

The Suggestibility of Children

A Bibliography



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**National Children's
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Scope

This bibliography covers literature significant to the study of children's suggestibility. Included are English language articles, reports, book chapters, and books. International publications are included.

Organization

Publications are listed in date-descending order. Links are provided to publicly available publications when possible.

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The Suggestibility of Children

A Bibliography

Cabalo, D. G., Iani, F., Bilge, A. R., & Mazzoni, G. (2020). Memory distortions: When suggestions cannot be easily ignored. *Applied Cognitive Psychology*, 34(1), 106-118.
<https://doi.org/10.1002/acp.3597>

In the present study, the persistence of personal false memories (FMs) after social feedback that denies their truth was assessed. Participants imitated actions performed by the experimenter (Session 1) and watched a doctored video with performed and critical “fake” actions (Session 2), followed by a memory rating and a recognition task. A few days later (Session 3), participants were clearly told that some memories were false and received daily reminders of the correct list of objects/actions before testing their memory again in Session 4. Results of both memory ratings and recognition indicated effective FM implantation. Interestingly, response times for correct rejections were longer for fake than true objects, suggesting participants struggled to ignore false suggestions. Crucial for our aim, Session 4 showed that FM persisted also after the debriefing and repeated presentations of correct list of objects/actions, suggesting that FMs for actions are rather difficult to discard.

Denne, E., Sullivan, C., Ernest, K., & Stolzenberg, S. N. (2019). Assessing children’s credibility in courtroom investigations of alleged child sexual abuse: Suggestibility, plausibility, and consistency. *Child Maltreatment*.
<https://doi.org/10.1177/1077559519872825>

As children’s testimonies of child sexual abuse (CSA) often lack concrete evidence to corroborate a child’s claims, attorneys devote a substantial amount of time to establishing a child as credible during the course of a trial. Examining 134 CSA victim testimonies for children aged 5–17 ($M = 12.48$, $SD = 3.34$; 90% female), we explored how attorneys assess child credibility through specifically targeting children’s suggestibility/honesty, plausibility, and consistency. Results revealed that while prosecutors examine plausibility more often to establish credibility, defense attorneys focus their assessments on suggestibility/honesty and potential inconsistency. However, both attorneys asked many more questions about children’s consistency than any other area of potential credibility. Furthermore, while prosecutors ask proportionally more credibility

challenging questions of older children, the defense do not. These results suggest that prosecutors may be missing an opportunity to establish children as honest and consistent and elucidate a need to train attorneys on the implications of children's inconsistencies, suggestibility, and plausible abuse dynamics.

Eisen, M. L., Goodman, G. S., Diep, J., Lacsamana, M. T., Olomi, J., Goldfarb, D., & Quas, J. A. (2019). Effects of interviewer support on maltreated and at-risk children's memory and suggestibility. *International Journal on Child Maltreatment: Research, Policy and Practice*, 2(1-2), 55-78. <https://doi.org/10.1007/s42448-019-00016-7>

The present study examined the effects of interviewer support on the memory and suggestibility of children (N = 71), all of whom were involved in child maltreatment investigations. This was accomplished by questioning 3- to 12-year olds (66% African American) about a game played individually with an experimenter at the end of the maltreatment investigation, so that the results did not affect any evaluations or legal proceedings. After the game, the children were interviewed in a warm and engaging high support manner or in a relatively formal and withdrawn low support fashion--the latter, likely considered by some as "neutral" in child forensic interviews. Typical age effects emerged overall; for example, with the preschool (compared to school-aged) children providing fewer correct units of information in free recall and making more errors to specific and misleading questions. However, findings also varied in relation to interviewer support and type of question. To specific questions, older (but not younger) children in the low (compared to high) interviewer support condition made more omission errors, possibly due to the interviewer's low support resulting in a "no bias" for older children in answering these questions. To misleading questions, younger (but not older) children in the high (compared to low) support condition made significantly more commission errors. The elevated commission error rate in the high support group appeared to be driven by a small number of 3- and 4-year-olds who had a "yes-bias" when answering misleading questions. Implications for children's accuracy in maltreatment investigations and for children's psychological and physical security are discussed.

Otgaar, H., Chan, J. C., Calado, B., & La Rooy, D. (2019). [Immediate interviewing increases children's suggestibility in the short term, but not in the long term](https://doi.org/10.1111/lcrp.12137). *Legal and Criminological Psychology*, 24(1), 24-40. <https://doi.org/10.1111/lcrp.12137>

Children sometimes receive misinformation after being formally interviewed about their experiences in cases of suspected abuse. Following decades of research, many guidelines have been produced for interviewers so they can obtain reliable statements in children, like, for example, the NICHD protocol. One might expect that completing an early interview following research-based guidelines might guard against the incorporation of misinformation encountered later. The goal of the current experiments was to examine whether following research-based guidelines such as the NICHD protocol might protect child witnesses against follow-up ‘misinformation’ or make them more vulnerable to misinformation. This increased vulnerability to misinformation has been referred to as retrieval-enhanced suggestibility. In two experiments, children viewed a video and half of them were interviewed using the NICHD protocol, while the other half were not interviewed. The children received misinformation and a final memory test either immediately after being interviewed (Experiment 1) or 1 week later (Experiment 2). Retrieval-enhanced suggestibility was observed when misinformation was presented immediately but not when it was provided after 1 week. The current experiments indicate that a well-established interview protocol can, under some circumstances, amplify levels of suggestibility in children.

Saywitz, K. J., Wells, C. R., Larson, R. P., & Hobbs, S. D. (2019). Effects of interviewer support on children’s memory and suggestibility: Systematic review and meta-analyses of experimental research. *Trauma, Violence, & Abuse*, 20(1), 22-39. <https://doi.org/10.1177/1524838016683457>

The accuracy of children’s reports of abuse has been hotly debated in the press, academia, and the courtroom. Yet, children’s accuracy depends, in part, on the context in which children are interviewed. Guidelines often recommend creating a supportive psychosocial context to promote open, honest responding; however, there is also concern that support promotes social desirability and acquiescence to suggestion, leading children to report more of what they perceive adults want to hear than the truth. The question remains as to whether there is a sufficient body of scientific research to determine whether interviewer supportiveness improves interview outcomes while minimizing children’s stress or whether it increases suggestibility and impairs accuracy. Using a

systematic search strategy and meta-analyses, this study identifies and reviews findings from experimental studies of the effects of interviewer supportiveness on the accuracy of children's reports. Although the number of studies in the evidence base is small (n = 15), the studies are of relatively good quality. Results suggest noncontingent interviewer support bolsters children's accuracy. Children are more resistant and less acquiescent to suggestive questions when interviewers are supportive as compared to nonsupportive or neutral. Effects are in the moderate range. Interviewer support is also associated with fewer errors on nonsuggestive questions. Discussion focuses on implications for practice; directions for future research; identifying vulnerable subgroups; and underlying cognitive, social, and emotional mechanisms.

Benedan, L., Powell, M. B., Zajac, R., Lum, J. A., & Snow, P. (2018). [Suggestibility in neglected children: The influence of intelligence, language, and social skills](https://doi.org/10.1016/j.chiabu.2018.01.005). *Child Abuse & Neglect*, 79, 51-60. <https://doi.org/10.1016/j.chiabu.2018.01.005>

We administered the GSS-2, a standardised measure of suggestibility, to 5- to 12-year-old children to ascertain whether neglected children's responses to leading questions distinguish them from those of their non-neglected counterparts. Neglected children (n=75) were more likely than an age-matched sample of non-neglected children (n=75) to yield to leading questions, despite no difference in their ability to recall the test stimuli. Subsequent collection of individual difference data from the neglected sample revealed that this effect could not be attributed to intelligence, language ability, problem behaviours, age at onset of neglect, or time spent in out-of-home care. With respect to social skill, however, suggestibility was positively correlated with communicative skill, and marginally positively correlated with assertion and engagement. While on the surface our social skills findings seem counter-intuitive, it is possible that maltreated children with relative strengths in these areas have learned to comply with adults in their environment as a way to protect themselves or even foster belonging. Our data, while preliminary, raise interesting questions about whether targeted interventions could help these children to more actively participate in decisions about their lives.

Goldfarb, D., Goodman, G. S., Larson, R. P., Gonzalez, A., & Eisen, M. L. (2018). Putting children's memory and suggestibility in their place: An analysis considering person, topic, and context. In H. Otgaar & M. L. Howe (Eds.), *Finding the Truth in the Courtroom: Dealing with Deception, Lies, and Memories* (pp. 137-162). New York: Oxford University Press.

Klemfuss, J. Z., & Olaguez, A. P. (2018). Individual differences in children's suggestibility: An updated review. *Journal of Child Sexual Abuse*. 29(2), 158-183.
<https://doi.org/10.1080/10538712.2018.1508108>

The present review is intended as an overview of our current understanding of how children's individual characteristics, in terms of demographic, cognitive, and psycho-social variables, may influence their susceptibility to suggestion. The goals are to revisit conceptual models of the mechanisms of suggestibility, to provide an updated practical guide for practitioners, and to make recommendations for future research. Results suggest that children with intellectual impairment and those with nascent language skills may be particularly vulnerable to suggestion. Further, memory for separate events, theory of mind, executive function, temperament, and social competence may not be related to suggestibility, whereas additional work is needed to clarify the potential contributions of knowledge, stress, mental health, parental elaborative style, and adverse experiences/maltreatment to children's suggestibility.

Moore, K. N., Lampinen, J. M., Gallo, D. A., Adams, E. J., & Bridges, A. J. (2018). Children's use of memory editing strategies to reject source misinformation. *Child Development*, 89(1), 219-234. <https://doi.org/10.1111/cdev.12716>

This is the first reported study of children's use of two metacognitive strategies, recollection rejection and diagnostic monitoring, to reject misinformation. Recollection rejection involves the retrieval of details that disqualify an event, whereas diagnostic monitoring involves the failure to retrieve expected details. First (n = 56, age 7 years) and third graders (n = 52, age 9 years) witnessed a staged classroom interaction involving common and bizarre accidents, were presented with misinformation about the source of these events and took a memory test. Both age groups used recollection rejection, but third graders were more effective. There was little evidence that

diagnostic monitoring influenced responses for bizarre events, potentially because these events were not sufficiently bizarre in the context of the stereotype induction.

Qi, H., Zhang, H. H., Hanceroglu, L., Caggianiello, J., & Roberts, K. P. (2018). The influence of mindfulness on young adolescents' eyewitness memory and suggestibility. *Applied Cognitive Psychology*, 32(6), 823-829. <https://doi.org/10.1002/acp.3452>

Recent research has linked mindfulness to adults' false memory formation. This study investigated the effects of mindfulness on adolescents' event memory and suggestibility by using an “extensive” 8-week mindfulness program, an active control group, and a participatory to-be-remembered event. Students aged 13 to 14 were randomly assigned to a mindfulness or active control condition (socioemotional learning). After the seventh week, students participated in a target event and were immediately interviewed during which misleading information was presented. A week later, those in the mindfulness condition incorrectly reported more false information compared with those in the control group. Mindful practice did not affect memory encoding but had a negative effect during retention and retrieval. These findings suggest that adolescents who are exposed to mindfulness exercises may be susceptible to memory intrusions. Professionals should therefore be especially careful to avoid using suggestive and leading questions during investigative interviews with mindful adolescents.

Curci, A., Bianco, A., & Gudjonsson, G. H. (2017). Verbal ability, depression, and anxiety as correlates of interrogative suggestibility in children exposed to life adversities. *Psychology, Crime & Law*, 23(5), 445-458. <https://doi.org/10.1080/1068316X.2016.1269901>

In the present study, we assess the relationship of verbal ability, depression, and anxiety with interrogative suggestibility (IS) in a sample of children exposed to life adversities and requiring assistance by the governmental social service (n = 39), as compared with normal controls (n = 36). The Gudjonsson Suggestibility Scale 2 was administered to participants in a battery including measures of memory capacity, verbal ability, depression, and anxiety. The finding showed that the ‘assisted’ children were significantly more suggestible than the controls with a large effect size for Yield 1 and total suggestibility. In addition, IS was negatively correlated with verbal memory and

ability, but not with anxiety and depression. The two groups differed as to their level of total suggestibility after adjusting for verbal ability. Implications of the findings for the forensic assessment of vulnerable subjects are discussed.

Cleveland, K. C., Quas, J. A., & Lyon, T. D. (2016). [Valence, implicated actor, and children's acquiescence to false suggestions](https://doi.org/10.1016/j.appdev.2015.12.003). *Journal of Applied Developmental Psychology*, 43, 1-7. <https://doi.org/10.1016/j.appdev.2015.12.003>

Although adverse effects of suggestive interviewing on children's accuracy are well documented, it remains unclear as to whether these effects vary depending on the valence of and the actor implicated in suggestions. In this study, 124 3-8-year-olds participated in a classroom activity and were later questioned about positive and negative false details. The interviewer provided positive reinforcement when children acquiesced to suggestions and negative feedback when they did not. Following reinforcement or feedback, young children were comparably suggestible for positive and negative details. With age, resistance to suggestions about negative details emerged first, followed by resistance to suggestions about positive details. Across age, more negative feedback was required to induce acquiescence to negative than positive false details. Finally, children were less willing to acquiesce when they (versus the confederate) were implicated. Findings highlight the interactive effects of valence and children's age on their eyewitness performance in suggestive contexts. © 2015 Elsevier Inc. All rights reserved.

Paz-Alonso, P. M., & Goodman, G. S. (2016). Developmental differences across middle childhood in memory and suggestibility for negative and positive events. *Behavioral Sciences & the Law*, 34(1), 30-54. <https://doi.org/10.1002/bsl.2239>

In the present study, we investigated age differences in children's eyewitness memory and suggestibility for negative and positive events that children often experience during middle childhood. We first examined 216 ratings by children aged 8–12 years of the frequency and intensity of personal negative and positive experiences (Study 1). Based on those ratings, videotapes depicting the most frequent and intense negative (an accident) and positive (a family excursion) events were developed. A new sample of 227 children aged 8–12 years was tested for recognition memory of the videotapes using the three-stage post-event misinformation procedure

(Study 2). Compared with 8- to 9-year-olds, 10- to 12-year-olds exhibited less memory malleability and less compliance with false information. Age improvements in recognition accuracy were also evident for children who watched the negative event, but not for those who watched the positive event. Compliance predicted misinformation effects, particularly in regard to peripheral details. Thus, using ecologically representative emotional events, age differences in suggestibility and memory accuracy emerged, especially for negative events. Theoretical and forensic implications concerning children's eyewitness memory and suggestibility are discussed. Copyright © 2016 John Wiley & Sons, Ltd.

Volpini, L., Melis, M., Petralia, S., & Rosenberg, M. D. (2016). Measuring children's suggestibility in forensic interviews. *Journal of Forensic Sciences*, 61(1), 104-108. <https://doi.org/10.1111/1556-4029.12987>

According to the scientific literature, children's cognitive development is not complete until adolescence. Therefore, the problems inherent in children serving as witnesses are crucial. In preschool-aged children, false memories may be identified because of misinformation and insight bias. Additionally, they are susceptible of suggestions. The aim of this study was to verify the levels of suggestibility in children between three and 5 years of age. Ninety-two children were examined (44 male, 48 female; $M = 4.5$ years, $SD = 9.62$). We used the correlation coefficient (Pearson's r) and the averages variance by SPSS statistical program. The results concluded that: younger children are almost always more susceptible to suggestibility. The dimension of immediate recall was negatively correlates with that of total suggestibility ($r = 0.357$ $p < 0.001$). Social compliance and source monitoring errors contribute to patterns of suggestibility, because older children shift their answers more often ($r = 0.394$ $p < 0.001$). Younger children change their answers more times ($r = 0.395$ $p < 0.001$).

Hritz, A. C., Royer, C. E., Helm, R. K., Burd, K. A., Ojeda, K., & Ceci, S. J. (2015). [Children's suggestibility research: Things to know before interviewing a child](https://doi.org/10.1016/j.apj.2014.09.002). *Anuario de Psicología Jurídica*, 25(1), 3-12. <https://doi.org/10.1016/j.apj.2014.09.002>

Children's testimony is often the only evidence of alleged abuse. Thus, the importance of conducting forensic interviews that are free from bias and misleading information is immense, as

these could lead to false reports. In the current paper, we review unexpected findings in children's suggestibility that illustrate the difficulty in distinguishing between false and accurate reports. We explore situations in which a younger person's memory account may be more accurate than that of an adult, when a single suggestive interview may be as detrimental as multiple interviews, and when children can make inaccurate reports spontaneously. We conclude with recommendations for interviewers to decrease false reporting by both children and adults.

Vagni, M., Maiorano, T., Pajardi, D., & Gudjonsson, G. (2015). Immediate and delayed suggestibility among suspected child victims of sexual abuse. *Personality and Individual Differences*, 79, 129-133. <https://doi.org/10.1016/j.paid.2015.02.007>

Children suspected of being victims of sexual abuse are often interviewed by police, but little is known about the effects of sexual abuse on their suggestibility. The aim of this paper was to investigate differences in 'immediate' and 'delayed' suggestibility between children being investigated as suspected victims of sexual abuse and other children and to compare the suggestibility scores of children allegedly abused by a family member versus a person from outside the family. The participants were 180 children aged between 7 and 16 years, who had been subdivided into 'victim' and 'control' groups; each group being comprised of 90 children and matched for IQ. All children completed the Gudjonsson Suggestibility Scale (GSS 2) and a non-verbal IQ test. The children in the victim group scores significantly higher on Shift and Yield 2 than the control group, after controlling for memory capacity. Children abused by a family member coped significantly worse with interrogative pressure (high Shift) than those abused by a non-family member. Immediate suggestibility showed much stronger effects than delayed suggestibility. The findings suggest that sexually abused children are very vulnerable during questioning where there is interrogative pressure and those abused by a family member are even more vulnerable. © 2015 Elsevier Ltd. All rights reserved.

Chae, Y., Goodman, G. S., Larson, R. P., Augusti, E. M., Alley, D., VanMeenen, K. M., ... & Coulter, K. P. (2014). Children's memory and suggestibility about a distressing event: The role of children's and parents' attachment. *Journal of Experimental Child Psychology*, 123, 90-111. <https://doi.org/10.1016/j.jecp.2014.01.005>

Our goal was to identify individual difference predictors of children's memory and suggestibility for distressing personally experienced events. Specifically, we examined children's and parents' attachment orientations and children's observable levels of distress, as well as other individual difference factors, as predictors of children's memory and suggestibility. Children (N = 91) aged 3 to 6 years were interviewed about inoculations received at medical clinics. For children whose parents scored as more avoidant, higher distress levels during the inoculations predicted less accuracy, whereas for children whose parents scored as less avoidant, higher distress levels predicted greater accuracy. Children with more rather than less positive representations of parents and older rather than younger children answered memory questions more accurately. Two children provided false reports of child sexual abuse. Implications for theory, research, and practice are discussed. © 2014 Elsevier Inc. All rights reserved.

Lyon, T. D., & Stolzenberg, S. N. (2014). [Children's memory for conversations about sexual abuse: Legal and psychological implications](#). *Roger Williams University Law Review*, 19, 411-450.

Children's memories for their conversations are commonly explored in child abuse cases. In two studies, we examined conversational recall in 154 4- to 9-year-old children's reports of an interaction with a stranger, some of whom were complicit in a transgression and were admonished to keep it a secret. Immediately afterwards, all children were interviewed about their interaction. One week later, children were asked recall questions about their interaction with the stranger, their conversations with the stranger, and their conversations with the interviewer. Overall, interaction recall questions elicited few details about children's conversations, whereas conversation recall questions were effective in doing so. Accuracy was high in response to both the interaction and conversation recall questions, with no differences observed. Questions explicitly inquiring about coaching elicited higher error rates, as well as apparent attempts to maintain secrecy. Source errors were rare. Conversation recall questions elicited new transgression disclosures among a substantial

percentage of children. The results provide tentative support for the use of recall questions in eliciting conversational information from children.

London, K., Bruck, M., Poole, D. A., & Melnyk, L. (2011). The development of metasuggestibility in children. *Applied Cognitive Psychology*, 25(1), 146-155.
<https://doi.org/10.1002/acp.1653>

One component of metasuggestibility is the understanding that a person's statements can influence another person's reports. The purpose of the present study was to examine the development of this understanding in school-aged children. We produced a short video in which a boy makes a false allegation about being hit following an adult's suggestive interview. Children aged 6–13 years (N=196) watched the video and answered open-ended and forced-choice questions about why the boy made a false allegation. The 6- and 7-year-olds performed poorly on all question types, whereas the 12- and 13-year-olds were at ceiling. There were developmental increases in metasuggestibility between 8 and 11 years. Our findings indicate that metasuggestibility undergoes prolonged development well into the school years. Implications for child witness training programs are discussed. Copyright © 2010 John Wiley & Sons, Ltd.

Blandón-Gitlin, I., & Pezdek, K. (2009). Children's memory in forensic contexts: Suggestibility, false memory, and individual differences. In B. L. Bottoms, C. J. Najdowski, & G. S. Goodman (Eds.), *Children as Victims, Witnesses, and Offenders* (pp. 57-80). New York: Guilford Press.

Malloy, L. C., & Quas, J. A. (2009). Children's suggestibility: Areas of concern and controversy. In K. Kuehnle & M. Connell (Eds.), *The Evaluation of Child Sexual Abuse Allegations* (pp. 267-297). Hoboken, NJ: Wiley and Sons.

Bright-Paul, A., Jarrold, C., & Wright, D. B. (2008). Theory-of-mind development influences suggestibility and source monitoring. *Developmental Psychology*, 44(4), 1055-1068. <https://doi.org/10.1037/0012-1649.44.4.1055>

According to the mental-state reasoning model of suggestibility, 2 components of theory of mind mediate reductions in suggestibility across the preschool years. The authors examined whether theory-of-mind performance may be legitimately separated into 2 components and explored the memory processes underlying the associations between theory of mind and suggestibility, independent of verbal ability. Children 3 to 6 years old completed 6 theory-of-mind tasks and a post-event misinformation procedure. Contrary to the model's prediction, a single latent theory-of-mind factor emerged, suggesting a single component rather than a dual-component conceptualization of theory-of-mind performance. This factor provided statistical justification for computing a single composite theory-of-mind score. Improvements in theory of mind predicted reductions in suggestibility, independent of verbal ability (Study 1, $n = 72$). Furthermore, once attribution biases were controlled (Study 2, $n = 45$), there was also a positive relationship between theory of mind and source memory, but not recognition performance. The findings suggest a substantial, and possibly causal, association between theory-of-mind development and resistance to suggestion, driven specifically by improvements in source monitoring.

Price, H. L., & Connolly, D. A. (2008). Children's recall of emotionally arousing, repeated events: A review and call for further investigation. *International Journal of Law and Psychiatry*, 31(4), 337-346. <https://doi.org/10.1016/j.ijlp.2008.06.002>

The influence, if any, of emotional arousal on memory is a controversial topic in the literature. Much of the research on memory for emotionally arousing events has focused on a few specific issues (e.g., differences in types of details recalled in emotionally arousing and neutral events; increasing ecological validity). Although gaining more recent attention, a neglected area in the literature has been memory for instances of repeated, emotionally arousing events. This issue has important implications for understanding children's ability to recall events in a forensic setting. We review existing findings on memory for emotionally arousing events in general and particularly in children, children's memory for events that occur repeatedly, and then discuss the scarce research on repeated emotionally arousing events and the need for further research in this area. We conclude that although it is clear that children are capable of accurately reporting arousing

and repeated experiences, it is also apparent that circumstances both within and outside the control of investigative interviewers influence this ability. © 2008 Elsevier Inc. All rights reserved.

Almerigogna, J., Ost, J., Bull, R., & Akehurst, L. (2007). [A state of high anxiety: How non-supportive interviewers can increase the suggestibility of child witnesses](https://doi.org/10.1002/acp.1311). *Applied Cognitive Psychology*, 21(7), 963-974. <https://doi.org/10.1002/acp.1311>

The present study examined the effects of state and trait anxiety on 8–11 years old children's susceptibility to misleading post-event information. Participants' state and trait anxiety were measured, after which they watched an extract from a children's movie. They were then individually interviewed using either a supportive or a non-supportive style. During the interviews, the children were asked 14 questions about the movie, seven of which were control and seven contained misleading information. After the interview, their state anxiety was measured again. Results showed that participants interviewed in a non-supportive style were more likely to provide incorrect answers to misleading questions. Furthermore, participants who scored highly on both trait and post-interview state anxiety measures more often responded incorrectly to misleading questions. Also, pre-to post-interview changes in state anxiety were correlated with more incorrect responses to misleading questions.

Ceci, S. J., Kulhovsky, S., Klemfuss, J. Z., Sweeney, C. D., & Bruck, M. (2007). Unwarranted assumptions about children's testimonial accuracy. *Annual Review of Clinical Psychology*, 3, 311-328. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091354>

We examine eight unwarranted assumptions made by expert witnesses, forensic interviewers, and legal scholars about the reliability of children's eyewitness reports. The first four assumptions modify some central beliefs about the nature of suggestive interviews, age-related differences in resistance to suggestion, and thresholds necessary to produce tainted reports. The fifth unwarranted assumption involves the influence of both individual and interviewer factors in determining children's suggestibility. The sixth unwarranted assumption concerns the claim that suggested reports are detectable. The seventh unwarranted assumption concerns new findings about how children deny, disclose, and/or recant their abuse. Finally, we examine unwarranted statements about the value of science to the forensic arena. It is important not only for researchers but also expert witnesses and court-appointed psychologists to be aware of these unwarranted assumptions.

Eisen, M. L., Goodman, G. S., Qin, J., Davis, S., & Crayton, J. (2007). Maltreated children's memory: Accuracy, suggestibility, and psychopathology. *Developmental Psychology*, 43(6), 1275-1294. <https://doi.org/10.1037/0012-1649.43.6.1275>

Memory, suggestibility, stress arousal, and trauma-related psychopathology were examined in 328 3- to 16-year-olds involved in forensic investigations of abuse and neglect. Children's memory and suggestibility were assessed for a medical examination and venipuncture. Being older and scoring higher in cognitive functioning were related to fewer inaccuracies. In addition, cortisol level and trauma symptoms in children who reported more dissociative tendencies were associated with increased memory error, whereas cortisol level and trauma symptoms were not associated with increased error for children who reported fewer dissociative tendencies. Sexual and/or physical abuse predicted greater accuracy. The study contributes important new information to scientific understanding of maltreatment, psychopathology, and eyewitness memory in children.

Henry, L. A., & Gudjonsson, G. H. (2007). Individual and developmental differences in eyewitness recall and suggestibility in children with intellectual disabilities. *Applied Cognitive Psychology*, 21(3), 361-381. <https://doi.org/10.1002/acp.1280>

This study examined two key issues: (1) whether there were developmental improvements in eyewitness memory performance for children with intellectual disabilities (ID); and (2) whether standardised measures of cognitive ability and suggestibility would relate to eyewitness recall and suggestibility. Children with ID and age-matched controls (ages 8/9 and 12 years) watched a video of a crime and were asked a range of open-ended and specific questions about the event in a subsequent interview. Free recall increased between the two age levels for children with and without ID, but at a faster rate for those without ID. For other question types, differences in performance between children with and without ID were far more marked than age differences. Standardised measures of interrogative suggestibility (Gudjonsson Suggestibility Scale, GSS), verbal IQ, non-verbal IQ, mental age and speed of information processing were related to eyewitness performance. In particular, higher eyewitness recall scores (free recall, non-leading specific questions) were related to higher scores on the standardised GSS suggestibility measures. Mental age was a better predictor of performance on a range of eyewitness memory question types than verbal or nonverbal IQ; and speed of information processing showed some relationships with eyewitness performance. Copyright © 2006 John Wiley & Sons, Ltd.

McCrory, E., Henry, L. A., & Happé, F. (2007). Eye-witness memory and suggestibility in children with Asperger syndrome. *Journal of Child Psychology and Psychiatry*, 48(5), 482-489. <https://doi.org/10.1111/j.1469-7610.2006.01715.x>

Individuals with autism spectrum disorders (ASD) present with a particular profile of memory deficits, executive dysfunction and impaired social interaction that may raise concerns about their recall and reliability in forensic and legal contexts. Extant studies of memory shed limited light on this issue as they involved either laboratory-based tasks or protocols that varied between participants. The current study used a live classroom event to investigate eye-witness recall and suggestibility in children with Asperger syndrome (AS group; N = 24) and typically developing children (TD group; N = 27). All participants were aged between 11 and 14 years and were interviewed using a structured protocol. Two measures of executive functioning were also administered. The AS group were found to be no more suggestible and no less accurate than their peers. However, free recall elicited less information, including gist, in the AS group. TD, but not AS, participants tended to focus on the socially salient aspects of the scene in their free recall. Both general and specific questioning elicited similar numbers of new details in both groups. Significant correlations were found between memory recall and executive functioning performance in the AS group only. The present study indicates that children with AS can act as reliable witnesses but they may be more reliant on questioning to facilitate recall. Our findings also provide evidence for poor gist memory. It is speculated that such differences stem from weak central coherence and lead to a reliance on generic cognitive processes, such as executive functions, during recall. Future studies are required to investigate possible differences in compliance, rates of forgetting and false memory.

Olafson, E. (2007). Children's memory and suggestibility. In K. C. Faller (Ed.), *Interviewing Children about Sexual Abuse: Controversies and Best Practices* (pp. 10-34). New York: Oxford University Press.

Connolly, D. A., & Price, H. L. (2006). Children's suggestibility for an instance of a repeated event versus a unique event: The effect of degree of association between variable details. *Journal of Experimental Child Psychology*, 93(3), 207-223.
<https://doi.org/10.1016/j.jecp.2005.06.004>

Are children who experience an event repeatedly more suggestible about an instance of the event than children who experience it once? Researchers have answered this question both in the affirmative and in the negative. In this study, we hypothesized that the degree of association between details that changed across instantiations of the event would help to explain the discrepancy. Preschoolers (4- and 5-year-olds) and first graders (6- and 7-year-olds) participated in either a single play session or four repeated play sessions, each of which contained 16 critical details. Across play sessions in the repeat-event condition, half of the critical details were associated and half were not associated. During a biasing interview 2 weeks later, children were misinformed about half of the critical details. The next day, children answered free and cued recall questions about the target play session. Among older children, repeat-event participants were more suggestible than single-event participants, especially for high-association details. Among younger children, repeat-event participants were more suggestible than single-event participants for low-association details. Consistent with some current theories of children's memory, older children were more suggestible than younger children.

Robinson, J., & McGuire, J. (2006). Suggestibility and children with mild learning disabilities: The use of the cognitive interview. *Psychology, Crime & Law*, 12(5), 537-556.
<https://doi.org/10.1080/10683160500337550>

The aims of this paper were firstly to identify any differences in the level of suggestibility between 20 7-9-year-old children with mild learning disabilities and 20 children with average academic ability using the Gudjonsson Suggestibility Scale 2 (GSS2) and, secondly, to note the impact of the cognitive interview on the response patterns of children with mild learning disabilities. On the GSS2, average academic ability children recalled significantly more correct details than children with mild learning disabilities. There was no significant difference between the two groups of children on distortions, fabrications, total confabulations or on any of the four measures of suggestibility. In the second part of the study, 38 children with mild learning disabilities watched a filmed event and then were interviewed using either a standard or a modified version of the

cognitive interview. Following this, all participants were asked specific questions, some of which incorporated misleading information. One week later each participant was re-questioned. This time critical questions were included about the truth of the presuppositions introduced in the initial interview session. It was found that the cognitive interview elicited significantly more correct and incorrect details than a standard interview with no significant difference in fabrications. Use of the cognitive interview did not significantly affect susceptibility to subsequent misleading suggestions.

Roebers, C. M., & Schneider, W. (2005). Individual differences in young children's suggestibility: Relations to event memory, language abilities, working memory, and executive functioning. *Cognitive Development*, 20(3), 427-447.
<https://doi.org/10.1016/j.cogdev.2005.05.006>

In this paper, two empirical studies are presented in which an attempt was made to explain individual differences in two different aspects of 4-year-olds' suggestibility, that is, their ability to resist false suggestions and memory impairments due to prior misinformation. As sources of individual differences cognitive skills along the information processing pathways were chosen: executive functioning (Study 1) and working memory (Study 2). Additionally, memory for the observed event and language proficiency were included in the studies. The results revealed that overall individual differences in language skills made a significant and consistent contribution to individual differences in the included measures of children's susceptibility to suggestions. Executive function and working memory skills were not directly related to children's tendency to yield false suggestions and their memory impairments in a recognition test after being misled. However, both executive function and working memory were related to children's language proficiency pointing to a possible indirect effect and underlining the importance of language competencies in early childhood. © 2005 Elsevier Inc. All rights reserved.

Richardson, G., & Kelly, T. P. (2004). A study in the relationship between interrogative suggestibility, compliance and social desirability in institutionalised adolescents. *Personality and Individual Differences*, 36(2), 485-494.
[https://doi.org/10.1016/S0191-8869\(03\)00263-0](https://doi.org/10.1016/S0191-8869(03)00263-0)

This study is the first to investigate the relationship between interrogative suggestibility, compliance and social desirability in a British adolescent forensic sample. Fifty-one institutionalised adolescents completed the Gudjonsson Suggestibility Scale (GSS1), the Gudjonsson Compliance Scale (GCS), and the Eysenck Personality Questionnaire—Junior (EPQ-J). Their suggestible and compliant behaviours were rated by two residential staff who had daily contact with the adolescents. No correlations were found between Suggestibility scores and ratings of suggestible behaviour. A significant positive correlation was found between Gudjonsson Compliance Scale scores and ratings of compliant behaviour within the institution. This provides criterion-related validity for the GCS. The pattern of correlations between Compliance Scale scores and Suggestibility Scale scores indicated that adolescents who score more highly on compliance are vulnerable to leading questions (Yield 1) rather than interrogative pressure (Shift). Social desirability as measured by the Lie Scale of the Eysenck Personality Questionnaire-Junior was found to correlate with suggestibility (Yield 1) and with self-reported compliance (GCS). © 2003 Elsevier Ltd. All rights reserved.

Mitchell, K. J., Johnson, M. K., & Mather, M. (2003). [Source monitoring and suggestibility to misinformation: Adult age-related differences](https://doi.org/10.1002/acp.857). *Applied Cognitive Psychology*, 17(1), 107-119. <https://doi.org/10.1002/acp.857>

We compared young and older adults' source monitoring performance on an explicit source identification test using the misinformation paradigm. Several age-related differences in source memory were demonstrated: (a) older adults were more likely than were young adults to say that they saw information that was actually only suggested to them; (b) older adults were more confident in their false memories than were young adults; (c) older adults were less confident in their accurate memory for the source of information than were young adults. Together, the data suggest that older adults either lacked or failed to use helpful diagnostic source information (e.g. perceptual details or temporal information), and that their confidence in their false memories reflected an over-weighting of semantic information. Copyright © 2002 John Wiley & Sons, Ltd.

Redlich, A. D., & Goodman, G. S. (2003). Taking responsibility for an act not committed: The influence of age and suggestibility. *Law and Human Behavior*, 27(2), 141-156. <https://doi.org/10.1023/A:1022543012851>

Inherent in false confessions is a person taking responsibility for an act he or she did not commit. The risk of taking such responsibility may be elevated in juveniles. To study possible factors that influence individuals' likelihood for taking responsibility for something they did not do, participants in a laboratory experiment were led to believe they crashed a computer when in fact they had not. Participants from 3 age groups were tested: 12- and 13-year-olds, 15- and 16-year-olds, and young adults. Half of the participants in each age group were presented with false evidence indicating liability. Additionally, suggestibility was investigated as a potential individual-difference factor affecting vulnerability to admissions of guilt. Results showed that younger and more suggestible participants were more likely than older and less suggestible participants to falsely take responsibility. Implications of these findings for juvenile justice are discussed.

Eisen, M. L., Qin, J., Goodman, G. S., & Davis, S. L. (2002). Memory and suggestibility in maltreated children: Age, stress arousal, dissociation, and psychopathology. *Journal of Experimental Child Psychology*, 83(3), 167-212. [https://doi.org/10.1016/S0022-0965\(02\)00126-1](https://doi.org/10.1016/S0022-0965(02)00126-1)

The present study was designed to assess children's memory and suggestibility in the context of ongoing child maltreatment investigations. One hundred eighty-nine 3–17-year-olds involved in evaluations of alleged maltreatment were interviewed with specific and misleading questions about an anogenital examination and clinical assessment. For the anogenital examination, children's stress arousal was indexed both behaviorally and physiologically. For all children, individual-difference data were gathered on intellectual and short-term memory abilities, general psychopathology, and dissociative tendencies. Interviewers' ratings were available for a subset of children concerning the amount of detail provided in abuse disclosures. Results indicated that general psychopathology, short-term memory, and intellectual ability predicted facets of children's memory performance. Older compared to younger children evinced fewer memory errors and greater suggestibility resistance. Age was also significantly related to the amount of detail in

children's abuse disclosures. Neither dissociation nor stress arousal significantly predicted children's memory. Implications for understanding maltreated children's eyewitness memory are discussed. © 2002 Elsevier Science (USA). All rights reserved.

Lyon, T. D. (2002). [Applying suggestibility research to the real world: The case of repeated questions](#). *Law & Contemporary Problems*, 65, 97-126.

Powell, M. B., & Roberts, K. P. (2002). [The effect of repeated experience on children's suggestibility across two question types](#). *Applied Cognitive Psychology*, 16(4), 367-386. <https://doi.org/10.1002/acp.801>

There is a discrepancy in the literature regarding the effect of repeated experience on children's suggestibility. Some researchers have concluded that repeated experience increases children's suggestibility for variable details whereas others have reported no detrimental effect. This study demonstrated that the type of question used to test memory (cued-recall vs. yes/no questions) could account for the different reported conclusions. Children aged 5-6 years took part in an event either once or four times. Three or 21 days later, they were given a suggestive interview about the single/final occurrence of the event during which half of the event details were inaccurately described. When later asked yes/no questions, the children with repeated experience agreed with more of the suggestions than did those in the single-experience condition, especially at the longer delay. In relation to cued-recall questions, however, experience did not mediate the number of times that false suggestions from the biasing interview were reported. This latter finding was revealed irrespective of the retention interval.

Roberts, K. P. (2002). Children's ability to distinguish between memories from multiple sources: Implications for the quality and accuracy of eyewitness statements. *Developmental Review*, 22(3), 403-435. [https://doi.org/10.1016/S0273-2297\(02\)00005-9](https://doi.org/10.1016/S0273-2297(02)00005-9)

Identifying the sources of memories (e.g., who carried out an action, whether an event happened or was suggested, and when an instance of a repeated event occurred) is an important skill in providing accurate accounts of events in forensic investigations. Sensitivity to the nature and development of children's source-monitoring skills can inform interviewing practices. Five

perspectives addressing alternate aspects of the development of children's source monitoring are outlined (source monitoring theory, fuzzy-trace theory, schema theory, the person-based perspective, and the mental-state reasoning model). Six main areas of empirical research stemming from these theories are then discussed with emphasis on how the findings relate to the forensic arena: the similarity of sources, the identity of the agent, prospective processing, the relation of source monitoring to other cognitive skills, metacognitive understanding, and the stringency of source-monitoring decisions. The research reviewed is used to address two main applications to forensic investigations: (a) expectations of child witnesses and (b) interviewing protocols. © 2002 Elsevier Science (USA). All rights reserved.

Rosenthal, J. R. (2002). Suggestibility, reliability, and the legal process. *Developmental Review*, 22(3), 334-369. [https://doi.org/10.1016/S0273-2297\(02\)00002-3](https://doi.org/10.1016/S0273-2297(02)00002-3)

Courts have long excluded evidence that has been exposed to corrupting or tainting influence. For example, eyewitness identification testimony obtained by police through suggestive means is excluded because suggestion is known to be capable of corrupting a witness' ability to make an identification reflecting personal experience rather than the suggestion. This article is intended to help lawyers and expert witnesses understand how well-established legal principles demand the exclusion of suggestion- induced accusations in child abuse cases just as they do suggestion-induced identifications. The article provides a discussion of legal arguments that support the exclusion of accusations obtained through suggestion, an overview of the relevant scientific research literature, and a discussion of the admissibility of this research literature. It also dispels some of the more common arguments offered against the use of relevant scientific research literature to educate courts and juries about the corrupting effects of suggestive interviews. © 2002 Elsevier Science (USA). All rights reserved.

Saywitz, K. J., & Lyon, T. D. (2002). [Coming to grips with children's suggestibility](#). In M. Eisen, G. Goodman, & J. Quas (Eds.), *Memory and suggestibility in the forensic interview* (pp. 85-113). Hillsdale, NJ: Erlbaum.

Warren, A. R., & Marsil, D. F. (2002). [Why children's suggestibility remains a serious concern](https://doi.org/10.2307/1192368). *Law & Contemporary Problems*, 65, 127-147. <https://doi.org/10.2307/1192368>

After more than two decades of continuous contemporary research on the child as a witness in legal proceedings, a great deal is known about children's eyewitness memory and suggestibility. Excellent reviews of this research are available,¹ and their summaries and conclusions will not be reiterated here. Instead, this article will focus on six areas representing some of the most intractable problems that will require further attention from scientists and practitioners alike. This list of issues is selective and somewhat idiosyncratic, but should serve to illustrate why the current understanding of children's suggestibility is far from complete. Research on each issue will be highlighted, concentrating primarily on studies published or presented in the past ten years.

Burgwyn-Bailes, E., Baker-Ward, L., Gordon, B. N., & Ornstein, P. A. (2001). Children's memory for emergency medical treatment after one year: The impact of individual difference variables on recall and suggestibility. *Applied Cognitive Psychology*, 15, 25-48. <https://doi.org/10.1002/acp.833>

This study explores the impact of individual difference variables on children's recall and suggestibility when they discuss a stressful personal experience. It was hypothesized that some differences in social factors, including child self-concept and parenting style, would be associated with variations in the way children related their experiences. Participants were 24 3- to 7-year-old children who sustained facial lacerations requiring minor medical emergency treatment by a plastic surgeon. The children were interviewed about their surgeries on three occasions: a few days, 6 weeks and 1 year after the experience. A number of individual difference measures were administered to the children and their parents at the time of the first two interviews. The results support the hypothesis that there are individual difference variables that may help to explain some of the variability in children's recall and suggestibility. Younger children with poorer receptive language skills and children of more traditional parents recalled less total information about their surgeries after one year. Child traditionalism, achievement-motivation and social avoidance, as assessed by use of the Eder Self-View Questionnaire, made a difference in suggestibility at the initial interview, but not at subsequent memory assessments. The results are interpreted as suggesting that both the demand characteristics of the interview and the strength of the memory trace are important in understanding the effects of individual difference variables in memory

performance. Implications for child testimony are discussed. Copyright © 2001 John Wiley & Sons, Ltd.

Connolly, D. A., & Lindsay, D. S. (2001). The influence of suggestions on children's reports of a unique experience versus an instance of a repeated experience. *Applied Cognitive Psychology*, 15(2), 205-223.
[https://doi.org/10.1002/1099-0720\(200103/04\)15:2<205::AID-ACP698>3.0.CO;2-F](https://doi.org/10.1002/1099-0720(200103/04)15:2<205::AID-ACP698>3.0.CO;2-F)

In Experiment 1 we compared the influence of misleading suggestions on 4-, 6-, and 8-year-olds' reports of details of an instance of a repeated experience versus a unique experience. For children who experienced the event repeatedly, some components remained constant across instances (fixed) whereas others varied (variable). Relative to children who had experienced the event only once, those who had experienced it repeatedly were less affected by suggestions regarding fixed details and more affected by suggestions regarding variable details. In Experiment 2 a misinformation effect was observed in responses to questions about variable details but not in responses to questions about fixed details. Copyright © 2001 John Wiley & Sons, Ltd.

Lyon, T. D. (Fall, 2001). Let's not exaggerate the suggestibility of children. *Court Review*, 12-14.

Poole, D. A., & Lindsay, D. S. (2001). [Children's eyewitness reports after exposure to misinformation from parents](https://doi.org/10.1037/1076-898X.7.1.27). *Journal of Experimental Psychology: Applied*, 7(1), 27-50.
<https://doi.org/10.1037/1076-898X.7.1.27>

This study examined how misleading suggestions from parents influenced children's eyewitness reports. Children (3 to 8 years old) participated in science demonstrations, listened to their parents read a story that described experienced and nonexperienced events, and subsequently discussed the science experience in two follow-up interviews. Many children described fictitious events in response to open-ended prompts, and there were no age differences in suggestibility during this phase of the interview. Accuracy declined markedly in response to direct questions, especially for the younger children. Although the older children retracted many of their false reports after receiving source-monitoring instructions, the younger children did not. Path analyses indicated that acquiescence, free recall, and source monitoring all contribute to mediating patterns of

suggestibility across age. Results indicate that judgments about the accuracy of children's testimony must consider the possibility of exposure to misinformation prior to formal interviews.

Roberts, K. P., & Powell, M. B. (2001). [Describing individual incidents of sexual abuse: A review of research on the effects of multiple sources of information on children's reports](https://doi.org/10.1016/S0145-2134(01)00290-3). *Child Abuse & Neglect*, 25(12), 1643-1659. [https://doi.org/10.1016/S0145-2134\(01\)00290-3](https://doi.org/10.1016/S0145-2134(01)00290-3)

For successful prosecution of child sexual abuse, children are often required to provide reports about individual, alleged incidents. Although verbally or mentally rehearsing memory of an incident can strengthen memories, children's report of individual incidents can also be contaminated when they experience other events related to the individual incidents (e.g., informal interviews, dreams of the incident) and/or when they have similar, repeated experiences of an incident, as in cases of multiple abuse. Research is reviewed on the positive and negative effects of these related experiences on the length, accuracy, and structure of children's reports of a particular incident. Children's memories of a particular incident can be strengthened when exposed to information that does not contradict what they have experienced, thus promoting accurate recall and resistance to false, suggestive influences. When the encountered information differs from children's experiences of the target incident, however, children can become confused between their experiences—they may remember the content but not the source of their experiences. We discuss the implications of this research for interviewing children in sexual abuse investigations and provide a set of research-based recommendations for investigative interviewers. © 2001 Elsevier Science Ltd. All rights reserved.

Geddie, L., Fradin, S., & Beer, J. (2000). Child characteristics which impact accuracy of recall and suggestibility in preschoolers: Is age the best predictor?. *Child Abuse & Neglect*, 24(2), 223-235. [https://doi.org/10.1016/S0145-2134\(99\)00133-7](https://doi.org/10.1016/S0145-2134(99)00133-7)

The purpose of the present study was to determine whether individual difference factors of metamemory, intelligence, and temperament can improve the ability to predict accuracy of recall and suggestibility in preschoolers. Fifty-six children ranging in age from 43 months to 83 months (M 5 61, SD 5 9) were recruited from 13 child care centers in a rural southeastern town. Children

participated in a “Circus Day” event conducted by two female undergraduate psychology students dressed as clowns. Approximately 10 days (M 5 10; SD 5 2) after the event, children were interviewed regarding their experiences. Bivariate correlations and multiple regression analyses were performed in order to determine which factors were related and unique contributors to accuracy of recall and suggestibility. Of principal importance is the finding that child characteristics such as metamemory ability, intellectual functioning, and temperament may indeed be helpful in determining a child’s capacity to accurately recall information in an interview, although for the most part age is the best predictor. Findings also underscore the importance of considering a child’s SES and race when planning and conducting interviews with young children. Possible explanations for these findings as well as implications for future research and clinical application are discussed. © 2000 Elsevier Science Ltd

Imhoff, M. C., & Baker-Ward, L. (1999). Preschoolers' suggestibility: Effects of developmentally appropriate language and interviewer supportiveness. *Journal of Applied Developmental Psychology*, 20(3), 407-429.
[https://doi.org/10.1016/S0193-3973\(99\)00022-2](https://doi.org/10.1016/S0193-3973(99)00022-2)

Three- and four-year-old children were interviewed about a personally experienced event after a 2-week delay. Children were interviewed with one of four alternative interview protocols that differed with regard to degree of interviewer support and language appropriateness. Accuracy of responses to direct questions concerning event features was scored, and answers to misleading questions were coded as an indicator of suggestibility. Individual difference measures of language ability, temperament, task engagement, and parenting attitudes were also collected. The results indicate that interviewers can increase young preschoolers’ resistance to suggestibility by using language that is easily comprehensible to young children. Language appropriateness was not as important for the older children and the degree of support did not influence suggestibility for either the younger or the older children. Furthermore, individual difference measures were not related to accuracy for direct questions or suggestibility.

Powell, M. B., Roberts, K. P., Ceci, S. J., & Hembrooke, H. (1999). The effects of repeated experience on children's suggestibility. *Developmental Psychology*, 35(6), 1462-1477.
<https://doi.org/10.1037/0012-1649.35.6.1462>

The effect of suggestive questions on 3- to 5-year-old and 6- to 8-year-old children's recall of the final occurrence of a repeated event was examined. The event included fixed (identical) items as well as variable items where a new instantiation represented the item in each occurrence of the series. Relative to reports of children who participated in a single occurrence, children's reports about fixed items of the repeated event were more accurate and less contaminated by false suggestions. For variable items, repeated experience led to a decline in memory of the specific occurrence; however, there was no increase in susceptibility to suggestions about details that had not occurred. Most errors after repeated experience were intrusions of details from nontarget occurrences. Although younger children and children who were interviewed a while after the event were more suggestible, respectively, than older children and those interviewed soon after the event, repeated experience attenuated these effects.

Eisen, M. L., & Goodman, G. S. (1998). Trauma, memory, and suggestibility in children. *Development and Psychopathology*, 10(4), 717-738.
<https://doi.org/10.1017/S0954579498001837>

In this review we examine factors hypothesized to affect children's memory for traumatic events. Theoretical ideas on the processing and remembering of trauma are presented and critiqued. We review research on how psychopathology may generally influence and dissociation and posttraumatic stress disorder may specifically influence children's memory and suggestibility. The special case of child maltreatment is addressed as it relates to interviewing children about traumatic life experiences. Throughout we draw on current developmental, cognitive, social, and clinical theory and research. The review covers a controversial and exciting area of psychological inquiry.

Lyon, T. D. (1998). [New wave in children's suggestibility research: A critique](#). *Cornell Law Review*, 84, 1004-1087.

Bruck, M., & Ceci, S. J. (1997). The suggestibility of young children. *Current Directions in Psychological Science*, 6(3), 75-79. <https://doi.org/10.1111/1467-8721.ep11512660>

Ceci, S. J., & Huffman, M. C. (1997). How suggestible are preschool children? Cognitive and social factors. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(7), 948-958. <https://doi.org/10.1097/00004583-199707000-00017>

In this series of studies, the authors sought to determine some of the cognitive and social boundary conditions that can undermine the accuracy of young children's reporting. Care was taken to include events and interviewing variables that more accurately reflect the experiences of children in real-world investigations of alleged sexual abuse. Videotaped interviews with preschool children were presented to experts to determine how adept they are at distinguishing between true and false accounts. All the studies were designed to investigate the susceptibility to suggestion in young preschool children. The difference between studies was the form of that suggestion and the nature of the event to which the children were exposed. All studies measured recall accuracy, false assent rate, and the change in these outcomes over time and/or successive interviews. Very young preschool children (aged 3 and 4 years) were significantly more vulnerable to suggestions than were older preschool children (aged 5 and 6 years). The number of interviews and the length of the interval over which they were presented resulted in the greatest level of suggestibility. While some types of events (negative, genital, salient) were more difficult to implant in children's statements, some children appeared to internalize the false suggestions and resisted debriefing. These children's false statements were quite convincing to professionals, who were unable to distinguish between true and false accounts.

Coxon, P., & Valentine, T. (1997). The effects of the age of eyewitnesses on the accuracy and suggestibility of their testimony. *Applied Cognitive Psychology*, 11(5), 415-430. [https://doi.org/10.1002/\(SICI\)1099-0720\(199710\)11:5<415::AID-ACP469>3.0.CO;2-A](https://doi.org/10.1002/(SICI)1099-0720(199710)11:5<415::AID-ACP469>3.0.CO;2-A)

Previous studies have compared the performance of young adult eyewitnesses with that of children or elderly witnesses, but few studies have allowed direct comparison of the performance of all three age groups. The accuracy and suggestibility of accounts of a video recording of a kidnapping was investigated using an experimental eyewitness paradigm. Subjects were drawn from three age

groups; children (aged 7 - 9 years); young adults (aged 16 - 18 years) and elderly subjects (aged 60 - 85 years). Subjects' accuracy in answering non-misleading questions and their susceptibility to misleading information was measured. Both the elderly and child subjects gave fewer correct answers and more incorrect answers to nonmisleading questions than did young adults. The elderly subjects gave fewer correct responses but also fewer incorrect responses to non-misleading questions than did child subjects. Children were more suggestible than either elderly or young adults. No significant difference was found in the suggestibility of elderly and young adults. Contrary to the trace strength hypothesis no relationship was found between accuracy of recall and suggestibility.

Huffman, M. L., Crossman, A. M., & Ceci, S. J. (1997) Are false memories permanent? An investigation of the long-term effects of source misattributions. *Consciousness and Cognition*, 6, 482-490. <https://doi.org/10.1006/ccog.1997.0316>

With growing concerns over children's suggestibility and how it may impact their reliability as witnesses, there is increasing interest in determining the long-term effects of induced memories. The goal of the present research was to learn whether source misattributions found by Ceci, Huffman, Smith, and Loftus (1994) caused permanent memory alterations in the subjects tested. When 22 children from the original study were reinterviewed 2 years later, they recalled 77% of all true events. However, they only consented to 13% of all false events, compared to the 22% false consent rate (among the same subset of children) found by Ceci et al. (1994). Additionally, while children remained accurate in their recall of true events (they maintained assents 78% of the time), they "recanted" their earlier false consents 77% of the time, after the 2-year delay. Implications of these findings for child witnesses and the legal system are discussed.

Pezdek, K., & Roe, C. (1997). The suggestibility of children's memory for being touched: Planting, erasing, and changing memories. *Law and Human Behavior*, 21(1), 95-106. <https://doi.org/10.1023/A:1024870127516>

Investigates recent claims that it is relatively easy to suggestively plant false memories in children, by comparing the relative vulnerability to suggestibility of changed, planted, and erased memories. 80 4-year-olds and 80 10-year-olds either were touched in a specific way or were not touched at all, and it was later suggested that a different touch, a completely new touch, or no touch at all had

occurred. The suggestibility effect occurred only in the changed memory condition; the difference between the experimental changed condition and the corresponding control condition was significant. In the planted and erased memory conditions no suggestibility effect occurred; there was no significant reduction in the experimental groups relative to the corresponding control conditions. Thus, although it is relatively easy to suggest to a child a change in an event that was experienced, it is less likely that an event can be planted in or erased from memory. It is thus inappropriate to provide courtroom testimony regarding the probability of suggestively planting false memories based on the classic suggestibility research, which has largely been restricted to the study of suggestively changing memories.

Reed, L. D. (1996). Findings from research on children's suggestibility and implications for conducting child interviews. *Child Maltreatment, 1*(2), 105-120.
<https://doi.org/10.1177/1077559596001002003>

The primary purpose of investigations of suspected child maltreatment should be to arrive at valid conclusions about the “truth” of the matter. Determinations about whether child maltreatment has occurred are often based, at least in part, on the perceived reliability of the statements of the suspected child victim. This has given rise to questions about children's suggestibility and the impact of various child interview practices on the reliability of children's statements. Recent research has attempted to address some of these questions in a more “ecologically valid” fashion than did earlier research. This article summarizes pertinent research relating to children's suggestibility and discusses the implications of this research as it relates to child interview practices. Specific suggestions are offered for minimizing suggestibility effects and maximizing the reliability of children's statements during child interviews.

Cassel, W. S., & Bjorklund, D. F. (1995). Developmental patterns of eyewitness memory and suggestibility. *Law and Human Behavior, 19*(5), 507-532.
<https://doi.org/10.1007/BF01499341>

Adults, 8-, and 6-year-olds viewed a video of 2 children arguing over a bicycle and were asked free and cued-recall as well as positive- and negative-leading questions in multiple interviews. Correct free recall varied with the type of the item. Age differences were found for correct free

recall, but not for unbiased cued recall. Unbiased cues evoked more correct and incorrect responses from all subjects. Incorrect free recall was at near floor levels. Forgetting for all ages was comparable when based on levels of initial free recall but was greater for the children when based on what was remembered to unbiased cued-recall questions. Age differences were found for suggestibility, with the 6-year-olds being more suggestible to the negative-leading questions than participants in the other two age groups. Adults demonstrated a rejection bias. Adults compared to children correctly recalled more peripheral items. Changed answers were most common for 6-year olds. Results and implications are discussed in terms of experiences an eyewitness could expect when involved in the pretrial testimony-taking events in a characteristic misdemeanor matter.

Leichtman, M. D., & Ceci, S. J. (1995). The effects of stereotypes and suggestions on preschoolers' reports. *Developmental Psychology*, 31(4), 568-578.
<https://doi.org/10.1037/0012-1649.31.4.568>

Children's (N= 176) reported memories of a strange man's visit were studied. Three- to 6-year-olds were interviewed repeatedly after the event in one of the following conditions: (a) control, in which no interviews contained suggestive questions; (b) stereotype, in which children were given previsit expectations about the stranger; (c) suggestion, in which interviews contained erroneous suggestions about misdeeds committed by the stranger; and (d) stereotype plus suggestion, in which children were given both pre- and postvisit manipulations. Results from open-ended interviews after 10 weeks indicated that control participants provided accurate reports, stereotypes resulted in a modest number of false reports, and suggestions resulted in a substantial number of false reports. Children in the stereotype-plus-suggestion group made high levels of false reports. All experimental conditions showed dramatic developmental trends favoring older children.

Richardson, G., Gudjonsson, G. H., & Kelly, T. P. (1995). Interrogative suggestibility in an adolescent forensic population. *Journal of Adolescence*, 18(2), 211-216.
<https://doi.org/10.1006/jado.1995.1014>

Sixty-five juvenile offenders in residential care completed the Gudjonsson Suggestibility Scale (GSS1). Their scores were compared with those of 60 adult offenders. The two groups were matched for IQ and memory on the GSS. As predicted, the juveniles gave in significantly more to

interrogative pressure (shift), whereas they were no more yielding to leading questions than the adult offenders. The results obtained are similar to those found in previous studies of interrogative suggestibility in both delinquent boys and adolescent boys. The study provides further confirmation that adolescents are especially vulnerable to interrogative pressure as measured by the tendency to change their previous answers following negative feedback.

Ceci, S. J., Huffman, M. L., Smith, E., & Loftus, E. F. (1994). Repeatedly thinking about a non-event: Source misattributions among preschoolers. *Consciousness & Cognition*, 3(3-4), 388-407. <https://doi.org/10.1006/ccog.1994.1022>

In this paper we review the factors alleged to be responsible for the creation of inaccurate reports among preschool-aged children, focusing on so-called "source misattribution errors." We present the first round of results from an ongoing program of research that suggests that source misattributions could be a powerful mechanism underlying children's false beliefs about having experienced fictitious events. Preliminary findings from this program of research indicate that all children of all ages are equally susceptible to making source misattributions. Data from a follow-up wave of data indicate that very young children may be disproportionately vulnerable to these kinds of errors when the procedure is changed slightly to create mental images more easily. This vulnerability leads younger preschoolers, on occasion, to claim that they actually experienced events that they only thought about. These preliminary findings are discussed in the context of the ongoing debate over the veracity and durability of delayed reports of early memories, repressed memories, dissociative states, and the validity risks posed by therapeutic techniques that entail repeated visually guided imagery inductions.

Ceci, S. J., & Bruck, M. (1993). Suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin*, 113(3), 403-439.

The field of children's testimony is in turmoil, but a resolution to seemingly intractable debates now appears attainable. In this review, we place the current disagreement in historical context and describe psychological and legal views of child witnesses held by scholars since the turn of the 20th century. Although there has been consistent interest in children's suggestibility over the past

century, the past 15 years have been the most active in terms of the number of published studies and novel theorizing about the causal mechanisms that underpin the observed findings. A synthesis of this research posits three "families" of factors—cognitive, social, and biological—that must be considered if one is to understand seemingly contradictory interpretations of the findings. We conclude that there are reliable age differences in suggestibility but that even very young children are capable of recalling much that is forensically relevant. Findings are discussed in terms of the role of expert witnesses.

Danielsdottir, G., Sigurgeirsdottir, S., Einarsdottir, H. R., & Haraldsson, E. (1993). Interrogative suggestibility in children and its relationship with memory and vocabulary. *Personality and Individual Differences*, 14(3), 499-502.
[https://doi.org/10.1016/0191-8869\(93\)90323-U](https://doi.org/10.1016/0191-8869(93)90323-U)

The Gudjonsson Suggestibility Scale was administered to 160 children, 6, 8, 10 and 12 years old with 20 girls and 20 boys in each age group along with a brief version of the Vocabulary subtest of the WISC. Total suggestibility and yield suggestibility decreased with age and children were found to have higher interrogative suggestibility scores than adults. As with adults, memory showed a negative correlation with total suggestibility and shift for 8, 10 and 12 year olds, and with yield for 10 and 12 year olds. No such correlation was significant for 6 year olds. There was a negative correlation between vocabulary and yield and total suggestibility of 12 year olds. These results are in line with earlier findings of suggestibility in adults.

Tobey, A. E., & Goodman, G. S. (1992). Children's eyewitness memory: Effects of participation and forensic context. *Child Abuse & Neglect*, 16(6), 779-796.
[https://doi.org/10.1016/0145-2134\(92\)90081-2](https://doi.org/10.1016/0145-2134(92)90081-2)

We examined effects of participation and forensic context on 4-year-old children's testimony. Children in "participant" and "police" conditions actively participated in games with a "babysitter"; each child in the "observer" condition watched a videotape of a child and the babysitter playing. Eleven days later, children were individually questioned about the event. Before the interview began, children in the police condition talked to a police officer who said the babysitter might have done something bad. Comparison of participant- and observer-condition

performance indicated that participation increased free-recall accuracy concerning actions that took place and lowered suggestibility. Comparison of participant- and police-condition performance indicated that forensic context led to increased error in free recall and additional comments to misleading questions. However, forensic context also resulted in higher accuracy on an age-identification task and did not affect children's accuracy in answering abuse-related questions.

Saywitz, K. J., Goodman, G. S., Nicholas, E., & Moan, S. F. (1991). Children's memories of a physical examination involving genital touch: Implications for reports of child sexual abuse. *Journal of Consulting and Clinical Psychology*, 59(5), 682-691.

Evaluation of child sexual abuse often necessitates interviewing children about genital touch, yet little scientific research exists on how best to obtain children's reports of genital contact. To examine this issue, 72 five- and seven-year-old girls experienced a standardized medical checkup. For half of the children, the checkup included a vaginal and anal examination (genital condition); for the other half, the checkup included a scoliosis examination instead (nongenital condition). The children's memories were later solicited through free recall, anatomically detailed doll demonstration, and direct and misleading questions. The majority of children in the genital condition revealed vaginal and anal contact only when asked directly about it. Children in the nongenital condition never falsely reported genital touch in free recall or doll demonstration; when asked directly, the false report rate was low. Significant age differences in free recall and doll demonstration, found only in the nongenital condition, implicated socioemotional factors as suppressing the reports of older children who experienced genital contact.

Cole, C. B., & Loftus, E. F. (1987). The memory of children. In *Children's eyewitness memory* (pp. 178-208). Springer, New York, NY.

Lindsay, D. S., & Johnson, M. K. (1987). Reality monitoring and suggestibility: Children's ability to discriminate among memories from different sources. In *Children's Eyewitness Memory* (pp. 92-121). Springer, New York, NY.

Cohen, R. L., & Harnick, M. A. (1980). The susceptibility of child witnesses to suggestion. *Law and Human Behavior*, 4(3), 201-210. <https://doi.org/10.1007/BF01040318>

This article deals with the reliability of child witnesses, in particular from the viewpoint that child witnesses should be treated with suspicion because their memories are very susceptible to suggestion. An experiment is reported, in which grade 3, grade 6, and college students were compared on their ability to recall events from a film, in the face of (mis)leading questions from an interrogator. The data showed that the grade 6 students were equal to the college students in memory capacity and in their ability to resist suggestion. The grade 3 students were inferior to the older subjects in these areas. However, the results from a second testing session led to the conclusion that although the younger children appeared to submit to suggestion much more readily than the older subjects, the effect of suggestion on actual memory was not significantly different for the three subject-groups. The implications of these findings are discussed with reference to the present status of child witnesses in Anglo-Saxon law systems.