THE POSSIBLE ROLE OF SOURCE MISATTRIBUTIONS IN THE CREATION OF FALSE BELIEFS AMONG PRESCHOOLERS[1]

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Abstract: In this article the authors examine one possible factor in the creation of false beliefs among preschool-aged children, namely, *source misattributions*. The authors present the results from an ongoing program of research which suggest that source misattributions could be a mechanism underlying children's false beliefs about having experienced fictitious events. Findings from this program of research indicate that, although all children are susceptible to making source misattributions, very young children may be disproportionately vulnerable to these kinds of errors. This vulnerability leads younger preschoolers, on occasion, to claim that they remember actually experiencing events that they only thought about or were suggested by others. These results 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.

In the past few years we have learned a great deal about techniques for eliciting information from young children—over and above information that they provide under standard free recall procedures. We now know about effective ways of obtaining information that were unknown

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only a few years ago, such as the *cognitive interview* (Geiselman & Padilla, 1988), the use of props such as anatomical dolls (Everson & Boat, in press), the use of leading questions (e.g., Saywitz, Goodman, Nicholas, & Moan, 1991), and repeated questioning (Poole & White, 1991).

But this new knowledge has come at a price: Using all of the elicitation techniques that have been shown to increase accurate reporting by a young child carries with it the danger that false reporting may also increase. The trade-offs in using some of these newer techniques when interviewing children, particularly about allegations of sexual abuse, have been a matter of some concern. For example, in terms of using leading questions, the following dilemmas have been described by Goodman and Clarke-Stewart (1991):

> Obtaining accurate testimony about sexual abuse from young children is a complex task. Part of the complexity rests in the fact that there are dangers as well as benefits in the use of leading questions with children. The benefits appear in the finding . . . that leading questions were often necessary to elicit information from children about actual events they have experienced (genital touching). . . . The children . . . were generally accurate in reporting specific and personal things that had happened to them. If these results can be generalized to investigations of abuse, they suggest that normal children are unlikely to make up details of sexual acts when nothing abusive happened. They suggest that children will not easily yield to an interviewer's suggestion that something sexual occurred when in fact it did not, especially if nonintimidating interviewers ask questions children can comprehend. (pp. 102-103)

Missing from the above quotation is a description of the potential dangers of using leading questions to elicit reports from children. As we have argued elsewhere (Ceci & Bruck, 1993a, 1993b), there are now a number of studies indicating that when techniques such as leading questions are used in interviews with young children, there is a potential for promoting false reports, even when the topic involves reporting specific and personal things that had happened to them, such as alleged genital touching.

We present the following analogy to depict more clearly the problem with which we are dealing. Suppose that you have invented a drug that is an effective treatment for persons afflicted with cancer. But suppose this drug will create cancer in some individuals who are cancer free. Assuming that you have no way of knowing for sure which individuals are afflicted with cancer and which are not, would you administer the drug to everyone? Obviously not if there are large numbers of noninfected persons; the risk of infecting them would be too great a price to pay.

The situation regarding the use of suggestive elicitation techniques with young children is a little bit like the cancer analogy because children who have been victimized often do not disclose the details of their victimization easily: If the only technique used to obtain their disclosures is free recall in response to open-ended questions, such as, "Is there

something you wish to tell me?" then many true victims of abuse will not disclose the details of their abuse. Unless these children are pursued over repeated interviews, using suggestive elicitation techniques such as leading questions and "memory work" procedures (e.g., hypnosis, journal writing, visually guided imagery), then true instances of abuse will go undisclosed and these children will remain vulnerable to revictimization.

On the other hand, if children who were *not* abused are subjected to these same elicitation techniques (i.e., hypnosis, multiple interviews, repeated suggestive questions), there is a chance that this can result in their making false disclosures. Thus there seems to be a dilemma between doing all we can to elicit disclosures of actual abuse (i.e., treating the cancer) and simultaneously avoiding anything that might increase the risk of false disclosures (i.e., inducing cancer in healthy patients).

In our previous work we have shown how certain types of interviewing techniques that have commonly been used by forensic investigators and by therapists have a high risk of eliciting false reports from children (see Bruck, Ceci, Francoeur, & Barr, in press; Ceci & Bruck, 1993a, 1993b; Leichtman & Ceci, in press). These procedures include the use of repeated suggestive questions across multiple interviews, the induction of stereotypes, and the interviewer's pursuit of a single hypothesis. Most recently we have studied the effects of a common therapeutic technique, memory visualization, on the authenticity of children's subsequent reports. Here, children are simply asked to visualize an event that the interviewer suggests may have happened.

In our previous studies (Ceci, in press; Ceci, Crotteau, Smith, & Loftus, in press), we simply asked children to think about some events that never happened as well as some events that did happen (e.g., "Did you ever get your hand caught in a mousetrap and have to go to the hospital to get it off?"). We asked them to answer such real and fictional questions once a week for a number of consecutive weeks. At the final session, the children were then asked whether these events had actually happened. If the child said they had, he or she was asked to provide a narrative about these events. The results of these studies were that over a third of the children eventually claimed that they remembered experiencing the fictional events that they had originally correctly denied experiencing during the prior sessions. For example, one child, who originally denied getting his hand caught in a mousetrap and going to the hospital, reported at the 11th session that he now remembered having such an experience:

> Uh huh. . . . My daddy, mommy, and my brother [took me to the hospital] in our van. . . . The hospital gave me a little bandage, and it was right here [pointing to index finger]. . . . I was looking and then I didn't see what I was doing and it [finger] got in there somehow. . . . The mousetrap was in our house because there's a mouse in our house. . . . The mousetrap is down in the basement, next to the firewood. . . . I was playing a game called "operation" and then I went downstairs and said to Dad, "I want to eat lunch," and then it got stuck in the mousetrap. . . . My daddy was down in the basement collecting firewood. . . . [My brother] pushed me [into the mousetrap]; he grabbed *Blow Torch* [an action figure]. It happened yesterday. The mouse was in my house yesterday. I caught my finger in it yesterday. I went to the hospital yesterday.

In the present article we change one major parameter of the paradigm. Now, instead of merely asking children if they remember experiencing a fictional event, we tell the children that the fictional event actually did happen and ask them to create a visual picture of it in their head and then to tell us if they remember it. In addition, we examine the effects of two factors on the emergence of children's false reports. The first concerns the type of event that the child is asked to imagine. We ask whether children's false reports about events that never happened but that were induced by visualization techniques vary as a function of the type of suggested event (e.g., positive vs. negative). Second, we ask whether children continue to hold onto their false memories even if they are told that the experimenter was trying to trick them and some of the fictional events never occurred.

Before presenting the details of this study, we provide some conceptual as well as theoretical background for its design. Of primary concern is the concept of *source misattributions* and the literature on developmental differences in source misattributions.

Source misattributions refer to the difficulties that arise when one attempts to separate two or more sources of their memories, for example, an actual perception of some event versus an induction to imagine the event. A number of researchers have shown that preschool-aged children find it more difficult to subsequently distinguish between actual and imagined self-generated acts, that is, between things that they merely imagined doing versus things that they actually did (Foley & Johnson, 1985; Foley, Santini, & Sopasakis, 1989). Even 9-year-olds have difficulty discriminating between acts they actually committed and those they merely imagined committing (Lindsay & Johnson, 1987), as well as between acts they actually witnessed in others and those they only imagined that others performed. Recently, Lindsay and his colleagues (Lindsay, Gonzalez, & Esso, in press; Lindsay, Johnson, & Kwon, 1991) have extended this conclusion to argue that children are disproportionately more likely to confuse perceptually or semantically similar sources. One type of similarity entails acts performed by two different individuals who are similar in age, gender, or style of dress; another type of similarity entails acts performed by an individual versus those that were merely imagined to have been performed by this individual. This work raises the possibility that misattributions of the sources of children's memories will occur when the two sources are similar and/or considered simultaneously.

A technique frequently used by therapists and social workers who interview preschool children involves asking them to think about a

possible event that the therapist believes may have occurred in the child's past, but is being denied or repressed. Repeatedly encouraging a child to "think real hard" about an alleged event may create multiple sources of memories, some actually experienced and some only imagined, in the attempt at retrieval of nonexisting memories.

One question we had when we began this project was whether it was possible for false memories to be created simply by asking children to repeatedly think about fictional events, without any imagery induction. In many actual cases we have studied, this appears to have been the case.[3] So, in the earlier studies we merely asked children to repeatedly think about events and decide whether they were real or not. In the present study we take this procedure a step further and ask if encouraging children to create mental images about fictional events adds to their source misattributions, particularly for certain types of events.

METHODS

Subjects

Forty-eight children enrolled in preschool programs in central New York State served as subjects. No child attending this program was excluded as long as parental agreement was obtained and the child had a sufficient understanding of English. No parent declined to have their child participate, and only two of the children's language proficiency was deemed to be insufficient. The children came from a wide range of sociodemographic backgrounds, with 25% of the entire sample coming from professional families, and 75% coming from blue-collar and kindred occupations. One fifth of the sample was of African American ancestry. The children were divided into two age groups of 24 children each: The young group ranged in age between 3 and 4 years (Mean = 41 months, SD = 4.4 months) and the older preschoolers were aged between 5 and 6 years (Mean = 65 months, SD = 7.1 months). Of the 48 children who began the study, 40 completed all 12 interviews, with 20 in each age grouping.

Design

The design of this study was a 2 Age (3- to 4-year-olds vs. 5- to 6-year-olds) × 4 Types of Events (positive participant events, negative participant events, neutral participant events, neutral nonparticipant events), with the final factor within subjects. Parents were asked to supply instances of actual positive, neutral, and negative events to be included along with fictional events that we fabricated.

[3]In the past several years, attorneys have asked us to review the notes, audio tapes, and occasional videotapes of several hundred interviews with young children that were conducted by law enforcement, social work, and mental health professionals. The most frequent context for these interviews is the therapeutic session, because it is in therapy that important disclosures of sexual abuse are frequently made. Sometimes these disclosures come about after months or years of therapy, during which a child or adult has been encouraged to engage in visually guided imagery, self-empowerment training (e.g., reenacting alleged victimization scenes with victim and perpetrator dolls, and encouraging the child doll to dominate the perpetrator doll to regain control of their presumed victimization feelings), symbol interpretation, hypnosis, and role-playing (e.g., Fredrickson, 1992).

Procedure

We interviewed parents and asked them to tell us about four different types of events that their children had experienced in the past 12 months. We specifically asked about affectively positive events (e.g., surprise birthday parties, vacations to *Disney World*) and negative events (deaths of pets) as well as neutral events that the child had participated in (e.g., wore blue sweater to school) or observed someone participate in (e.g., saw brother wearing blue sweater to school). After collecting these data, we selected four target events that had not been mentioned by any parent. These are called fictional events, and parents verified that they never occurred in their child's life. Parents were sent an information sheet explaining the purpose of the experiment and that experimenters would present a list of events to their children, several of which would be the actual events that the parents supplied and the others would be fictional events.

Children were interviewed individually each week for approximately 30 minutes and were provided with real (parent-supplied) and fictional (experimenter-contrived) events. As mentioned above, lists contained four actual events provided by the child's parent and four fictional events that parents agreed had never occurred. One of the fictional events concerned falling off a tricycle and getting stitches in the leg (*negative participant event*). A second fictional event involved going on a hot air balloon ride with their classmates (*positive participant event*). A third fictional event dealt with waiting for a bus (*neutral participant event*). The final fictional event dealt with observing another child waiting for the bus (*neutral nonparticipant event*). The actual events that were supplied by the parents differed for each child in terms of their idiosyncratic details but they were similar in terms of their contexts (e.g., birthday parties, accidents).

The interviewer held index cards on which the four authentic and four fictional events were written and informed the child that they were going to play a "picture-in-the-head" game. Children were instructed that the way to play this game is to make a picture in their head of what the event looked like and to think about it before trying to remember if it ever happened.

> I am going to read some things that happened to you when you were little, and I want you to think real hard about each one of them. Try to make a picture of it in your head. What do you think you would have been wearing when it happened? Who would have been with you? How do you think you would have felt? We made this list up by talking to your mother to get

her to tell us about some things that happened to you when you were younger. So, after you make a picture of it in your head, and think real hard about each thing for a minute, I want you to tell me if you can remember it or not, OK? Don't worry if you cannot remember it though.

Children were given practice generating mental images, and the interviewer provided examples using popular story characters: "Let's try to think what Cinderella was wearing. I see an apron around her waist. Do you see it, too? I see her scrubbing the floor." Children were asked to first visualize the events and then to try to recollect them, on 12 separate occasions, spaced approximately 1 week apart.[4] This interval was selected because research with adults' autobiographical memory shows that recognition of nonevents increases after a 3-month delay (Barclay & Wellman, 1986).

The first 11 sessions involved the same interviewer, but the last session (12th) involved a new interviewer. This second interviewer began by asking the child if he or she recalled the name of the person who had played the picture-in-your-head game. She then told the child that this person (the first interviewer) made lots of mistakes, and that she told many children that things happened to them that never happened, and asked them to try to remember them. This second interviewer informed the children that only some of the things that the first interviewer told them actually happened. This interviewer then asked each child if the first interviewer ever told them to make pictures in their head of things that never happened. She then asked children for a free narrative about each of the real and fictional events, emphasizing that not all of these events really happened. She instructed the children that if the event actually happened to them to recall as much as they could about it, including perceptual details such as location, clothing worn, utterances, and emotional expressions of others in the same context. This final session was videotaped.

Results

The data for the *actual* (i.e., authentic) events can be described quite simply: Children rarely indicated that they could not recall these events. There was little variability in memory for the four authentic events, with Session 1 mean levels of accuracy ranging from 91% to 100%. No reliable age or type of event effects, nor interactions between them, were observed.

For fictional events, however, the story was more complicated. These data are organized in Table 1 in terms of children's initial and terminal (12th) session responses. They indicate how many of the fictional events

[4] Due to absences, unscheduled vacations, and occasional refusal to "play" with interviewers, several children had weeks during which they were not interviewed at all. To ensure that children received the required number of interviews, they occasionally were given two interviews in a single week (Monday and Friday). This never occurred more than once for a given child.

Table 1
Percentage of Total Trials on Which Child Assented to Fictional Event During the Initial and Terminal Sessions (SDs in parentheses)

Age	Session	
	First	Last
Younger	.34 (.29)	.45 (.42)
Older	.25 (.23)	.40 (.38)

at the first and last interviews were assented to by children. Although the absolute levels of false assenting at the initial session were surprisingly high (.34 and .25, respectively, for the younger and older children), children tended to increasingly make false assents as they participated in more and more sessions.[5] Over time, children increasingly assented to the fictional events. The overall proportion of trials on which children falsely assented (i.e., claimed they experienced a fictional event) during the initial session was .29, a figure that rose to .43 by the 12th session. These values differ somewhat from those obtained by Ceci, Crotteau, et al. (in press) in a similar study that employed a different set of events and fewer interviews. In addition to the differences between these two studies in their materials and subjects (the present children came from economically more disadvantaged backgrounds than did those who participated in the first study), an important procedural difference that may have been responsible for their different levels of terminal false assents is that in the present study children were informed at the terminal session that some of the events did not actually happen to them, whereas this was not done in the earlier study. This attempt to disabuse children in the present study resulted in a lowering of all the final (i.e., 12th) session false assent means from the levels achieved in Session 11.

[5] False assents about events were based on the child's response to the interviewer's question, "I want you to tell me if you can remember it or not, OK? Don't worry if you cannot remember it though." Bear in mind that this question was asked *after* children had already been told that their mother had reported that the event really occurred; additionally, this question was asked *after* the children had been instructed to make a picture of the event in their head and to think about it for a minute. Hence it is not possible to tell whether the high rate of false assents at the initial session was a result of (a) the imagery induction, (b) being told that their mother verified the reality of the event, or (c) some other factor. In a separate study, we found that few children in this age range assented to false events if they were not told that their parents verified the event or if they were not given imagery instructions (Ceci et al., in press), so the present data do not appear to represent a generalized response bias on the part of preschoolers to say "yes" to all questions. Moreover, in the present study, all of the children at least occasionally refused to assent to fictional events, emphatically stating that such events never happened. Thus it does not appear as if they confused the instructions and were simply saying "yes" because they interpreted the interviewer's question to mean: "Your mother said this happened, do you believe her?" Clearly, the children's occasional adamant denial of false events is evidence that they felt no pressure to endorse their mother's purported claim that they were real.

Table 2
Mean Proportion of False Assents as a Function of Age, Event, and Session (SDs in parentheses)

Age	Event	Session		
		First	Penultimate	Last
Younger				
	Negative	.17 (.32)	.31 (.25)	.28 (.30)
	Positive	.35 (.44)	.59 (.39)	.54 (.29)
	Neutral participant	.40 (.11)	.51 (.33)	.32 (.33)
	Neutral nonparticipant	.44 (.36)	.73 (.38)	.67 (.35)
Older				
	Negative	.10 (.37)	.28 (.17)	.23 (.34)
	Positive	.22 (.39)	.51 (.20)	.43 (.22)
	Neutral participant	.28 (.36)	.54 (.31)	.37 (.43)
	Neutral nonparticipant	.40 (.36)	.63 (.47)	.56 (.43)

The data in Table 2 were subjected to a 2 Age (3- to 4-year-olds vs. 5- to 6-year-olds) × 4 Types of Events (positive participant, negative participant, neutral participant, neutral nonparticipant) ANCOVA with Session 1 false assents serving as a covariate to control for age-related differences in initial accuracy levels. There was a reliable main effect for age, $F(1, 37) = 4.25$, $p < .01$, $MS_e = 2.22$, with younger children assenting to significantly more fictional events than older children (.40 vs. .33), and a reliable main effect for type of event, $F(3, 114) = 6.70$, $p < .01$, but the covariate was not significant, $F(1, 37) < 1$. The neutral nonparticipant events resulted in the most false assents, whereas the negative events resulted in the fewest assents.

The above main effects were complicated by a reliable Age × Type of Event interaction, $F(3, 114) = 5.01$, $p < .01$, $MS_e = 1.14$. This interaction was due to younger children making relatively more false assents to positive events than older children, whereas older children made relatively more false assents to neutral participant events than younger children. No relative differences emerged for the other types of events, despite higher means for the younger children (all post hoc analyses by Neuman-Keuls, $p < .05$).

As seen in Figures 1 and 2, children increased their false assent rates across the first 11 sessions, and this trend persisted after controlling for differences in the initial rate of false assents. Interestingly, when the data were combined over all sessions, 88% of children were *more* likely to assent to fictional neutral events (participant or nonparticipant) and positive events than to negative events. Figures 1 and 2 also illustrate similar trends across ages, the principal difference being that younger

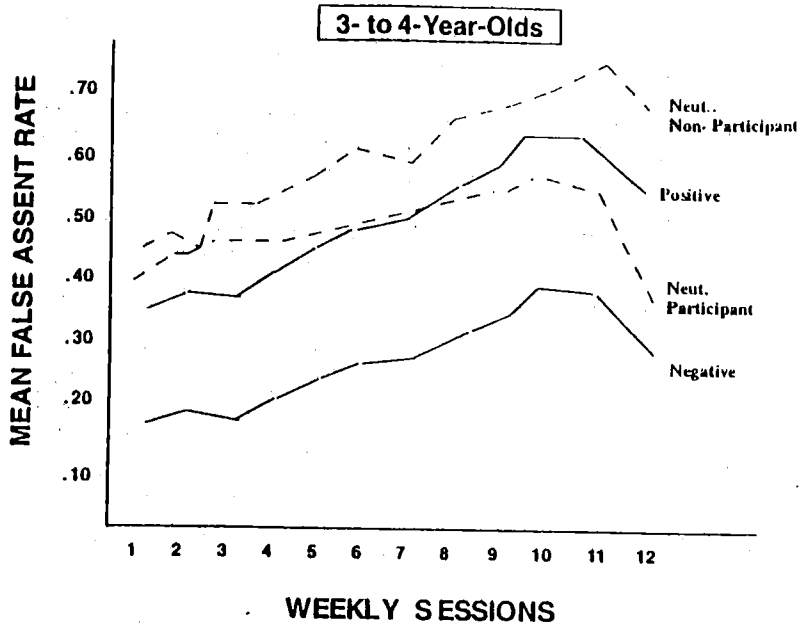

Figure 1. **Mean rates for younger children of assenting to fictional events as a function of session and type of event.**

children's intercept was higher for false assents of all types, and their slope for positive events was steeper than the others, whereas older children's slope for neutral participant events was higher. But the actual magnitudes of difference between the first and final session was not great (.09 vs. .05 for younger and older children, respectively).

Finally, one can ask what it meant for children to decrease false assents on the final session. Was this because there was some special demand characteristic to recant? Or, was it because children never believed in some of the false assents on prior sessions? We do not know the answer, but it seems likely that not all of the false assents were reflective of true false beliefs, although most were, given the higher rate of false assenting during the 12th session over that found on the first session. Future research is being directed at disentangling various explanations for these findings.

The above analyses are silent about the consistency of individual differences—that is, whether the same children who falsely assented during early sessions were still falsely assenting during later sessions. As was found in Ceci, Crotteau, et al. (in press), there was a modest degree of intra-individual variability. Stability coefficients that were

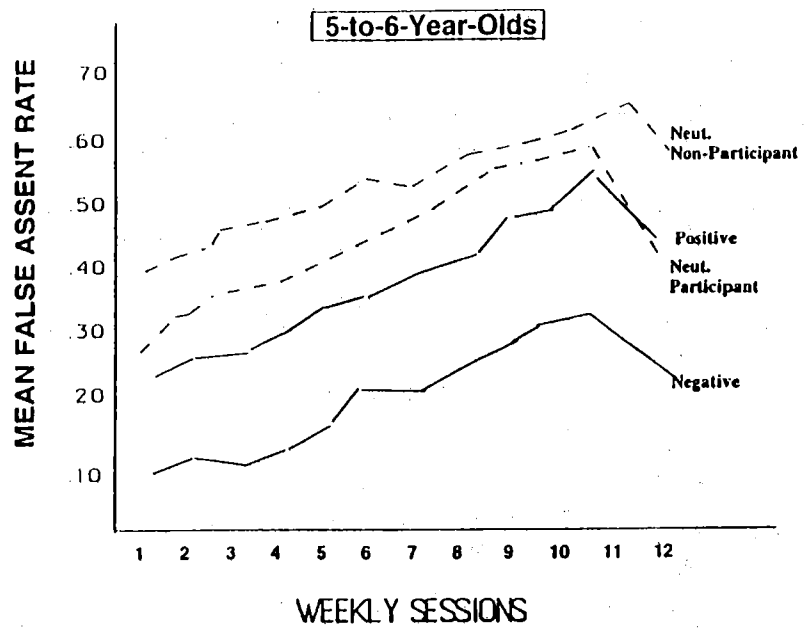

Figure 2. **Mean rates for older children of assenting to fictional events as a function of session and type of event.**

computed on 20 randomly selected children, 10 at each age, ranged between .70 and .94, for adjacent sessions. A conditional probability analysis calculated for the 1st, 3rd, 6th, 9th, and 12th sessions indicated that the likelihood of falsely assenting during session n+4 was a function of the linear combination of assenting during sessions n, n+1, n+2, n+3, and n+4. In short, false assenting during later sessions was fairly predictable from false assenting during previous sessions. The more prior false assents, the greater the likelihood of subsequent false assents. Only three children made a false assent for the first time during the 11th final session.

Does flip-flopping back and forth between assent and denial imply anything about children's beliefs in their false memories about the fictional events? It may be that the children who flip-flopped possessed an uncertainty about the truth value of their claims. But for those children who consistently assented over many sessions, we suspect that many of them believed their claims. Some of these children clung tenaciously to their accounts, despite efforts by the final interviewer to debrief them. During debriefing, some of the children who had consistently made false assents resisted recanting in varying degrees.

Adult ratings of children's credibility. Ceci, Crotteau, et al. (in press) showed videotapes of their children's terminal session to professionals to see if they could determine which events had actually been experienced by the children and which were fictitious. They reported that these professionals (clinicians, researchers) were no better than chance at distinguishing between accurate and inaccurate reports. To extend that finding, we also showed 10 of the videotapes to 12 clinical and research psychologists who specialize in interviewing children. We showed them 10 videos, 5 depicting true assents and 5 depicting false assents by different children. They were instructed to study the event being described by the child and to rate their confidence on a 7-point scale that the event had actually happened (1 = very confident that the child's narrative is essentially an account of an experienced event; 4 = uncertainty about the accuracy of the child's narrative; 7 = very confident that the child's narrative is essentially an account of a nonexperienced event). Ratings for each psychologist for each video were scored as accurate/inaccurate, with scores of 1-3 and 5-7 considered as true and false decisions, respectively, and scores of 4 reflecting uncertainty.

The results were similar to those reported in Ceci, Crotteau, et al. (in press): Professionals were no better than chance at distinguishing among the children's narratives. There were as many professionals who were reliably worse than chance at detecting which events were real as there were professionals above chance (overall p = .60, for two-tailed test, alpha = .025 each tail).[6]

DISCUSSION

These findings suggest that it is possible to mislead preschoolers into believing that they experienced fictional events, and to do so with increasing conviction and vividness over time. An examination of the children's videotaped statements reveals internally coherent, detailed, yet false, narratives. Adults who were naive to the validity of the children's claims about fictional events often professed confidence in their accuracy. Thus it is not only possible to mislead children, but also to fool adults who are unaware of their experimental history.

Certain types of events were much more easily incorporated into children's false beliefs than others. Specifically, neutral events and, to a lesser extent, positive events, were easier to bias than were negative events. This accords with claims that abusive or threatening events may be more resistant to false suggestions than neutral ones (see Ceci & Bruck [1993a] for a review of such claims). Yet, even negative events did reveal

[6] A static Bernouli sampling process specifies the likelihood of correctly judging a real claim (p), and the likelihood of achieving precisely x correct in N independent trials = $(N/x)p^x q^{N-x}$, where the probabilities for x = 0-10 correct guesses, N = 10 trials, p = .5, and q = .5. A two-tailed test was preferred in view of our interest in the number of raters who performed above as well as below chance.

some degree of false assenting, increasing over sessions. So, although abusive events may be more resistant to suggestive interviewing methods than other types of events, the former are by no means immune to the deleterious effects of suggestive interviewing techniques.

So far, we have said nothing about the mechanism that we believe may underlie the false assents, save the assertion that not all false assents reflect actual beliefs. Our favored candidate for genuine false beliefs is source misattributions, confusing two or more sources of memories, in this case confusing the actual experience with merely thinking about it. Why do we prefer this account? In related work we have been exploring competing explanations and the source misattribution account appears to receive the most support. In an ongoing study, we have rerun the present study with a new manipulation: During each session a new false event is included that was not previously included. If children's increasing number of false assents is due to growing comfort with the experimenter and procedures, prompting them to speak more and assent more, then we would expect no differences between events that were repeatedly imagined and those that were imagined only once. In contrast, if source misattributions are the cause of the false assents, then repeatedly imagining an event is expected to result in its greater elaboration (and source encoding) than events that were imagined only once. So far, the results support the source misattribution account because the rate of false assents appears to be a linear function of the number of times that the child was asked to imagine it. Although this does not prove that source misattributions are the basis of false assents in the present study, it does lend support to it.

As was found in Ceci, Crotteau, et al. (in press), the professionals in the current study reported that they found it difficult to imagine such plausible, internally coherent narratives being fabricated. We have suggested previously that preschoolers' erroneous and accurate reports may not be distinguishable because repeated attempts to recollect false events may result in their incorporation into memory. In other words, perhaps false memories cannot be detected as false because the children, after repeatedly being encouraged to imagine false events, have come to believe that they are accurately recalling real events. Therefore, they exhibit none of the signs of confabulation, tricking, or duping that characterize false reports by adults who deliberately attempt to distort their reports (Ceci, Leichtman, & White, in press; Leichtman & Ceci, in press). So, it is possible that any or all of the three following factors contributed to children's false reports: (a) repeatedly being asked to think about a fictional event, (b) being told that one's mother said that the fictional event did indeed occur, or (c) repeatedly being asked to create images surrounding it. Any or all of these factors could have been responsible for leading preschool children to produce vivid, detailed traces of fictional events that not only are misattributed to experiential

sources (rather than to imagery or maternal dogma), but that professionals are unable to discern false accounts from reports of experience-based events. Because of the nature of the design, we have no way of knowing which of these factors is causative. Notwithstanding this inability to provide explanation, we do believe that not all false assenting reflected children's actual beliefs in the false events, because some children recanted these false assents after being told they were wrong on the final session.

Is there a message in these findings for therapists and others who are charged with eliciting information from preschoolers? Many of the transcripts that we have examined illustrate the use of techniques that are similar to those employed in this study. Specifically, therapists who treat children suspected of abuse frequently encourage them to engage in fantasy manipulations and self-empowerment activities (e.g., using a child doll to represent them and an adult doll to represent an alleged perpetrator, and having the child attach horns and a tail to the adult doll to be witch-like). If there is a message in these data it is that such activities *could* eventuate in the creation of multiple memory sources, only some of which were actually experienced-based, and which can comingle with fictional suggestions. A caveat, however, is that the context of abuse memories differs from the experimental context used here in the degree of salience, loss of control, embarrassment, and so on. Perhaps it is much harder to create false beliefs about abusive experiences. Or perhaps it can be argued that whatever is found in a controlled experiment is likely to be amplified in the context of actual therapy. We have no way of knowing which of these two possibilities is nearer to the truth. Interestingly, two reviewers of this manuscript argued oppositely on this point, with one suggesting that we add a caveat because these findings may not generalize to abuse memories, while the other reviewer argued that "if [these] results are found in the austere context of the experiment, it is likely to [be found] in spades in a field situation. Most readers are aware of horrific cases such as Kelly Michaels, where the fears and fantasies of distraught parents might magnify innocent events into monstrous stories. . . . So, perhaps it should be stressed that the data reported probably represent minimalist figures."

Of course, adults may not be immune to this same type of manipulation. We have focused on preschoolers because of our long-standing interest in this age range, but adults enter into therapy far more often than preschoolers, and perhaps they are also susceptible to source misattributions when they are encouraged to generate imagery. Popular self-help books that promote strategies for the uncovery of suspected incest among adult survivors (e.g., Bass & Davis, 1988; Fredrickson, 1992) often encourage two activities that may be problematic: First, they recommend strategies such as "visually guided imagery" wherein an individual who is trying to uncover memories of early abuse takes a focal cue from their past (e.g., a familiar room) and mentally elaborates that focus, adding

details and feelings.[7] Second, such books actively discourage readers from questioning the validity of their memories, which is similar to the technique used in this study of telling children that their mother said that the event did indeed occur. Putting these two factors together raises the spectre that children many unwittingly create multiple sources that can be difficult to disentangle, despite assurances in some quarters that fictional memories can be worried about later (Fredrickson, 1992). Once an adult engages in repeated visually guided imagery, accepting the resultant images as authentic, then it may prove difficult to reverse the process.

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[7] It was pointed out to us by a reviewer of this manuscript that some research-based interviewing techniques also may encourage false beliefs by encouraging witnesses to adopt the perspective of others and imagine what they had seen: "Try to . . . adopt the perspectives of others that were present during the incident. For example, try to place yourself in the role of a prominent character in the incident and think about what he or she must have seen" (Geiselman, Fischer, MacKinnon, & Holland, 1985, p. 404). Such enjoinders do seem similar to the visually guided imagery inductions and suggestions that have been found to be problematic for young children.

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Die mögliche Quellenmißdeutung in der Schöpfung von falschem Glauben unter Vorschülern

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Abstrakt: In dieser Abhandlung examinieren wir einen möglichen Faktor in der Schöpfung von falschem Glauben bei Kindern im Vorschulalter, nämlich "Quellenmißdeutung." Wir bieten die Resultate aus einem laufenden Forschungsprogramm, das andeutet, daß Quellenmißdeutung ein dem falschen Glauben bei Kindern unterliegender Mechanismus ist, daß sie fiktive Geschehnisse erlebt hätten. Befunde aus diesem Forschungsprogramm deuten darauf hin, daß, obgleich alle Kinder leicht beeinflußbar sind, Quellenmißdeutungen zu machen, es die sehr jungen Kinder sind, die unverhältnismäßig anfällig für diese Art der Irrtümer sein mögen. Diese Anfälligkeit führt jüngere Vorschüler gelegentlich zur Behauptung, daß sie sich daran erinnern, Geschehnisse wirklich durchgemacht zu haben, über die sie nur nachgedacht haben oder die von andern angedeutet wurden. Diese Resultate werden im Kontext der laufenden Debatte diskutiert über die Glaubwürdigkeit und Dauerhaftigkeit von zurückliegenden Berichten des frühen Gedächtnisses, des unterdrückten Gedächtnisses, der dissoziativen Zustände und Gültigkeitsrisiken, die durch therapeutische Techniken mit ihren wiederholten, visuell-geleiteten Bildvorstellungsindikationen auftreten.