

Challenges Of Obtaining Reliable Eyewitness Testimony from Children and Practical Implications

Jiuhua Jiang

International Department of Qingdao Academy, Qingdao, Shandong, China

s1annioly@hhu.edu.cn

Abstract. The reliability of eyewitness testimony provided by children has always been a controversial area in research. This paper addresses the challenges of obtaining reliable eyewitness testimony from children and explores its practical implications. The research background highlights the importance of understanding children's developmental stage, memory and language skills, and how these factors influence their ability to provide accurate testimony. The review explores the different aspects that influence the reliability of children's testimony, including verbal and non-verbal factors, cognitive instructions, and how to build trust. As children have high emotional needs, it is important to provide support while obtaining eyewitness testimony. The final section summarizes the main findings, highlighting the effectiveness of multiple interviews, flexible questioning strategies and the importance of parent and interviewer support. Disadvantages include differences in children's anxiety levels and the need to adapt interview techniques to children. Future research should focus on refining these techniques and studying the impact of different support systems on children from different backgrounds.

Keywords: eyewitness testimony; child witness; cognitive interview techniques.

1. Introduction

The topic of this paper is the challenges of obtaining reliable eyewitness testimony in children and its practical implications. Eyewitness testimony is a critical element in the judicial process, especially for children [1]. Understanding the developmental stage of children is important because their cognitive and memory abilities are different from adults, affecting their ability to recall and describe events accurately. Children's memory and verbal skills are still developing, making it important to study how these factors affect their testimony. When research is conducted in this area, it can lead to better interview skills and support systems that improve the reliability of children's testimonies, which is essential for fair legal proceedings.

Fuzzy trace theory is a cognitive theory that explains memory and reasoning through the concepts of gist and verbatim traces [1]. According to this theory, memory encoding consists of two types of traces: verbatim traces, which capture the exact details of an event; and gist traces, which capture the essence or general meaning of an event. Fuzzy trace theory suggests that individuals tend to rely more on gist traces for decision making and reasoning, while verbatim traces are used for detailed recall. This dual-process approach helps to explain why people can remember the general meaning of experiences and forget specific details. The theory has been used to understand phenomena such as false memories, in which individuals recall the general theme of an event but misremember specific details. In the context of children's eyewitness testimony, ambiguous trace theory suggests that children's reliance on primary traces can lead to accurate overall recall but can also lead to errors in recalling specific details, especially under suggestibility issues. Within this theory, future research could focus on developing interview techniques to minimize the effects of gist-based distortions and improve the retrieval of details.

Situational memory is the ability to recall specific events from the past, including the context in which they occurred [2]. In children, situational memory develops gradually during childhood and adolescence and is influenced by a variety of cognitive and neural processes. The development of situational memory involves the maturation of basic bonding processes that are responsible for linking different elements of an experience to form a coherent memory. In addition, control processes such

as reasoning and metamemory (awareness and understanding of one's own memory processes) play a crucial role in situational memory. Research has shown that these processes improve with age, resulting in more accurate and detailed memories. However, children are also prone to producing false memories, which may stem from suggestive questions or social pressures. Neurological studies have shown that areas of the prefrontal cortex and medial temporal lobe are critical to the development of situational memory, and that these areas continue to develop during childhood and adolescence. Understanding the neural underpinnings and cognitive mechanisms of situational memory can inform strategies to support memory accuracy in children, especially in contexts such as eyewitness testimony. Future research should explore the interplay between cognitive processes and neurodevelopment to better support children's memory abilities and decrease the effects of false memories.

Existing research in the field of children's eyewitness testimony has identified several key trends and theories [3]. Significant research has focused on the cognitive development of children and how it affects their memory recall. Studies have also investigated the effects of social factors on children's testimonies. Theories such as the social interaction theory and cognitive interview techniques are central to this research area. Social interaction theory emphasizes the role of the interviewer's behavior in shaping a child's responses, while cognitive interview technique's purpose is to enhance the accuracy of children's recall. Most research has focused on children aged 4 to 12, this is a crucial period for cognitive and social development. Studies have included both abused and non-abused children to understand different contexts in which testimonies are given. Although it is a widely researched area, there are still some gaps in understanding how different interviewing techniques and support systems can be optimized for children with different levels of anxiety and different backgrounds.

Current studies often overlook the impact of combining parental support with interviewer techniques on children's testimony accuracy. Additionally, there is limited research on how to change interview methods to individual children's anxiety levels. This review will address these blanks by synthesizing existing findings and suggesting practical ways to combine interviewer and parental support. It will also explore how to adjust techniques based on a child's anxiety level and background, providing a comprehensive approach to improving the reliability of children's eyewitness testimony.

2. Factors Contributing to the Reliability of Eyewitness Testimony from Children

2.1. The Effects of Verbal Factors

This study examined the impact of the way lawyers asked questions on children's answers when testifying in criminal cases involving child sexual abuse in the United States between 2005 and 2015 [3]. The study involved 134 children between the ages of 5 and 17, with an average age of 12. The study analysed the form of solicitor questions and the types of children's subsequent answers, both declarative and indirect, and compared these with the forced choice question and the yes/no question response patterns. The study found that three quarters of the questions were close ended, with a large proportion of declarative and indirect questions, and these often led to inadequate responses. Declarative questions produced the most inaccurate answers, while indirect questions produced the most meaningless answers. These findings suggest that when questioning children, prosecutors should be careful to use declarative and indirect yes/no questions to ensure more reliable testimony and use more of open-ended questions.

The study also delved into how different types of open-ended questions can enhance the quality of information gathered from child witnesses [4]. It looked at how different types of open-ended questions which are those that allow respondents to answer in detail in their own words rather than a simple yes or no answer. Questioning in police survey interviews with children aged six to 16 helped capture important information. The research focuses on the effect of initial invitation (encouraged to start from the beginning with a detailed description of how the incident was asked), breadth prompt (After the child begins the narrative, they are further encouraged to expand and elaborate on the

different aspects of the question) and depth prompt (Press further on specific details and ask the child to provide more detailed information). The researchers reviewed transcripts of 53 police interviews with children and categorized the children's responses by their forensic relevance, such as details critical to prosecution, information related to the incident, background information, and irrelevant or repetitive information. Statistical analysis was used to compare the effectiveness of each type of prompt. The results showed that the initial invitation was most effective in obtaining key and relevant details. When there are some in-depth prompts give to children, they also performed better, but not as well as initial invitations. The study highlights the importance of using initial invitations in forensic interviews with children.

In addition to question forms, the study examined the impact of various interview strategies on children's recall accuracy and productivity. The study explored the effects of three strategies on children aged 4 to 9 who were abused and who were not abused who had minor lapses in their recall processes [5]. The study focused on the effects of backward particles (Using words or phrases that describe past events, lead children to recall and describe in detail the events they experienced), commitment to tell the truth (Before the interview begin let the childs promises to tell the truth) , and post-recall hypothesis (After the child completes the initial recall, a hypothetical confession is made to encourage the child to disclose further information) confessions on children's reporting accuracy and productivity. During the study, each child played with a stranger, during which the child appeared to break some of the toys. Assistants build relationships through narrative exercises and conduct interviews using recall questions. Studies included the use of backward particles, whether children committed to telling the truth, and manipulation using post-recall hypothetical confessions. The results showed that backward particles did not significantly increase disclosure, but increased children's reporting productivity. The commitment to tell the truth significantly increased disclosure for non-abused children but had no effect on abused children. New disclosures were obtained from children whose confessions were assumed to have never been disclosed after recall. The study highlights the importance of using flexible questioning strategies.

Building on these strategies, the effectiveness of cognitive instructions in improving children's eyewitness testimony was also investigated. This study explores the effectiveness of cognitive instruction, referring to techniques used to help children recall memories more accurately and in detail [6]. These methods are crucial for increase children's episodic memory, which is their ability to remember specific events and contexts. This study explored how different cognitive instructions affect children's eyewitness reports., when children provide true and false eyewitness reports about the criminal behavior of others. The study involved 104 children aged 8 to 13 years to assess the effects of four cognitive instructions when children were asked to conceal adult criminal behavior. During the study, children were asked to falsely deny witnessing theft and then interviewed using a cognitive command group and a standard interview group. The four cognitive instructions included: free recall (Allowing children to describe the events they experienced freely and in as much detail as possible, without any prompting or guidance), mental situation reconstruction (Guiding children to recall the specific situation and environment at the time of the event), perspective-taking (Asking children to see and describe events from another person's point of view) and reverse recall (Asking the child to start with the last step of the event and recall the entire process of the event in reverse order) . The study compared the performance of the two groups by assessing the honesty of the children's reports, the number of words used, the number of details of the crime disclosed and the chronological accuracy of the events. The results showed that children using the cognitive instruction group provided longer statements containing more details and events of the crime, but there was no significant difference in overall honesty. Free recall problems produced the most vocabulary and detail, and reverse recall instructions were most effective at increasing the number of recalled events. Although cognitive instructions increased disclosure, they did not reduce the incidence of false reporting.

Furthermore, the research explored the narrative coherence of child witness statements across multiple interviews. This study mainly talks about the narrative coherence of child witness statements

in multiple judicial interviews with 28 children aged 3 to 14 who were accused of physical and sexual abuse [7]. By studying the completeness, consistency and coherence of transcribed accounts of 56 police interviews, details such as time, place, behavior, perception and emotion were described. Contradiction means there is a discrepancy in the testimony, which may be caused by a memory error, stress, or outside interference. The results obtained were that multiple interview, conducting multiple interviews with children, each interview revolves around the same event or detail to ensure the integrity and consistency of the information increased the completeness of children's testimony, providing almost twice as much new information as a single interview, while not significantly increasing contradictions. This suggests that multiple interviews improve the narrative coherence of children's testimony without introducing more contradictions.

2.2. The Impact of Nonverbal Factors

This study focuses on the misleading role of hand gestures in child witness interviews. The study involved 108 children, and their ages are 6 to 13. They were divided into three age groups: 6-9, 10-11, and 12-13 [8]. The children were asked to watch a crime video and be interviewed immediately, during which the interviewer used nonverbal gestures to deliberately mislead the children. Each child was asked 16 questions, eight of which included misleading gestures and eight of which were asked only use words. The study found that 95 children were misled by at least one gesture, and misleading gestures for example, when a child is asked which item the suspect is holding, the interviewer may point to a book on the table, when in fact the suspect is holding a cup on the table. This gesture can mislead children into thinking that the suspect has taken the book, introducing misinformation into their answers. It significantly reduced the accuracy of the children's answers. Whatever the age of the children is right now, all children were susceptible to gestures and reported the wrong information. This suggests that nonverbal gestures have a negative effect on child witness interviews and confirms the robustness of the misleading effect of gestures.

3. The Role of Relationship Building

Additionally, the study examined the role of building rapport to enhance the reliability of children's testimonies [9]. It explores the role of building rapport when children provide true and false reports as witnesses. Participants included 104 children ages 7 to 13 who witnessed a fake offender stealing money from a wallet and were asked to lie about it in a subsequent interview. The study focused on assessing the effect of different rapport building methods (including narrative exercises and interactive exercises) on children's reported honesty. The children were randomly assigned to two groups, a narrative exercise group and an interactive exercise group. In the narrative exercise group, children are asked to describe various experienced events. In the interactive practice group, children engaged in an interactive activity focused on building relationships, such as learning and performing magic tricks. Open and closed questions were used in the interviews to assess the children's report length and detail accuracy, while the children's rapport with the interviewer was assessed through questionnaires. The results showed that children in the interactive practice group felt stronger rapport, and older children in particular were more likely to provide truthful reports and disclose violations earlier, providing more details. In contrast, children in the narrative exercise group were more likely to conceal the truth. This suggests that building rapport through interactive activities during eyewitness interviews can promote more truthful disclosures by children about the events they witnessed.

Moreover, the research further explored the combined effects of parental support and interviewer attitudes on children's recall accuracy. This study explored the effects of parental support and interviewer attitudes on recall and resistance to suggestive information in children aged 5 to 8 years [10]. Children were randomly assigned to groups with parents and interviewers providing or not providing support. The children participated in a "health and safety" game and were then interviewed twice, the first immediately and the second after a specified time. The study assessed children's

accuracy in free recall and in answering suggestive questions. The results show that the group with interviewer and parental support had more completely free recall and fewer false answers. For children with low anxiety level, interviewer support significantly improved recall accuracy. For children with high anxiety level, parental support is effective only when supported by the interviewer. Research has shown that interviewer and parental support is particularly important in dealing with survey interviews of children with high anxiety.

4. Conclusion

The main discussion of this review was divided into several sections, each of which examines different factors affecting the reliability of children's eyewitness accounts. The first part examined the influence of linguistic factors, such as the form of questions asked by the interviewer and found that open-ended questions were more effective in eliciting accurate responses. The second part examined the role of non-verbal factors, in particular the deceptive effect of gestures, and showed that they significantly reduced the accuracy of children's responses. The third part examined the effectiveness of cognitive instructions such as free recall, mental context reconstruction, perspective-taking and reverse recall in improving the detail and accuracy of children's testimony. The final section highlights the importance of rapport-building methods, such as interactive practice, which are more effective than narrative practice in promoting truth-telling.

One of the main limitations is the variability of children's anxiety levels, which can affect the accuracy of their recollections. In addition, the validity of interview techniques may vary according to the children's backgrounds and the interview environment. Future research should focus on the development and validation of tailored interview techniques that take these individual differences into account. Plus, the role of parental and interviewer support in enhancing children's testimonies in different contexts needs to be further explored. By addressing these limitations, future research could improve the reliability of children's eyewitness testimony and contribute to fairer legal proceedings.

References

- [1] Reyna V. F., Corbin J. C., Weldon R. B., Brainerd C. J. How fuzzy-trace theory predicts true and false memories for words, sentences, and narratives. *Journal of Applied Research in Memory and Cognition*, 2016, 5(1): 1-9.
- [2] Ghetti S., Lee J. K. Children's episodic memory. *WIREs Cognitive Science*, 2011, 2(4): 365-373.
- [3] Stolzenberg S. N., Morse S. J., Haverkate D. L., Garcia-Johnson A. M. The prevalence of declarative and indirect yes/no questions when children testify in criminal cases of child sexual abuse in the United States. *Applied Cognitive Psychology*, 2020, 34(1): 194-204.
- [4] Danby M. C., Sharman S. J. Open-ended initial invitations are particularly helpful in eliciting forensically relevant information from child witnesses. *Child Abuse & Neglect*, 2023, 146: 106505.
- [5] McWilliams K., Stolzenberg S. N., Williams S., Lyon T. Increasing maltreated and nonmaltreated children's recall disclosures of a minor transgression: The effects of back-channel utterances, a promise to tell the truth, and a post-recall putative confession. *Child Abuse & Neglect*, 2021, 116: 104073.
- [6] Wyman J., Tong D., Foster I., Crossman A., Talwar V. The effectiveness of cognitive instructions when children provide true and false eyewitness reports of another's transgression. *Police Practice and Research*, 2022, 23(3): 290-307.
- [7] Szojka Z. A., Nicol A., La Rooy D. Narrative coherence in multiple forensic interviews with child witnesses alleging physical and sexual abuse. *Applied Cognitive Psychology*, 2020, 34(5): 943-960.
- [8] Meyer K. R., Blades M., Krähenbühl S. The gestural misinformation effect in child interviews in Switzerland. *Journal of Nonverbal Behavior*, 2023, 47(1): 99-114.
- [9] Foster I., Talwar V., Crossman A. The role of rapport in eliciting children's truthful reports. *Applied Developmental Science*, 2023, 27(3): 221-237.

- [10] Lee, S. Effects of caregiver support and interviewer attitude on the accuracy of children's memory according to anxiety level. *Current Psychology*, 2024, 43(1): 11243–11253.