great deal of similarity as 63.6% of the questions asked by parents were direct, while the other 36.4% were open-ended.

Looking at the transcripts from parent-child interviews, there was a wide range of questions posed by parents, ranging from as little as four questions, to as many as 24. It has been noted in previous studies that parents' conversation style, in particular, mothers' conversation styles, can have an effect on children's recall abilities (Principe et al., 2013).

Principe et al. found that mother's with more elaborative conversation styles (those who ask a lot of open-ended questions) were able to elicit more detailed information and more complete responses from their children than mothers with non-elaborative conversation styles (those who ask a lot of specific questions). However, misinformed mothers with elaborative conversation styles were associated with increased false reports on behalf of their children during both the initial interview with their mothers and in the follow up interview with an unknown interviewer (Principe et al., 2013). While parents' conversation styles were not within the scope of the current study, it is important to note that parents may have the power to encourage more detailed and more accurate witness accounts on behalf of their children, or to degrade children's memory under certain circumstances.

Limitations

As previously mentioned, the biggest drawback of the present study is the notably small sample size. With only 11 child participants and 6 adult participants, the present study failed to yield many significant results as there was simply not enough power associated with such a minimal sample size. The effect sizes suggest that accuracy and completeness of recall is different among children and parents but a larger sample size is needed to confirm these effects.

In an attempt to have parents question their children in a manner that was as reflective of a real life scenario as possible, parents were informed prior to interviewing their child that they would later be interviewed about the details of the video. It was stressed to parents that they should obtain as much information as possible from their child. It was the hope that by informing parents they would have to pass on the contents

of the unwatched video to an interviewer, it would encourage parents to question their children in greater detail. However, based on the written transcripts of the parent-child interview, as well as the results, it is clear that this approach did not create the intended sense of urgency among parents, as they provided less details, asked very few questions and provided less accurate details than did their children in the initial interview. For future research, it is important to revise this portion of the procedure, making directions clearer for parents and perhaps highlighting to parents the questions they themselves will be expected to answer.

Suggestions for Future Research

As already mentioned, means and effect sizes from the current study suggest that with increased power, there may be significant differences in both completeness and accuracy of children's recall abilities when compared with hearsay testimony. Keeping the limitations of the current study in mind, it would be interesting to evaluate whether children questioned by their parents would make more recall errors in the 1-week follow up interview in comparison to children who were questioned by a trained interviewer. In addition, future research should elaborate on the effects of parent-child discussion on parental hearsay testimony, looking at the specific questions parents ask their children, as well as the effects these specific questions have on children's memory. When contemplating the reliability of parental hearsay equal emphasis should be placed on the actual questions parents are posing to their children and the effects of such questions. Similar to hearsay testimony, there exists little research regarding the content of parent-child conversations and the effects of such conversations, both of which could potentially influence the accuracy of parental hearsay.

Results from the current study have important implications regarding the use of hearsay testimony within the legal system. When comparing children's recall versus parental hearsay, the results indicate that children's recall was more complete than parental hearsay and in some cases more accurate. This means that reliance on hearsay testimony has the potential to jeopardize legal outcomes as jurors may be presented with less accurate and complete accounts than if they were to view direct testimony from the victim (Buck et al., 2004). However, as children's recall in the follow-up interview was in some cases less accurate than their recall in the initial interview, as well being less accurate than their parents' recall, it may be that in cases where children have been interviewed in a suggestive manner, hearsay is in fact a safer alternative. Additional research is obviously needed in order to determine whether children's testimony or parental hearsay is the better option in cases where children are involved and if there are specific factors that might differentiate when one of these options is better than the other.

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Table 1

Completeness of Participants' Memory Across Each Category of Information

		Interview		
		Initial child interview	Parent-interview	Child follow-up interview
Action				
	<i>M</i>	.35	.19	.44
	<i>SD</i>	.29	.15	.22
	<i>n</i>	11	6	10
Girl				
	<i>M</i>	.22	.17	.27
	<i>SD</i>	.14	.09	.12
	<i>n</i>	11	6	10
Man				
	<i>M</i>	.33	.25	.27
	<i>SD</i>	.26	.16	.15
	<i>n</i>	11	6	10
Setting				
	<i>M</i>	.32	.24	.43
	<i>SD</i>	.16	.08	.10
	<i>n</i>	11	6	10
Total				
	<i>M</i>	.30	.19	.33
	<i>SD</i>	.14	.10	.11
	<i>n</i>	11	6	10

Table 2

Proportion of Information Participants Correctly Remembered Across Each Category of Information

		Interview		
		Initial child interview	Parent-interview	Child follow-up interview
Action				
	<i>M</i>	.92	1.00	.92
	<i>SD</i>	.17	-	.17
	<i>n</i>	11	6	10
Girl				
	<i>M</i>	.78	.83	.52
	<i>SD</i>	.22	.24	.29
	<i>n</i>	11	6	10
Man				
	<i>M</i>	.70	.80	.78
	<i>SD</i>	.42	.27	.22
	<i>n</i>	11	6	10
Setting				
	<i>M</i>	.87	.86	.64
	<i>SD</i>	.15	.15	.21
	<i>n</i>	11	6	10
Total				
	<i>M</i>	.88	.85	.70
	<i>SD</i>	.08	.14	.14
	<i>n</i>	11	6	10

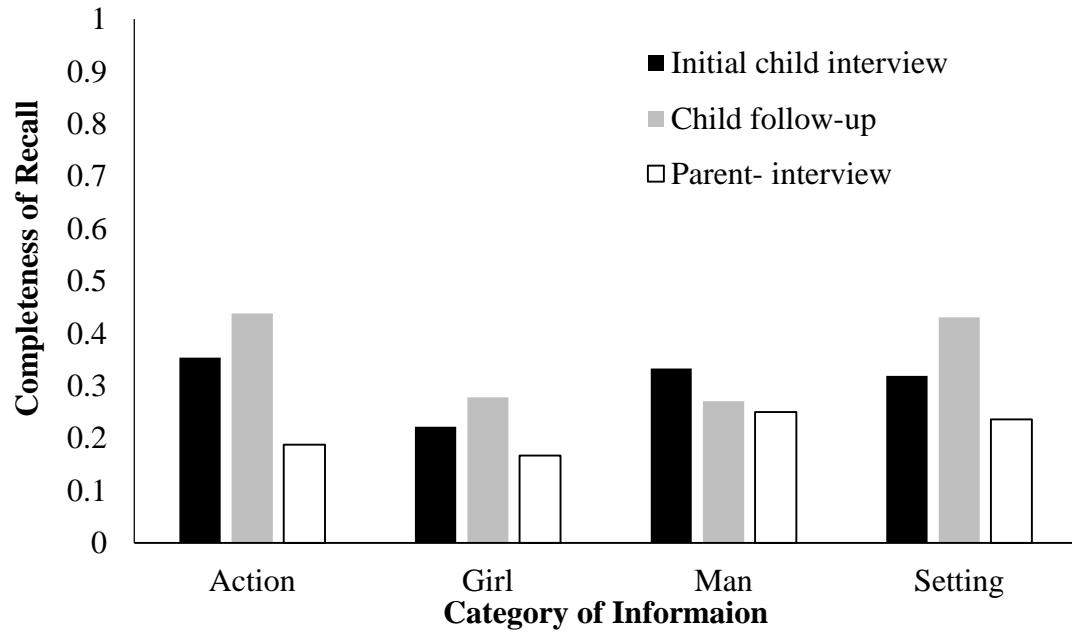


Figure 1. The completeness of participants' recall across categories of information.

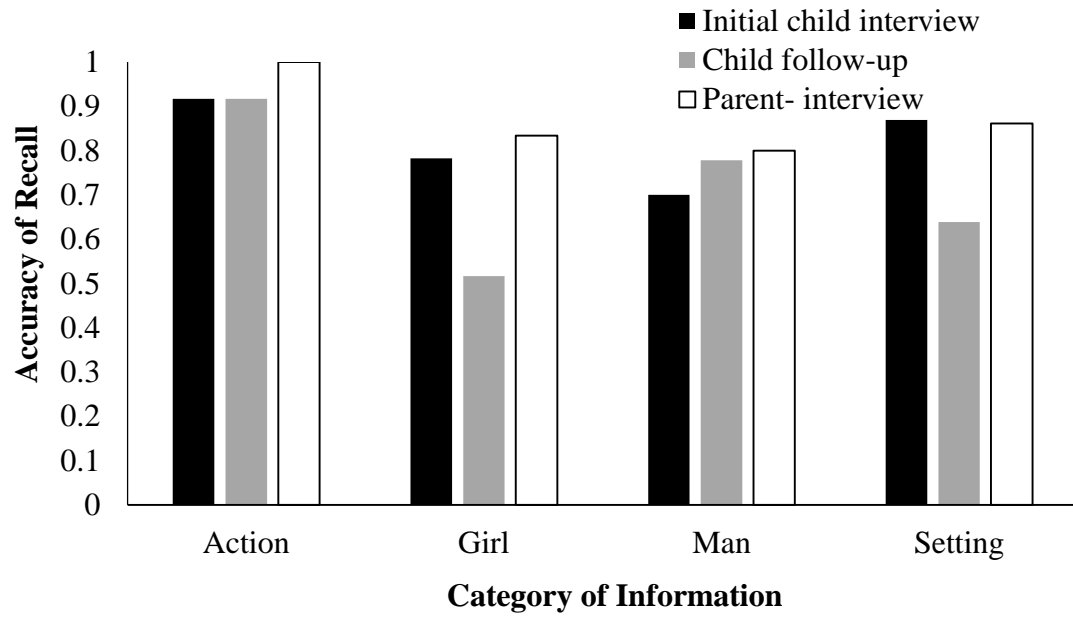


Figure 2. The accuracy of participants' recall across categories of information.

Appendix A

Child Interview Script

Prior to asking the children any questions about the video the interviewer will introduce herself, explain to the child that she is interested in knowing what the child saw in the video and ask the child to give his or her first name and age. Only then will she begin to ask the child questions about the video.

What did you see in the video?

This question will be followed up with utterances of what else do you remember until the child cannot supply any additional information. If the child does not mention anything say to the child I heard you saw a kid talking to somebody, tell me about it.

Where did it happen?

This can be followed up with utterances of what else do you remember about where it happened (what did it look like?) until the child cannot supply any additional information.

Did you see any people in the video?

What did the people look like?

Followed up with what else can you remember about the person/ people looked like until no additional information is being provided.

What were the people wearing?

Followed up with what else can you remember about what the people were wearing until no additional information is being provided.

Tell me everything that the people did?

Followed up by what else can you remember about what the people did until no additional information is being provided.

*If child mentions any items (e.g. objects in the video or an article of clothing that a person is wearing probe for colour).

Finally, I know you've told me a lot of things but before I go I'd like you to start at the beginning of the video and go to the end telling me everything you remember that happened.

*The same questions will be utilized in the follow up interview with the addition of the following questions:

When I was here last week you talked to your mom/ dad, do you remember what you talked about?

What did you say?

What did your mom/ dad say?

Followed up by is there anything else you can remember about talking with your mom/ dad last week until no additional information is being provided.

Appendix B

Coding sheets

Information Provided – Setting –Puppy Video

Detail	Provided (yes/no) If yes ... (int. 1)	Provided (yes/no) If yes ... (int. 2)	Provided (yes/no) If yes ... (int. 3)
Playground/Park			
Dog's Name			
Dog			
Blue playground equipment			
White dog			
Black SUV			
2 Kids on scooters			
Baby			
2 Ladies			
Stroller			
Lady walking on street			
Black SUV drives by			

Information Provided – Man– Puppy Video

Detail	Provided (yes/no) If yes ... (int. 1)	Provided (yes/no) If yes ... (int. 2)	Provided (yes/no) If yes ... (int. 3)
Male/Dad/Man			
White			
Age			
Blue Hoodie			
Jeans			
Dark Brown Hair			
Short Hair			
Black & White Sneakers			

Information Provided – Girl – Puppy Video

Detail	Provided (yes/no) If yes ... (int. 1)	Provided (yes/no) If yes ... (int. 2)	Provided (yes/no) If yes ... (int. 3)
Girl			
White			
Jean Vest			
Long Hair			
Brown Hair			
White Shirt			
Blue Jeans			
Pink Shoes			
Age			

Information Provided – Action – Puppy Video

Detail	Provided (yes/no) If yes ... (int. 1)	Provided (yes/no) If yes ... (int. 2)	Provided (yes/no) If yes ... (int. 3)
Girl plays on playground			
Man approaches girl with dog			
Girl jumps off of playground equipment			
Girl squats to pet the dog			
Man pets the dog			
Girl nods at man			
Man and girl walk away			
Man and girl hold hands			