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11 **Interviewer Feedback in Repeated Interviews Involving**
12 **Forced Confabulation**
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15 JESSICA M. HANBA* and MARIA S. ZARAGOZA

16 *Department of Psychology, Kent State University, USA*
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20 SUMMARY

21 The effects of confirmatory interviewer feedback on eyewitness testimony following forcibly
22 confabulated and accurate responses to repeated interview questions were investigated in two
23 experiments. The first experiment showed that, relative to neutral feedback, confirmatory feedback
24 provided after a forcibly confabulated response greatly increased the likelihood that participants
25 report these repeated confabulations with greater speed and fewer expressions of doubt, and increased
26 the prevalence of false memories. Confirmatory interviewer feedback provided following accurate
27 responses appeared to have more modest consequences for consistency and confidence, but ceiling
28 effects provided little opportunity for observing potential effects. A second experiment showed that
29 these effects of confirmatory feedback are of considerable practical significance, in that, regardless
30 of their accuracy, responses that had earlier been reinforced with confirmatory feedback were much
31 more likely to be judged by others as credible. Copyright © 2006 John Wiley & Sons, Ltd.
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33 Many studies have shown that the confidence expressed by an eyewitness regarding his or
34 her testimony is a strong determinant of the perceived credibility of the eyewitness (Leippe,
35 Manion, & Romancyk, 1992; Lindsay, Wells, & O'Connor, 1989; Whitley & Greenberg,
36 1986). Although the relation between confidence and accuracy (or lack thereof) has been
37 the subject of much research and debate (Deffenbacher, 1980; Read, Lindsay, & Nicholls,
38 1998; Wells & Lindsay, 1985), there is widespread consensus that over reliance on
39 eyewitness confidence as an index of accuracy can lead jurors astray. Documented cases of
40 erroneous testimony offered with highest confidence can be found in both the scientific
41 literature (Sharman, Manning, & Garry, 2005; Shaw, 1996; Shaw & McClure, 1996) and in
42 the real world (Rothstein, 2005). Indeed, a consistent finding in the eyewitness
43 suggestibility literature is the ease with which participants can be led to develop false
44 memories that are held with high confidence (Hyman & Pentland, 1996; Loftus, Donders,
45 Hoffman, & Schooler, 1989; Zaragoza & Lane, 1994).

46 One variable that has been shown to inflate eyewitness confidence in erroneous
47 testimony is *confirmatory interviewer feedback*. For example, G. Wells and colleagues
48 have examined the effects of interviewer feedback on participants' confidence in their
49 erroneous eyewitness identifications (Bradfield, Wells, & Olson, 2002; Semmler, Brewer,
50 & Wells, 2004; Wells & Bradfield, 1998; Wells, Olson, & Charman, [2003^{Q1}](#)). In these
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52 *Correspondence to: J. M. Hanba, Department of Psychology, Kent State University, Kent, OH 44242, USA.
53 E-mail: jhanba@kent.edu

studies, participants who viewed a videotape depicting a theft recorded by a security camera were later instructed to select the thief from a culprit-absent photospread, thus ensuring that all identifications were false. As might be expected under these circumstances, participants often expressed uncertainty in their selection. The critical manipulation was that some of the subjects received confirmatory feedback from the interviewer ('Good, you identified the suspect') and others received only neutral (i.e. uninformative) feedback or disconfirming feedback. The consistent finding was that, relative to neutral and disconfirming feedback, confirming feedback provided after witnesses made false identifications led participants to greatly overestimate how confident they were at the time of the identification. In addition, confirming feedback led to a variety of other distortions in memory and judgment including an increase in witness's willingness to give testimony and inflations in their memory of how good a view they had of the perpetrator.

Related findings on the effects of confirmatory interviewer feedback come from studies of the *forced confabulation effect* (Ackil & Zaragoza, 1998; Frost, LaCroix, & Sanborn, 2003; Zaragoza, Payment, Ackil, Drivdahl, & Beck, 2001), which focus on eyewitness memory for events (rather than people). In the forced confabulation paradigm, participants do not provide erroneous testimony freely, but rather, are coerced into providing testimony about events they never experienced (i.e. they are forced to confabulate). These studies have shown that confirmatory interviewer feedback provided after a participant has been forced to provide false testimony can promote the development of highly confident false memories for these forced confabulations.

For example, in Zaragoza et al. (2001), participants viewed an eyewitness event and engaged in face-to-face interviews with an experimenter, where, in addition to answering questions about 'true events' that actually did occur, they were pressed to answer questions about blatantly 'false events' that never occurred in the eyewitness event (e.g. some participants were asked to describe where the protagonist was bleeding, when in fact he never bled). Participants resisted answering the false-event questions (e.g. by either refusing to answer the question or stating that they 'didn't see' or 'didn't remember' the false event), but eventually acquiesced to the experimenter's repeated instruction that they must provide a response to every question. Thus, there was good evidence that participants were highly uncertain in their responses to these false-event questions at the time they generated them and were merely fabricating a best guess to satisfy the interviewer's demands. Immediately following each confabulated response, the interviewer provided feedback that was either confirmatory (e.g. 'That's right, _____ is the correct answer!') or neutral (i.e. non-informative) (e.g. '_____, OK', delivered with flat affect).

One week later, a different experimenter assessed participants' memory for the source of their confabulated responses (and other test items). Because most participants would be reluctant to admit that they never saw events they had described earlier, participants were first informed that the experimenter who had earlier asked them questions about the witnessed event had made some mistakes and had asked them about some things that never happened in the video. They were further informed that their task was to help the experimenter figure out which things really happened in the video and which things did not. The purpose of the instructions was to minimise any perceived social pressure to respond consistently across sessions and to motivate participants to discriminate between the real and confabulated details in memory. In spite of these instructions, participants sometimes claimed to remember witnessing the details they had been forced to confabulate earlier, even in the absence of confirmatory feedback. Importantly, however, confirmatory

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6 feedback significantly increased the number of these false memory errors, led to increased
7 confidence in their false memories for confabulated events, and increased the likelihood
8 that participants would freely recall the confabulated events in a delayed free recall test
9 (1 month later). Moreover, Zaragoza et al. (2001) showed that confirmatory feedback
10 increased false memory even when participants could not remember the feedback, thus
11 showing that these feedback effects are not dependent on memory for the feedback. In sum,
12 although participants clearly resisted answering the false-event questions initially, over
13 time they came to develop false memories of having witnessed some of the events that they
14 had been forced to confabulate earlier. We suspect that one reason confirmatory feedback
15 promotes the development of false memories for forced confabulations is because the
16 feedback encourages participants to discount any uncertainty they had in their
17 confabulated responses, and embrace them as truth. Presumably, if participants had
18 remembered their uncertainty in their confabulated responses, they would not have come to
19 believe that they had witnessed these events.

20 Building on the earlier findings of Zaragoza et al. (2001), the present study sought to
21 assess the effects of confirmatory interviewer feedback on participants' testimony under
22 circumstances where the forced confabulation interview was repeated. Recall that in
23 Zaragoza et al., participants received a single forced confabulation interview (with
24 confirmatory feedback) and their memory was assessed 1 week later on a recognition test
25 accompanied by a warning. However, in real-world forensic situations, witnesses are often
26 interviewed repeatedly over time. Hence, one issue that has yet to be addressed empirically
27 is how confirmatory interviewer feedback provided during an initial forced confabulation
28 interview might influence participants' behaviour in subsequent interviews involving the
29 same questions. We were especially interested in the possibility that, in addition to
30 affecting the accuracy of participants' testimony, confirmatory feedback provided after a
31 forcibly confabulated response might increase the perceived credibility of participants'
32 confabulated testimony in subsequent repeated interviews. Specifically, we hypothesised
33 that confirmatory interviewer feedback provided during an initial interview would make it
34 more likely that participants would provide the same response to these false-event
35 questions on a later interview. This is an important issue, as studies have shown that jurors
36 perceive consistent eyewitnesses to be more credible than inconsistent eyewitnesses
37 (Berman & Cutler, 1996; Berman, Narby, & Cutler, 1995; Leippe & Romanczyk, 1989),
38 even though consistency is not always diagnostic of accuracy (Brewer, Potter, Fisher,
39 Bond, & Luszcz, 1999). In addition, we hypothesised that confirmatory feedback would
40 increase the apparent confidence with which participants provide these consistent
41 responses, such that participants' repeated confabulated responses would be delivered with
42 greater speed and fewer overt expressions of doubt. A second goal of this study was to
43 extend the earlier findings of Zaragoza et al. by assessing whether confirmatory interviewer
44 feedback provided after accurate responses to true-event questions would similarly
45 increase the consistency and confidence with which participants reported these reinforced
46 responses on later interviews.

47 Finally, as in Zaragoza et al. (2001), we also assessed the effects of the forced
48 confabulation interviews on the development of false memories for forcibly confabulated
49 events, as measured by a delayed recognition test accompanied by a warning. Of particular
50 interest was whether confirmatory feedback delivered on an initial interview would
51 increase false memories for confabulated events even if the feedback was discontinued in a
52 subsequent interview (see also Garven, Wood, & Malpass, 2000 for a related study
53 involving child witnesses).

To explore these questions, two groups of participants were tested: a Forced Confabulation Group and a No Confabulation Group. Both groups watched a video and were individually interviewed about the video twice: once immediately after viewing the video and again 2 days later. Participants in the Forced Confabulation Group were interviewed about true and false events during both interviews while participants in the No Confabulation Group were only interviewed about true events during both interviews. Interviewer feedback was manipulated within-subjects and was provided during the first interview only. All participants received confirmatory feedback following some of their responses and neutral feedback following others. To assess the effect of feedback on participants' responses when re-interviewed 2 days later, three measures were taken: (a) consistency, or the extent to which participants generated the same response to repeated questions across interviews (b) latency to generate responses to true- and false-event questions at both interviews and (c) verbal hedges, defined as the extent to which the responses were accompanied by overt, verbal expressions of doubt or lack of confidence (e.g. 'um', 'uh' and nervous laughing or giggling). We hypothesised that, relative to neutral feedback, confirmatory feedback would increase the consistency, speed and confidence (as measured by a reduction in verbal hedges) with which participants would respond to repeated false-event questions during the second interview. Whether confirmatory feedback would similarly affect responses to repeated true-event questions is less clear, as it should depend on how well participants remember the information being queried by the true-event interview questions. In those cases where participants are highly confident in their responses at the initial interview, confirmatory interviewer feedback might not be expected to increase confidence further.

As in Zaragoza et al. (2001), we were also interested in assessing the roles of forced confabulation and interviewer feedback on false memory development. To this end, 1 week later, participants received a recognition memory test accompanied by a warning that they had earlier been asked questions about events that never actually happened. For each test item, participants were asked to indicate whether or not they remembered seeing the item in the video. The measure of false memory was participants' assents to having witnessed the events they had earlier been forced to confabulate. Once again, the purpose of the recognition test was to assess whether confirmatory feedback provided during an initial interview (but discontinued in a later interview) would increase assents to the reinforced items on a delayed test of memory for the witnessed event.

EXPERIMENT 1

Method

Participants and design

Sixty-six undergraduates volunteered for this study to fulfill a course requirement. Group assignment was random with 36 participants in the Forced Confabulation Group and 30 participants in the No Confabulation Group. Thirty-four per cent of the sample was male, with an approximately equal number of males in each group.

The Forced Confabulation Group was a 2 (interview question type: true or false event) \times 2 (feedback condition: confirmatory or neutral) within subjects design. The No Confabulation Group received true-event questions only with feedback condition (confirmatory or neutral) manipulated within-subjects.

Materials and procedure

First interview. The materials and procedure were very similar to those of Zaragoza et al. (2001). Participants came to the lab in pairs and watched an 8-minute video segment from the Walt Disney movie *Looking for Miracles*. Immediately thereafter, participants were separated and interviewed individually by different experimenters. The experimenter instructed the participants that they must provide an answer to every question, even if doing so required guessing. Each interview was audio taped and recorded on paper.

The materials were the same as those used in Zaragoza et al. (2001) with the addition of one true-event question (see Appendix). As in Zaragoza et al., the interviewer queried participants about the events they had seen in chronological order. Participants in both groups were asked the same nine true-event questions during both interviews, and most true-event questions queried participants about central events of the video (e.g. 'What did the ladies do after they saw the snake?'). Only participants in the Forced Confabulation Group received an additional eight false-event questions intermixed with the true-event questions. False-event questions were about events never depicted in the video. For example, the interview question, 'Delaney helped Sullivan out of the water and gave him something to keep him warm. What was it?' was a false-event question because although the video clip does depict Delaney helping Sullivan out of the water, he does not, in this or any other scene of the movie, give Sullivan something to keep him warm. Therefore, in order to answer the false-event questions, participants were required to make up, or confabulate a response. When participants resisted answering, the experimenter prompted them to give their 'best guess' until they eventually acquiesced.

Participants in both groups received a feedback manipulation during the first interview. To implement the feedback manipulation, all participants in the Forced Confabulation Group received confirmatory feedback (e.g. 'That's right, _____ is the correct answer!') following their confabulated responses to four of the false-event questions, and received neutral (i.e. uninformative), feedback (e.g. '_____, Okay' delivered with flat affect) following their confabulated responses to the remaining four false-event questions. In addition, participants in both groups received confirmatory feedback following their responses to four (or five) of their nine true-event questions, and neutral feedback following their responses to the remaining true-event questions. Note that the interviewer always repeated the participants' response, regardless of feedback condition, thus ensuring that exposure to the confabulated item was equated in the two feedback conditions. The only difference between the feedback conditions was whether or not participants were also given information regarding the accuracy of their response.

Interviewer feedback was provided in a predetermined fashion. There were two interview forms for each group, and feedback was counterbalanced across forms so that, across participants, each true- and false-event question served equally often in the confirmatory and neutral feedback conditions. Within forms, interviewer feedback alternated between questions such that no more than two consecutive interview questions were followed by the same kind of feedback (neutral or confirmatory). In addition, for each type of question (true or false), type of feedback alternated, such that if the first false event question was assigned to the confirmatory feedback condition, the second was assigned to the neutral feedback condition and so on.

Second interview. Two days after completing the first interview, the same experimenter interviewed the participants with paraphrased versions of the same questions used during the first

interview. During the second interview, all participants received only neutral feedback following each of their responses. The neutral feedback was delivered exactly as it was in the first interview. That is, after participants provided their response to the interview question, the experimenter repeated the response followed by 'Okay', delivered with flat affect (e.g. 'Baseball hat, Okay') and wrote down the participant's response. Once again, the neutral feedback was delivered in such a way as to be completely uninformative with regard to the accuracy of the participant's response. Participants also completed an unrelated scale after the second interview.

Recognition memory test. One week after viewing the video clip, participants returned to the lab and a new experimenter informed the participants that they were going to receive a test of their memory for events they had seen in the video clip. Participants in the Forced Confabulation Group were accurately informed that the previous experimenter had asked them questions about some events that never occurred in the video. Participants in the No Confabulation Group were told that they *may* have been asked about some events that never occurred in the video. Participants were further instructed that their task was to differentiate between those items they remembered witnessing in the video and those items they had only talked about with the experimenter.

The recognition memory test consisted of 25 questions of the form, 'When you watched the video, did you see ____?' For participants in the Forced Confabulation Group, the test consisted of (a) the eight items they had generated in response to the false-event questions during the second interview and (b) the nine items they had generated in response to the true-event questions during the second interview and (c) filler items. For example, a participant who had generated the response 'a towel' when earlier asked the interview question, 'What did Delaney give to Sullivan to help keep him warm?' received the recognition test question, 'When you watched the video, did you see Delaney give Sullivan a towel to help keep him warm?'. Participants who changed a particular response between the first and second interview (i.e. were inconsistent) were tested with the response they provided during the second interview. The additional eight test questions were filler items about new true and false events that participants had not been interviewed about.

The test for participants in the No Confabulation Group was constructed identically with the following exception: Because participants in the No Confabulation Group never received false-event questions, they were each yoked to a participant in the Forced Confabulation Group and received their yoked partner's responses to each false-event question as items on the test. In this way, the No Confabulation Groups' assents to their partners' confabulated responses provided a measure of the base rate of false assents to the items confabulated by the other group.

Participants responded verbally to the recognition memory test questions using a six-point scale with the choices of 'definitely did not see, probably did not see, maybe did not see, maybe did see, probably did see and definitely did see'. For purposes of coding the data, each response choice was assigned a number with 'definitely did not see' corresponding to 1 and 'definitely did see' corresponding to 6. Because the findings were the same regardless of whether we used the six-point scale or dichotomised the data into 'yes' (responses of 4, 5 and 6 combined) and 'no' (responses of 1, 2 and 3 combined) responses, we present the results for the simpler, dichotomised measure.¹

¹The outcome of the analyses remains the same when low confidence responses (i.e. 'maybe did see' and 'maybe did not see') are removed, such that only 'probably did see' and 'definitely did see' responses are coded as 'yes' and only 'probably didn't see' and 'definitely didn't see' responses are coded as 'no'.

Results and discussion

Preliminary analyses

Because preliminary analyses revealed no effects of gender on any of the dependent variables (all p 's > 0.05), the data were collapsed across this variable. Preliminary analyses also revealed that the Forced Confabulation Group and the No Confabulation Group did not differ in their performance on the true-event items, and this was true for all dependent variables reported in this study. Because participants in both groups received the same true-event questions, the results for true-event items reported below are collapsed across group. Finally, there were no group differences in participants' responses to new filler items ($p > 0.10$).

Effects of confirmatory interviewer feedback on responses generated in the subsequent repeated interview

To assess the effect of feedback on participants' responses when re-interviewed 2 days later, three measures were taken: (a) consistency, or the extent to which participants generated the same response to repeated questions across interviews (b) latency to generate responses to true- and false-event questions at both interviews and (c) the extent to which the responses were accompanied by verbal hedges, defined as overt, verbal expressions of doubt or lack of confidence (e.g. 'um', 'uh' and nervous laughing or giggling). To obtain the verbal hedges measure, all interviews were first transcribed and then coded. In four cases, the audio tape ran out just before the interviewer finished the second interview, resulting in missing data for one false-event question and four true-event questions. Because all participants were asked multiple false-event and true-event questions, we entered mean performance for each participant in all of the analyses.

Does confirmatory interviewer feedback increase consistency of responses across interviews? We first assessed whether confirmatory feedback increased the likelihood that participants would generate the same response to repeated questions across interviews, and we did so for responses to both false-event questions (confabulated responses) and true-event questions (accurate and inaccurate responses), separately. Participants' responses were coded as having been generated consistently if participants generated either identical or synonymous responses across interviews (e.g. 'baseball hat' and 'ball hat'). Responses were coded as inconsistent only if participants generated two categorically different responses (e.g. 'baseball hat' and 'fisherman's hat'). Consistency was scored independently by two research assistants and one of the authors. Discrepancies were resolved by two-thirds agreement. Inter-rater reliability was greater than 95.50% for each form in each group.

For the Forced Confabulation Group's confabulated responses to false-event questions (which are by definition incorrect), the results strongly support the prediction that confirmatory feedback would increase consistency of responding across repeated interviews. Whereas neutral (uninformative) feedback following a confabulated response led to consistent responding on the repeated interview only 47.9% of the time, confirmatory feedback following a confabulated response led to a consistent response on the second interview 93.75% of the time ($F(1, 35) = 74.30, p < 0.001, MSE = 0.005$). The results were the same when the data were analysed with item, rather than subjects, as the random effect, $t(1, 7) = 8.18, p < 0.001, SE = 0.05$ (see Figure 1). In the item analysis, we assessed

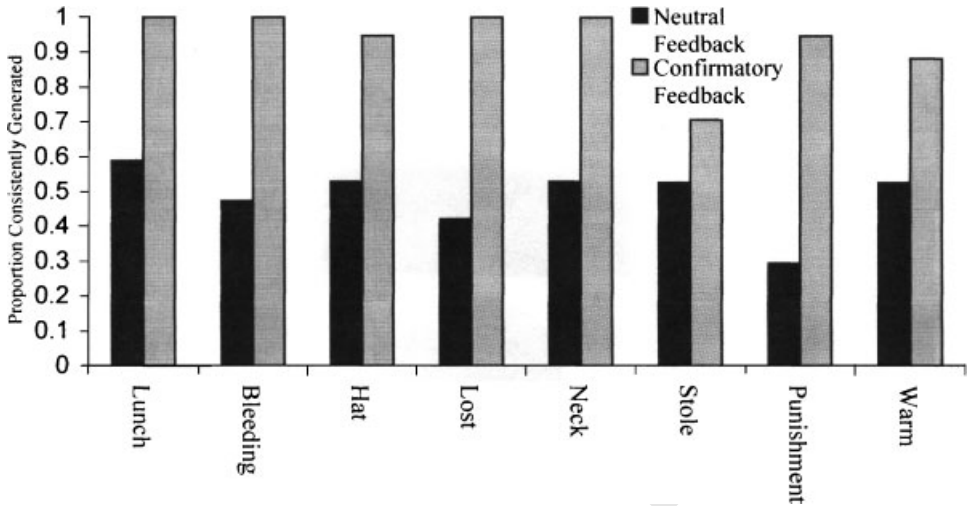


Figure 1. Proportion of responses to false-event questions generated consistently as a function of item and feedback condition (confirmatory or neutral)

the effects of feedback on consistency for each interview question separately. As is obvious from Figure 1, the effects of feedback were highly consistent across items.

In the initial interview, participants' responses to true-event questions were accurate most of the time ($M = 95.80\%$). Nevertheless, cases where participants provided an inaccurate response to a true-event question (a total of 23 cases) are of interest because they indicate that the participant could not remember the target event (otherwise, he/she should have provided the correct response). Because participants were 'forced' to provide an answer to all questions, situations where participants are forced to answer questions about true (actual) events they do not remember are functionally equivalent to those cases where participants are forced to answer questions about false events that never occurred, because in both cases, the participant must make-up, or confabulate a response. For this reason, the results for accurate and inaccurate responses to true-event questions are presented separately below.

In those cases where participants provided the *correct response* to a true-event question initially, their responses to repeated true-event questions were highly consistent in the neutral feedback condition ($M = 94.05\%$), but were even more so in the confirmatory feedback condition ($M = 99.4\%$), $F(1, 65) = 15.153$, $p < 0.001$, $MSE = 0.006$.

For *incorrect responses* to true-event questions, the results parallel those of the confabulated responses to false-event questions reported above. Whereas neutral (uninformative) feedback following an incorrect response resulted in consistent responses across repeated interviews only 50% of the time, confirmatory feedback following an incorrect response resulted in consistent responding 100% of the time ($z = 6.63$, $p < 0.001$). The results remained the same when the data were analysed with items, rather than subjects, as the random effect, $t(1, 8) = 2.82$, $p < 0.02$, $SE = 0.02$.

In summary, whereas inconsistency in responding across repeated interviews was one characteristic that differentiated between confabulated and accurate responses in the

neutral feedback condition, in the confirmatory feedback condition, this was not the case. Following confirmatory feedback, participants gave highly consistent responses across repeated interviews, regardless of whether their responses were based on events they accurately remembered or events they had been forced to make up.

Does confirmatory feedback affect latency to respond in a subsequent interview? We next asked whether interviewer feedback affected the speed with which participants generated *consistent* responses across interviews. Because one might reasonably expect that participants would respond more quickly to a repeated interview question if providing the same response, as compared to a different response, we restricted the latency analyses to those cases where participants responded consistently across interviews. To measure response latency, the clock started when the experimenter finished the last word of the question and ended when participants began providing their actual response to the question. For example, if a participant responded ‘...um, let’s see... I think it was a baseball hat’, the clock stopped at the beginning of the words ‘baseball hat’.

Figure 2 depicts the mean time to respond to interview questions as a function of interview question type (true or false), feedback condition (confirmatory or neutral) and interview session (first or second). Our main interest was in the effect of feedback condition on participants’ latency to generate confabulated responses (to false-event questions) on the second interview. The data for accurate responses to the true-event questions is provided for comparison. Examination of this figure allows three main observations that were supported by the statistical analyses: (a) As expected, at the first interview, participants were much slower to generate responses to false-event questions (for which they had to make-up a response) than to true-event questions; (b) At the first interview, there are no pre-existing latency differences as a function of assignment to feedback condition, as would be expected given that interviewer feedback was provided *after*

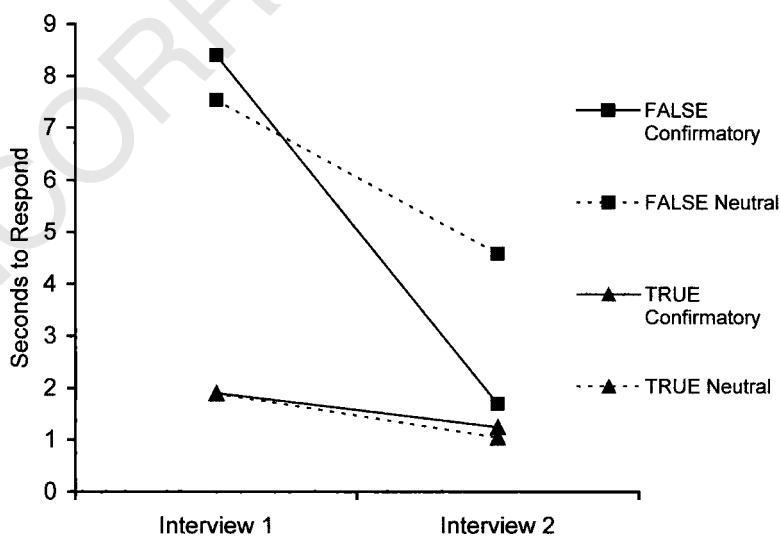


Figure 2. Mean latency to respond to interview questions as a function of interview question type (true or false), feedback condition (confirmatory or neutral) and interview session (one or two)

participants responded and (c) At the second (repeated) interview, confirmatory feedback led to large reductions in latency to respond to repeated false-event questions, but had no effect on latency to respond to repeated true-event questions, although the latter result may be due to floor effects.

Twenty-seven participants had at least one consistent response in each of the conditions of a 2 (interview question type: true or false event) \times 2 (feedback condition: confirmatory or neutral) \times 2 (interview session: first or second) repeated measures ANOVA. The ANOVA revealed a main effect of interview session, resulting from the overall tendency for participants to respond more quickly during the second interview ($F(1, 26) = 147.173$, $p < 0.001$, $MSE = 2.985$), a main effect of interview question type that resulted because overall, participants responded more quickly to true-event questions than false-event questions ($F(1, 26) = 78.079$, $p < 0.001$, $MSE = 3.469$), and an interview question type \times interview session interaction, showing that latency differences in responding to true- and false-event questions were reduced during the second interview. As expected, there were feedback effects on the second, but not the first interview session ($F(1, 26) = 12.554$, $p < 0.002$, $MSE = 3.469$) because interviewer feedback was provided after participants responded to the initial interview questions.

Of primary relevance to the hypothesis of interest, was the significant interview question type \times feedback condition \times interview session interaction ($F(1, 26) = 12.866$, $p < 0.001$, $MSE = 3.603$), that resulted because confirmatory feedback led to large reductions in latency to respond to false-event questions, but not true-event questions, at the second (repeated) interview. Planned comparisons of response latencies during the first interview confirmed that for both true-event and false-event questions, there were no pre-existing latency differences as a function of assignment to feedback condition (all p 's > 0.228). Planned comparisons further confirmed that at the second interview, there were no differences in response latency to true-event questions as a function of feedback condition (M 's = 1.1 s vs. 0.98 s for the neutral and confirmatory feedback conditions, respectively, $t(1, 26) = 1.67$, $p > 0.05$). However, as predicted, there were rather large differences in response latency to false-event questions as a function of feedback condition, with participants responding more quickly in the confirmatory feedback condition ($M = 1.65$ seconds) than in the neutral feedback condition ($M = 4.25$ seconds), $t(1, 26) = 3.52$, $p < 0.002$, $SE = 0.739$. Finally, although response latencies to false-event questions following confirmatory feedback ($M = 1.65$ seconds) approached the speed with which participants responded to true-event items ($M = 0.98$ seconds), this difference in response latency was statistically significant, $t(1, 26) = 3.96$, $p < 0.001$, $SE = 0.170$.

Does confirmatory interviewer feedback reduce the verbal hedges that accompany consistent responses in a subsequent interview? Two experimenters coded the transcripts for verbal hedges, defined as overt or verbal expressions of doubt or lack of confidence (e.g. 'um', 'uh' and nervous laughing or giggling). The proportion of inter-rater agreement was 0.99 and disagreements were resolved by discussion.

The analysis of verbal hedges paralleled the analysis of response latencies reported above. That is, for those questions that were answered *consistently* across interviews, we assessed whether confirmatory interviewer feedback affected the proportion of responses that were accompanied by verbal hedges, in a 2 (interview question type: true or false event) \times 2 (feedback condition: confirmatory or neutral) \times 2 (interview session: first or second) repeated measures ANOVA. As can be seen in Figure 3, the pattern of verbal hedges closely mirrors that of response latencies: (a) At the first interview, participants'

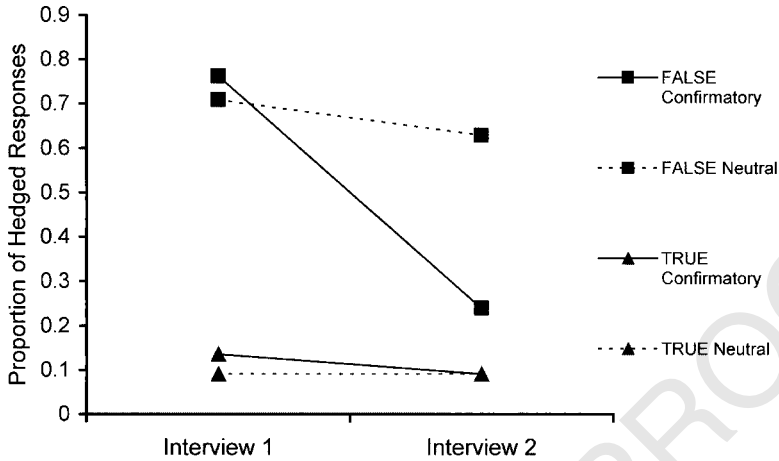


Figure 3. Proportion of responses accompanied by verbal hedges as a function of interview question type (true or false), feedback condition (confirmatory or neutral) and interview session (one or two)

responses were more likely to be accompanied by verbal hedges when responding to false-event questions as compared to true-event questions, (b) At the first interview, there were no differences in the proportion of verbal hedges as a function of feedback condition, as would be expected given that interviewer feedback was provided *after* participants responded, (c) At the second (repeated) interview, confirmatory interviewer feedback led to large reductions in the proportion of responses to false-event questions that were accompanied by verbal hedges, but had no effect on responses to true-event questions, though once again the latter may be due to floor effects. The ANOVA revealed significant main effects of all three independent variables: Overall, responses to true-event questions were accompanied by fewer verbal hedges than responses to false-event questions ($F(1, 26) = 177.306, p < 0.001, MSE = 0.087$), participants responded with fewer verbal hedges on the second interview as compared to the first ($F(1, 26) = 19.919, p < 0.001, MSE = 0.035$), and confirmatory feedback led to fewer verbal hedges than neutral feedback ($F(1, 26) = 6.713, p < 0.015, MSE = 0.044$). In addition, differences in the proportion of responses to true- and false-event questions that were accompanied by verbal hedges were less pronounced in the second interview when compared to the first, as evidenced by an interview question type \times interview session interaction ($F(1, 26) = 15.309, p < 0.001, MSE = 0.052$).

Once again, the result of primary relevance to the main hypothesis was the significant three-way interaction between interview question type, feedback condition and interview session ($F(1, 26) = 13.014, p < 0.001, MSE = 0.044$) that resulted because confirmatory feedback reduced verbal hedges when responding to false-event questions, but not true-event questions, during the second interview only. Planned comparisons of the proportion of responses accompanied by verbal hedges during the first interview confirmed that for both true-event and false-event questions, there were no pre-existing differences as a function of assignment to feedback condition (all p 's > 0.287). As is obvious from the figure, at the second interview, there were no differences in verbal hedges in response to true-event questions as a function of feedback condition ($t(1, 26) < 1$). In support of the main hypothesis, the feedback manipulation resulted in rather large differences in the proportion of responses to false-event questions that were accompanied by hedges, with

participants producing verbal hedges much less often for items in the confirmatory feedback condition ($M = 0.24$) than in the neutral feedback condition ($M = 0.63$), $t(1, 26) = 4.21$, $p < 0.001$, $SE = 0.084$. However, even following confirmatory feedback, participants' responses to false-event questions were more often accompanied by verbal hedges ($M = 0.24$) than were their responses to true-event questions ($M = 0.09$), $t(1, 26) = 4.463$, $p < 0.001$, $SE = 0.051$.

Collectively, the results presented thus far show that confirmatory interviewer feedback provided after participants generate a confabulated response increased participants' apparent confidence in their confabulated responses. Specifically, confirmatory feedback dramatically increased participants' tendency to provide the same response in later repeated interviews, increased the speed with which they generated these confabulated responses and reduced verbal expressions of doubt in their confabulated answers.

Effects of confirmatory interviewer feedback on false memory for confabulated items

We next assessed whether confirmatory feedback increased false memory for the events that participants were forced to confabulate. Although it is possible that participants who provided the same confabulated responses consistently across interviews did so because they had developed false memories of having witnessed the confabulated events, it is also possible that they were providing the same response because they remembered the feedback indicating that their answer was correct. The two interviews were conducted by the same experimenter, with the repeated interview only 2 days after the first. Having been told by the experimenter that their responses in the confirmatory feedback condition were correct, participants may have felt some pressure to respond consistently, whether or not they believed they remembered witnessing the confabulated events.

To assess whether confirmatory feedback provided after the initial interview promotes false memory for confabulated events, we used a delayed recognition test accompanied by a warning (cf., Zaragoza et al., 2001). We note that our participants were treated identically to Zaragoza et al. with the exception that in the present study, the participants received a second forced confabulation interview, where feedback was discontinued, in the interval between the video event and the test.

Once again, we first compared false assents to confabulated items in the confirmatory and neutral feedback conditions for those items that participants generated *consistently* across interviews only. Recall that confirmatory feedback led participants to provide the same confabulated response on the second interview most of the time, but following neutral feedback, participants responded consistently only half the time. Because generating the same response twice may itself promote false memory development, we restricted the feedback analyses to those cases where participants provided the same confabulation on both interviews. For these consistently generated confabulations, participants committed more false assents if they were in the confirmatory feedback condition ($M = 51.1\%$) as compared to the neutral feedback condition ($M = 26.25\%$), $t(1, 14) = 3.57$, $p < 0.003$, $SE = 0.070$. Interestingly, there was no evidence that generating the same confabulated response twice increased false memory; for items in the neutral feedback condition, false assents to consistently generated confabulations ($M = 26\%$) did not differ from false assents to inconsistently generated confabulations ($M = 28\%$), $t(1, 7) = 2.71$, $p > 0.05$. (Because there were only five cases where participants generated inconsistent responses across interviews in the confirmatory feedback condition, possible effects of consistency on false memory could not be assessed for confabulated items in the confirmatory feedback condition).

The present study also replicated the Zaragoza et al. (2001) finding that even in the neutral feedback condition, forced confabulation leads to false memories. Participants in the Forced Confabulation Group assented more often to confabulated items in the neutral feedback condition ($M = 29.17\%$) than did participants in the No Confabulation Group who had not been exposed to these items ($M = 11.67\%$), $t(1, 64) = 2.96$, $p < 0.004$, $SE = 0.059$.

Accurate and inaccurate responses to true-event interview questions. The foregoing analysis demonstrates that confirmatory interviewer feedback can promote false memory for erroneous events that participants were forced to confabulate. We also assessed the effects of confirmatory feedback on assents to items that participants had generated in response to true-event interview question, and did so for accurate and inaccurate responses separately. To foreshadow for both accurate and inaccurate responses, confirmatory feedback led to significant increases in participants' tendency to claim they remembered witnessing the item in the video. For accurate responses to true-event questions, assents were quite high in the neutral feedback condition ($M = 95\%$). Even so, confirmatory feedback led to a reliable increase in assents ($M = 98\%$) $F(1, 65) = 5.20$, $p < 0.026$, $MSE = 0.0007$. In contrast, for inaccurate responses to true-event questions, participants rarely assented to having witnessed these items ($M = 10\%$). However, when participants received confirmatory feedback following an incorrect response, their tendency to assent to this item on the recognition test went up dramatically ($M = 77\%$), $t(1, 21) = 4.07$, $p < 0.001$, $SE = 0.164$.

Interestingly, because confirmatory feedback increased both 'hits' (assents to accurate responses) and false alarms (assents to inaccurate responses), when the data are collapsed across accuracy of response, overall recognition performance on test items from the true-event interview questions did not differ as a function of feedback condition. Overall accuracy (hits minus false alarms) in the confirmatory feedback condition ($M = 95.25\%$) and neutral feedback condition ($M = 95.00\%$) did not differ, $z = 0.07$, $p > 0.05$.

EXPERIMENT 2

Studies of the forced confabulation effect have shown that witnesses who are pressed to answer questions about fictitious events (or events they do not remember well) often express their lack of confidence in their responses by, for example, refusing to answer until coaxed to guess,² or through overt expressions such as hedges and nervous laughter. The results of Experiment 1 showed that when these tentative guesses were reinforced by the interviewer (by telling participants that their answer is correct), participants were highly likely to report the same incorrect information on subsequent interviews, and they did so with greater speed and fewer verbal hedges than in the initial interview. One implication of these findings is that confirmatory feedback provided during the initial stages of an investigation might lead witnesses to appear more confident in their erroneous testimony

²Although participants resisted answering false-event questions during the first interview (by refusing to respond, saying they 'didn't see that', etc.), by the second, repeated interview participants stopped resisting probably because they learned in the course of the experiment that they would be required to guess regardless of how much they resisted. For this reason, it was not possible to assess the relationship between resistance and other dependent variables of interest in this study (e.g. false memory development, judgments of whether the eyewitness knew the answer, etc.).

later on. Previous research suggests that participants, serving as mock-jurors, often use confidence as an indicator of eyewitness accuracy (Leippe et al., 1992; Lindsay et al., 1989; Whitley^{Q2} et al., 1986), and that the frequency of the witnesses' verbal hesitations and hedges is one dimension that participants rely on in assessing eyewitness confidence (Whitley et al.). What is not clear from the results of Experiment 1, however, is whether the effects of confirmatory feedback on response latency and verbal hedges, though highly reliable statistically, are of a magnitude that is psychologically meaningful. That is, would others perceive that participants are significantly more confident in those consistent responses that have earlier been reinforced by confirmatory, as opposed to neutral, interviewer feedback?

The purpose of Experiment 2 was to assess whether confirmatory feedback provided after a forcibly confabulated response might increase the perceived credibility of participants' subsequent erroneous testimony. To this end, we had participants in Experiment 2 listen to a tape-recorded *second* interview from Experiment 1, and had them make judgments about the interviewee's confidence in their responses. Recall that in Experiment 1, all participants received confirmatory feedback in the initial interview, but only neutral feedback in the second interview. Because Experiment 2 participants listened to the second interview only, they were unaware that the person being interviewed had earlier received confirmatory feedback following some of their responses. For each response provided by the interviewee on the audiotape, participants were asked to judge whether they thought the person being interviewed knew the answer to the question or was guessing. We hypothesised that for both accurate and confabulated responses, participants would be more likely to judge that the interviewee 'knew' the answer if the interviewee had earlier received confirmatory, as opposed to neutral, interviewer feedback following the same response during the initial interview.

Method

Participants

Thirty-six undergraduates (14 males and 22 females) participated in this experiment for extra credit in a psychology course.

Materials and procedure

To minimise the possibility that variations in the quality of the tape recording would affect participants' judgments, only those tape-recorded interviews where both the experimenter and the interviewee were clearly and consistently audible throughout the entire interview were selected for use in Experiment 2. On the basis of these criteria, a total of 23 out of the 36 tape-recorded interviews with participants from the Forced Confabulation Group from Experiment 1 were used in Experiment 2: Nine interviews were excluded because of large variations in volume or recording quality across the interview, and four were excluded because the tape ran out before the interview was completed (see Experiment 1). Across the interviews employed in Experiment 2, each true- and false-event item served approximately equally often in the confirmatory feedback and neutral feedback condition. Each Experiment 2 participant evaluated only one Experiment 1 interview. However, because the number of participants in Experiment 2 exceeded the number of useable second interviews from Experiment 1, 13 randomly chosen interviews were evaluated by two participants, while the remainder of interviews was evaluated by one participant. (We note that results remain the same if we restrict the analysis to one participant per interview).

Participants arrived at the lab individually. The experimenter read instructions to the participants while the participants followed along. Participants were informed that they were going to hear a tape recorded interview from a previous experiment. The participants were told that the person being interviewed knew the responses to some of the questions but did not know the response to others, and in the latter cases had been instructed to guess. Participants were further instructed that for each response, the person being interviewed made, their task was to indicate whether they thought the participant 'knew' the response or was 'guessing' by circling the appropriate word on their answer sheet.

In order to familiarise participants with the content and style of the interview and the variations in the interviewees' responses, each participant first heard the interview in its entirety before having to make the 'knew' vs. 'guessed' judgment. The experimenter then reminded participants that they would be hearing the same interview a second time. The interview was then played a second time, with the experimenter stopping the tape after each response to an interview question, so that participants could circle on the answer sheet in front of them whether they thought the interviewee 'knew' or 'guessed'. The answer sheets were counterbalanced such that for half the participants 'guessed' was on the left and 'knew' was on the right, and the order was reversed for the remaining subjects.

The tapes were played on a Jensen JMX 317 stereo. Before the tape recording was begun, participants were shown the volume knob on the stereo and informed that they could adjust the volume at any time during the first presentation of the interview and should leave it set to an appropriate level for the second presentation.

Upon completion of this main task, participants were asked: (a) whether they had seen the movie that was discussed in the interview, (b) whether they had been in a similar experiment previously and (c) what criteria they had used in deciding whether the person being interviewed knew the answer or was guessing. None of the participants indicated that they had seen the movie or participated in a similar experiment previously.

Results and discussion

Participants' 'knew' judgments were submitted to a 2 (interview question type: true or false) \times 2 (feedback condition: confirmatory or neutral) repeated measures ANOVA. For both true-event and false-event questions, the analysis was restricted to judgments about responses that were generated *consistently* at both interviews. In addition, because inaccurate responses to true-event questions were rare in this sample, the analysis also was restricted to judgments made about *accurate* responses to true-event questions. Because of these restrictions, for purposes of the analyses we entered the percentage of responses in each cell that were judged 'knew'.

'Knew' judgments as a function of interviewer feedback following initial response

As hypothesised, the results showed that participants were significantly more likely to judge that interviewee's 'knew' the answer if the response had earlier received confirmatory, as opposed to neutral, interviewer feedback during the initial interview ($F(1, 35) = 41.7, p < 0.0001, MSE = 0.058$). Planned comparisons confirmed that the effect of feedback on 'knew' judgments was reliable for both confabulated responses to false-event questions (M 's = 22% and 61% for the neutral and confirmatory feedback conditions, respectively, $t(1, 35) = 5.4, p < 0.001, SE = 0.07$) and accurate responses to true-event questions (M 's = 74% and 87% for the neutral and confirmatory feedback conditions,

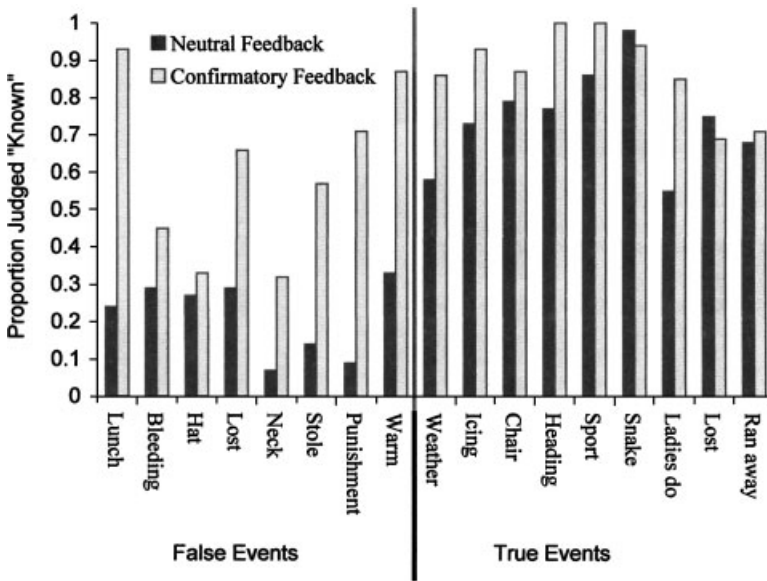


Figure 4. Proportion of Experiment 1 interviewee responses judged 'known' in Experiment 2 as a function of interview question type (true or false) and feedback condition (confirmatory or neutral)

respectively, $t(1, 35) = 3.17, p < 0.003, SE = 0.04$). The results remain the same when the data are analysed with item, rather than participant, as the random effect (see Figure 4).

The second finding of interest was that, overall, participants were able to discriminate between accurate and confabulated responses quite well. Specifically, participants correctly judged a greater proportion of the interviewees' accurate responses to true-event questions were 'known' by the interviewees than confabulated responses to false-event questions ($F(1, 35) = 114.8, p < 0.0001, MSE = 0.05$). However, the Feedback \times Question Type interaction was also reliable ($F(1, 35) = 9.3, p < 0.01, MSE = 0.06$) because participants were better able to discriminate between accurate and confabulated responses in the neutral feedback condition (mean 'knew' judgments were 22% and 74% for confabulated and accurate responses, respectively) than in the confirmatory feedback conditions (mean 'knew' judgments were 60% and 87% for confabulated and accurate responses, respectively). Post hoc analyses also showed that although confirmatory feedback reduced participants' ability to discriminate between accurate and confabulated responses, it did not eliminate their ability to do so. Overall, participants made fewer 'knew' judgments to confabulated responses in the confirmatory feedback condition ($M = 60%$) than to accurate responses in the neutral feedback condition ($M = 74%$), $t(1, 35) = 2.9, p < 0.006, SE = 0.048$.

Inspection of judges' ratings of accurate responses further reveals that they were quite conservative in making 'knew' judgments, underestimating the extent to which participants probably 'knew' this information. On the final recognition test (which was accompanied by a warning that should have encouraged careful responding), participants almost always indicated that they remembered witnessing the items they had earlier provided as accurate responses to true-event questions (mean assents were 95% and 98% for the neutral and confirmatory feedback conditions, respectively). Hence, interviewees claimed they 'knew'

these answers much more often than judges thought they did (mean 'knew' judgments were 74% and 87% for items in the neutral and confirmatory feedback conditions, respectively). Given this conservative bias, it is especially striking that judges incorrectly identified 60% of interviewees' confabulated responses as 'known'. All responses to false-event questions were fabrications that could not have been 'known'.

In summary, the results provide clear evidence that for both accurate and inaccurate (i.e. confabulated) responses, prior exposure to confirmatory feedback increases the perceived credibility of participants' responses. Although participants correctly identified repeated confabulations as mere guesses in the neutral feedback condition almost 80% of the time, this was not so for items in the confirmatory feedback condition. For repeated confabulations in the confirmatory feedback condition, participants judged the response as 'guessed' less than 40% of the time.

Justifications for 'guessed' judgments

Table 1 lists the justifications participants gave for their 'guessed' judgments, as a percentage of the total number of justifications given by all participants for all judgments (Note that participants sometimes provided more than one justification for a particular judgment). Consistent with the foregoing analyses, the most commonly cited reason for participants selecting the 'guessed' response was that the interviewee paused or hesitated prior to responding ($M = 44.57\%$). In addition, as expected, participants also cited verbal hedges and nervous laughter as important indicators of confidence ($M = 13\%$ for verbal hedges and nervous laughter combined). However, participants also noted that other aspects of the interviewee's speech, such as loud or confident speech ($M = 18.45\%$), or inflections that made responses sound like questions ($M = 14.13\%$) were also used as a basis for judgment (see Table 1 for a complete listing of justifications). The latter findings suggest that the latency and verbal hedges measures reported in Experiment 1 may not completely capture the effects of confirmatory feedback on the perceived credibility of interviewees' responses.

Are hesitations and verbal hedges predictive of participants' 'guessed' judgments? The results of Experiment 1 showed that confirmatory interviewer feedback provided after a confabulated response increased the speed with which participants later provided the same

Table 1. Justifications provided by participants for selecting the 'guessed' response and the frequency (as a percentage) with which each justification was provided

Justification	Percentage of times justification provided
Pause or hesitation	44.57
Volume of voice or confident speech	18.45
Inflection at the end of sentence as if asking question	14.13
Use of 'um', 'uh' or 'hm'	7.61
Giggle or laugh after response	5.43
Interviewee's response did not seem relevant to question	5.43
Mumbling	3.26
Overtly claiming to not know response	1.01
Sounded like interviewee had prepared response	1.01
Stuttering	1.01
Interviewee's response was hinted to in question	1.01
Interviewee's response seemed too ordinary	1.01

confabulated response on repeated interviews and reduced the overt expressions of doubt (verbal hedges and nervous laughter) that accompanied their repeated confabulations. We have assumed that this reduction in hesitations and hedges is at least partly responsible for the finding in the current experiment that participants were more likely to judge that interviewees 'knew' the answer if they had earlier been exposed to confirmatory feedback. Moreover, the justifications participants provided for their judgments (see Table 1) provide additional support for the assumption that they were using hesitations and hedges as a basis for 'guessed' judgments. However, it is also possible to test this assumption empirically. To this end, we conducted additional analyses to assess whether (a) latency to respond was related to participants' 'guessed' judgments and (b) verbal hedges were related to participants' 'guessed' judgments.

To assess the potential relationship between latency to respond and 'guessed' judgments, for each taped interview, we calculated (without regard to feedback condition) the mean latency of all consistent responses that were judged 'guess' and the mean latency of all consistent responses that were judged 'knew', and submitted these data to a paired-samples *t*-test. The results provide clear evidence of a relationship between interviewee's latency to respond and 'guessed' judgments. Overall, responses to false-event questions that were judged as 'guesses' had longer latencies (mean latency = 3.2 seconds) than those that were judged 'known' (mean latency = 1.3 seconds), $t(1, 22) = 3.5$, $p < 0.002$, $SE = 0.54$. Similarly, responses to true-event questions that were judged as 'guesses' (mean latency = 1.3 seconds) had reliably longer latencies than those that were judged 'known' (mean latency = 0.97 seconds), $t(1, 22) = 2.2$, $p < 0.05$, $SE = 0.16$. Although it might seem odd that responses to false-event questions that were judged 'known' had the same mean latency as accurate responses to true event questions that were judged 'guessed', we suspect that participants perceived the false event questions as more difficult than the true event questions (which they were), and adjusted their expectations regarding response latency accordingly.

To assess the potential relationship between verbal hedges and participants' judgments, for each taped interview, we assessed (without regard to feedback condition) the percentage of hedged responses that were judged a 'guess' and the percentage of non-hedged responses that were judged a 'guess'. This analysis was carried out on consistent responses to false-event questions only because there were insufficient cases (5 total) where interviewees provided a hedged consistent response to a true-event question. For the 20 interviews that had at least one hedged response to a false event question, the results showed that the percentage of hedged responses that were judged a 'guess' ($M = 80\%$) was much higher than the percentage of non-hedged responses that were judged a 'guess' ($M = 41\%$), $t(19) = 4.3$, $p < 0.001$, $SE = 0.09$. In summary, consistent with previous findings, these results show that participants in the present study used both hesitations and hedges as indices of witnesses' confidence in their testimony.

GENERAL DISCUSSION

Previous studies of forced confabulation have focussed on the effects of confirmatory interviewer feedback on the development of false eyewitness memories (e.g. Frost, LaCroix, & Sanborn, 2003; Zaragoza et al., 2001), and this study replicated these false memory effects. However, the present study focused on a somewhat different issue that is also highly relevant to real-world forensic situations, namely, whether confirmatory

interviewer feedback provided in the early stages of an investigation might increase the perceived credibility of a witnesses' testimony in later, repeated, interviews where such feedback is not provided. We were especially interested in the possibility that confirmatory feedback provided after forcibly confabulated (and hence erroneous) testimony might lead participants to report this confabulated information consistently, and with greater confidence, in later interviews. This issue is separate from concerns about false memory because it is possible for confirmatory feedback to increase participants' belief in the accuracy of their forced confabulations without influencing their memory. A strong belief in the accuracy of a confabulated event might lead participants to report a confabulated event consistently and with confidence, even if participants cannot remember witnessing the confabulated event first-hand.

In accord with our predictions, the first experiment showed that, relative to neutral feedback, confirmatory feedback provided after a forcibly confabulated response greatly increased the likelihood that participants would provide the same confabulated response when re-interviewed 2 days later, and led participants to report these repeated confabulations with greater speed and fewer expressions of doubt. Moreover, the results support our contention that participants might report forced confabulations consistently and with confidence, even if they do not remember having witnessed the confabulated events. Following confirmatory feedback, participants provided the same confabulated response on the repeated interview 94% of the time. Nevertheless, when given the recognition memory test 5 days later, participants indicated that they remembered witnessing only 51% of their (reinforced) confabulated events. Given this evidence that participants will report with confidence events they do not remember witnessing, studies that focus exclusively on false memory development may underestimate the extent to which confirmatory feedback can influence eyewitness reports.

As the foregoing discussion illustrates, we have interpreted the differences in performance between the neutral and confirmatory feedback conditions as evidence that confirmatory feedback increases consistency of responding across interviews. However, a possible alternative interpretation of these findings is that neutral feedback led to *inconsistent* responding across repeated interviews. Given that all participants received confirmatory feedback following some of their forced confabulations and only neutral (i.e. uninformative) feedback following others, it is possible that some participants interpreted neutral feedback (i.e. the absence of confirmatory feedback) as evidence that their response was incorrect, and hence felt compelled to change their response in the subsequent interview. From this view, participants did not interpret neutral feedback as 'no feedback' (as intended), but rather interpreted it as negative feedback that their answer was incorrect. Several pieces of evidence suggest this was not the case. First, given that all participants also received neutral feedback following half of their true-event question responses, it should have been obvious to participants that neutral interviewer feedback did not indicate that their response was incorrect. Recall that most of the true-event questions queried participants about highly central and well-remembered events, and that participants were highly accurate in their responses to these questions. Hence, all participants received neutral feedback following responses that they knew to be accurate. Moreover, in contrast to performance on false-event questions (where participants changed their responses to repeated false-event questions in the neutral feedback condition over 50% of the time) when responding to true-event questions, participants rarely (only 5% of the time) changed their accurate responses on the repeated interview. If participants interpreted neutral feedback as 'negative feedback', there should be evidence of inconsistent responding to

true-event questions in the neutral feedback condition as well. We conclude, therefore, that the finding of greater consistency in the confirmatory, as compared to the neutral, feedback conditions is evidence that confirmatory interviewer feedback increases consistency of responding in subsequent interviews.

Importantly, the results of Experiment 2 showed that, when earlier reinforced by confirmatory feedback, judges perceived that participants/witnesses were highly confident in their confabulated responses and took this as evidence that witnesses were reporting information that they 'knew'. Although previous studies have assessed witnesses' confidence in their own forced confabulations (as measured by confidence ratings, Zaragoza et al., 2001, or measures of phenomenological experience, Frost et al., 2003), this is the first study we know of that attempts to assess how *others* perceive witnesses' confidence in their confabulated reports. From a practical perspective, assessing others' (e.g. jurors') perceptions of witness confidence is critically important, as jurors are ultimately the ones who serve as triers of fact in a court of law. The results presented here show that for both accurate and inaccurate testimony, confirmatory feedback had very robust effects on others' perceptions of statement credibility.

Whereas previous forced confabulation and feedback studies (e.g. Zaragoza et al., 2001) have examined the effects of interviewer feedback on false (confabulated) testimony only, in the present study, we assessed the effects of confirmatory interviewer feedback following both inaccurate (i.e. confabulated) and accurate responses. Collectively, the results show that confirmatory interviewer feedback provided following accurate responses to true-event questions had similar effects for both accurate and inaccurate responses, though the effects of confirmatory feedback on consistency and confidence were much more modest for accurate responses. It is important to note, however, that in an effort to assess the effects of interviewer feedback on accurate testimony, we deliberately designed the true-event questions to be about items and events that we thought most participants would easily remember. Given that not all 'true events' are necessarily well remembered, we suspect that the effects of confirmatory feedback on accurate testimony may be much more pronounced in situations where the true-event questions are about events that are less well remembered.

Because participants knew the answers to most of the true-event questions, they provided *inaccurate* responses to true-event questions relatively infrequently. Although a relatively small sample of responses, cases where participants provided incorrect responses to true-event questions are nevertheless of great relevance to the present investigation because they represent situations where participants were forced to provide information about events they did not remember (i.e. they were forced to confabulate). Interestingly, the pattern of findings for inaccurate responses to true-event questions was remarkably similar to that of confabulated responses to false-event questions: Although participants evidenced appropriately low confidence in their incorrect responses to true-event questions following neutral feedback (e.g. low consistency in responding on repeated interviews, low rates of assenting to having witnessed these items on the final recognition test), confirmatory feedback led to robust increases in apparent confidence in these incorrect responses (e.g. very high levels of consistent responding on repeated interviews and high levels of false assents on the final recognition test). Although a more complete assessment of the effects of interviewer feedback on inaccurate responses to 'true event' questions will require additional research, the results presented here show quite clearly that the harmful effects of confirmatory interviewer feedback are not limited to misleading or suggestive interviews. Rather, confirmatory interviewer feedback is a problem under any circumstances where witnesses provide erroneous testimony.

A common feature of forensic investigative situations is that eyewitnesses are interviewed repeatedly over time. However, those who evaluate the credibility of an eyewitness's testimony in the latter stages of an investigation (e.g. jurors evaluating testimony provided during a trial) often do not have knowledge of the witness's interrogation history. The results presented here show quite clearly that confirmatory interviewer feedback dramatically inflates the apparent confidence with which participant/witnesses espouse confabulated information, and increases the perceived credibility of such testimony. As such, the current findings add to the growing body of evidence that eyewitness confidence is highly malleable and, in some cases, a poor predictor of eyewitness accuracy.

ACKNOWLEDGEMENTS

We thank the following undergraduate research assistants for their help with data collection: Brianne Hillmer, Jennifer Freeman, Raquel Wannemacher, Traci Hozian and Kristen Powers. The research reported in Experiment 1 is based on a masters thesis conducted by Jessica Hanba in partial fulfillment of the requirements for the M.A. degree, Department of Psychology, Kent State University.

APPENDIX

EXPERIMENT 1 FIRST INTERVIEW TRUE- AND FALSE-EVENT QUESTIONS IN CHRONOLOGICAL ORDER

1. At the beginning of the video, some ladies arrived at the camp. What was the weather like when they arrived? (true event)
2. When everyone was in the dining hall, the cook brought out a cake. What flavour icing was on the cake? (true event)
3. Before the cook brought out the cake, what was everyone having for lunch? (false event)
4. The dining hall got noisy. In order to get the boys' attention, Delaney stood on a chair at the front of the room. What happened to the chair? (true event)
5. After Delaney fell off of the chair, where did he say he was bleeding? (false event)
6. Following lunch, everyone was walking a dirt path. Where was the group heading? (true event)
7. What kind of hat was Delaney wearing while giving the tour in the boats? (false event)
8. During the tour, the ladies screamed. What was it that scared the ladies? (true event)
9. What did the ladies do after they saw the snake? (true event)
10. While swimming to the other boats, what did one of the ladies say she had lost? (false event)
11. What was Sullivan wearing around his neck while watching Delaney kill the snake? (false event)
12. After Delaney killed the snake, what sport did Delaney tell the man should be added to the camp? (true event)
13. When the boys were by the water arguing, what did one of the boys say Sullivan had stolen? (false event)

14. The boys did something mean to him. What did they do to Sullivan? (true event)
 15. What punishment did Delaney give the boys for bullying Sullivan? (false event)
 16. Delaney helped Sullivan out of the water and gave him something to help keep him warm. What was it? (false event)
 17. Sullivan started to cry and told Delaney that he didn't need his big brother sticking up for him. What did Sullivan do next? (true event)

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