Memory of Remembering: Investigating the Forgot-It-All-Along Effect Using Pictures

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Forgot-it-all-along *(FIA) refers to a memory phenomenon wherein prior episodes of remembering are forgotten. Arnold and Lindsay (2002, 2005) found that when a word is remembered in different ways on separate occasions, individuals are more likely to forget recalling the word on the first occasion. The FIA effect has also been observed for autobiographical stimuli, which typically contain a stronger visual imagery component relative to verbal stimuli (Rubin, 2005). To reduce the gap between verbal and autobiographical stimuli, the present study investigated whether a FIA effect could be obtained using pictorial stimuli. Forty-eight undergraduate students studied 48 homographs, each presented in one of two contexts. Homographs were presented as words for some subjects, as line drawings for others. Context (studied vs. other) was manipulated across two successive cued-recall tests. For each item on the second cued recall test, subjects were asked if they had recalled that item on the first test. Results revealed an equivalent FIA effect for pictorial and word stimuli. The findings are interpreted within the transfer-appropriate processing and source monitoring frameworks*

Have you ever forgotten a noteworthy event from your past, and then suddenly remembered that event many years later? If so, you may have experienced a phenomenon known as a *recovered memory*, in which an event that has been forgotten for an extended period of time (i.e., weeks, months, years, or sometimes decades) is once again recollected.

Although researchers have documented several cases of reported recovered memories (e.g., Read, 1997; Read & Lindsay, 2000; Schooler, Ambadar, & Bendiksen, 1997), the idea that memories can be forgotten and then resurface after a period of "amnesia"[1] remains controversial (e.g., Read & Lindsay, 2000). Adding to the complexity of this issue are findings that demonstrate that memory for past episodes of remembering is subject to error (e.g., Arnold & Lindsay, 2002, 2005; Schooler et al.). One finding in particular is the *forgot-it-all-along* (FIA) effect: a memory phenomenon in which prior episodes of remembering are forgotten (Arnold & Lindsay, 2002; Schooler et al., 1997).[2] Schooler et al. first used the term—*forgot-it-all-along*—in their study of real-world cases in which individuals reported recovered memories of childhood sexual abuse (CSA). In this study, Schooler et al. found that two women who had reported recovering a memory of CSA had forgotten prior episodes of remembering the abuse during the period of time when the abuse was supposedly forgotten. That is, these women had talked to others about the abuse during the alleged period of amnesia. Schooler et al.'s findings raise several questions for memory researchers. Specifically, under what circumstances do we forget that we have previously remembered something? When

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[1] Some professionals refer to the period of forgetting as a period of "amnesia" for the remembered event. Other professionals deem this terminology inappropriate. For an in depth look at the issues surrounding recovered memories, see Read (1997) and McNally, Clancy, and Barrett (2004).

[2] The "forgot-it-all-along" effect was named in reference to Fischoff's (1977) "knew-it-all-along" effect, which refers to an overestimation of prior knowledge.

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we make judgments about our previous recollections, to what extent do we believe our judgments are accurate? What mechanisms underlie judgments of prior recollection?

The Forgot-It-All-Along Effect

According to Tulving's *encoding specificity principle and the closely related notion of transfer-appropriate processing* (Morris, Bransford, & Franks, 1977), memory is better when processes at encoding and retrieval match (Tulving & Thomson, 1973). The women described in Schooler et al.'s (1997) case studies might have remembered their abuse in qualitatively different ways on separate occasions (e.g., retrieving abstract knowledge that the abuse happened to them vs. recollecting emotionally charged details of the abuse). If so, then the newer way of remembering the abuse would be a poor cue for retrieving memories of prior instances in which the abuse was thought about in the older way, causing previous episodes of remembering the abuse to be forgotten (i.e., the FIA effect). To test this contention, Arnold and Lindsay (2002, 2005) conducted a series of laboratory experiments in which participants were cued to recall words in the same versus qualitatively different ways across two cued-recall tests. Arnold and Lindsay hypothesized that participants would more often forget having recalled a word on the first test when they had been cued to think about that word differently on the two tests, exhibiting the FIA effect.

In the Arnold and Lindsay (2002, 2005) FIA procedure, participants are led to think of neutral homographs (words with two dominant meanings) in qualitatively different ways across two cued-recall tests. They found that when meanings of homographs were manipulated across tests, participants were significantly more likely to forget their previous recollections of the words. Even subtle shifts, such as changing a word's context without changing its meaning, produced a FIA effect (Arnold & Lindsay, 2005). Moreover, data from a confidence rating scale indicated that participants were quite confident in their previous recall judgments, even when these judgments were incorrect.

Current Study

The FIA effect has been observed for memories of autobiographical events (e.g., Schooler et al., 1997), and experimentally manipulated in studies of memory for words (e.g., Arnold & Lindsay, 2002, 2005). Verbal memory, however, is much less complex than autobiographical memory, which contains richer and more distinctive memory characteristics (Dewhurst & Conway, 1994). Specifically, autobiographical memory contains a strong visual imagery component, a characteristic that has been shown to play a central role in remembering autobiographical stimuli (Rubin, 2005). To reduce the gap between the FIA effect observed for autobiographical memories and memories of words, the current study used pictorial stimuli, which also have a visual imagery component. In a variant of the Arnold and Lindsay (2002, 2005) FIA paradigm, we investigated whether a FIA effect could be obtained when participants studied pictures. A control group was included in which participants studied words only. We hypothesized that when an item is remembered in qualitatively different ways across two cued-recall tests, individuals are more likely to forget recalling the item on the first test (i.e., the FIA effect). In addition, based on previous research on the picture superiority effect (e.g., Dewhurst & Conway), we expected recall to be superior for participants who studied pictures compared to those who studied words. Of greatest interest, we tested the hypothesis that the FIA effect may diminish in size for participants who study pictures relative to those who study words. Finally, we tested the hypothesis that participants would be more confident in their previous recall judgments when cued to remember items in the same context compared to different contexts across the two cued-recall tests. Confidence ratings were also used to show that participants were not merely guessing when making their previous recall judgments.

Method

Participants

Forty-eight University of Victoria undergraduates (40 women) in an introductory psychology course participated in exchange for extra credit. Most participants (94%) were first-year university aged (18–22 years). For participants for whom English is a second language, the experimenter judged whether the student had a sufficient understanding of English prior to commencement of the experiment. Nine participants were judged to have an insufficient understanding of English, and their data were excluded from the analyses.

Design

This experiment used a 2 x 3 x 2 mixed factorial design. The between-subjects independent variable was type of stimuli studied in Phase 1 (pictures vs. words). The within-subjects independent variables were (a) type of cue sentence received in Phase 2 (studied-context vs. other-context vs. not tested) and (b) type of cue sentence received in Phase 3 (studied-context vs. other-context).[3] Combined, these two within-subjects independent variables created six conditions: (i) Test 1 studied - Test 2 studied, (ii) Test 1 stud-

ied - Test 2 other, (iii) Test 1 other - Test 2 other, (iv) Test 1 other - Test 2 studied, (v) Test 1 not tested - Test 2 studied, (vi) Test 1 not tested - Test 2 other.

Materials

Stimuli were 48 homographs, each with two distinct meanings.[4] Homographs were chosen from the following sources: Arnold and Lindsay's (2002, 2005) previous FIA studies; the Comp.Speech Frequently Asked Questions website (Comp.Speech, 1997); a study by Dick, Hernandez, Janyan, Opei, Palacios, and Saccuman (2005); and a study by Ferraro and Kellas (1990). Each of the homographs' two meanings were matched with (a) a related black and white line drawing, (b) a related cue word, and (c) a cue sentence containing the corresponding cue word and a row of asterisk symbols representing the target word. For example, the homograph CALF was matched with a picture of the calf of a leg and the cue word leg, and with a picture of a baby cow and the cue word *cow*. The corresponding sentences were "Amy had a bruise on the _ _ _ _ of her leg" and "The mother cow nursed her baby _ _ _ _." All sentences were similar in length and structure and were created by the first author, with the exception of two sentences derived from Arnold and Lindsay (2002, 2005). Pictures were obtained from the Center for Research in Language-International Picture-Naming Project (Dick et al., 2005), an artist by commission, and various free Internet clipart websites.[5]

The study list consisted of the 48 target homographs in a unique random order for each participant. For half of the participants, homographs were presented as words (*words condition*); for others, as pictures along with the corresponding target word to ensure that participants thought of the picture as intended (*pictures condition*). The meanings of target homographs were randomized across all participants so that no two study lists were alike.

The Phase 2 test list consisted of sentence cues for two-thirds of the target homographs studied in Phase 1 (one-third of the target homographs were not tested–*not tested condition*). Cue sentences contained a word fragment (the first and last letters of a target word separated by dashes) and a related cue word (e.g., "The mother cow nursed her baby C _ _ F"). One-third of the target homographs were cued in their studied context (*studied-context condition*), whereas the other third were cued in their nonstudied context (*other-context condition*). Order of cue sentences was randomized anew for each participant.

The test list for Phase 3 consisted of all 48 target homographs studied in Phase 1. Again, cues were sentences containing a word fragment and a related cue word. Each participant received a unique order of cues (chosen at random), half of which matched the studied context, the other half of which were cued in the other context (orthogonally crossed with Phase 2 condition).

One primacy and one recency buffer was used to bypass primary and recency effects in Phases 1, 2, and 3. Both buffers were homographs, studied and cued in only one context.

Procedure

Prior to commencement of the experiment, participants gave informed consent for participation by reading and signing the consent form. Participants were then tested individually on an IBM compatible personal computer with the experimenter sitting beside them. The experiment was programmed in E-Prime. Each participant took approximately 50 minutes to complete all tasks.

In Phase 1, participants studied 48 target homographs. Half of the participants studied the target homographs as line drawings (*pictures condition*), whereas the other half studied the target homographs as words (*words condition*). Each target-picture or target-word pair was presented for 2 seconds. Participants were instructed to say each target word (emphasized in capital letters) aloud as it appeared on the screen in preparation for a subsequent memory test. Participants were further instructed to think of the target word in the context of its paired picture or word. After saying each target homograph aloud, a sentence containing a corresponding cue word and a row of asterisk symbols for the target homograph was presented for 5 s. Participants were instructed to read the sentence aloud and fill in the asterisk symbols with the target word. After the 5 seconds elapsed, the corresponding target-picture or target-word pair re-appeared on the screen for 1 second.

In Phase 2, participants in both the pictures condition and the words condition were given sentences as cues to recall two-thirds of the target homographs. Participants were informed that the sentences might or might not correspond to the sentences they had seen in Phase 1, but that the sentences were always related to target words in some way. Participants were also informed that some of the target words would not be tested.

[3] The term "studied-context" refers to items cued in the same context as they were studied. The term "other-context" refers to items cued in a different context as it was studied.

[4] For simplicity, the words "context" and "meaning" are used interchangeably.

[5] A complete list of the stimuli used in this study can be obtained by contacting the first author.

Each cue sentence was presented for 3.5 s. Participants were instructed to recall target words aloud only if they remembered seeing the word in Phase 1. To avoid word-fragment completion and guessing, participants were instructed to say "pass" if they knew the correct target word, but did not remember seeing it in Phase 1. Participants received item-by-item feedback in the form of a "ding" sound, and the word *correct*! for correct responses, and a tone sound for incorrect and "pass" responses.

Following Phase 2, participants engaged in a Stroop task as a distracter task for 15 min. The Stroop task involved naming the colours in which colour-name words or groups of symbols were printed.

Phase 3 consisted of a cued-recall test for all 48 target homographs. Participants were once again informed that the cue sentences may or may not correspond to the sentences they had seen in Phase 1, but that they were always related to target words in some way. Participants were reminded to respond only if they remembered seeing the target word in Phase 1, and to say "pass" if they did not remember the target word from Phase 1. Participants received the same item-by-item feedback as in Phase 2. This time, however, the correct target homograph appeared on the screen after participants made their response. In addition, on each trial, participants were asked to indicate if they remembered recalling the target word on the first test by saying "yes" or "no," and to rate their confidence in their judgments on a 6-point scale (1 = *very uncertain*; 2 = *uncertain*; 3 = *somewhat uncertain*; 4 = *somewhat certain*; 5 = *certain*; 6 = *very certain*). Participants were reminded that some of the target words were not tested on the first test, and therefore it would not make sense to remember recalling words that were not tested. Participants were reminded one or two times throughout the task that the judgment should be based on their memory of recalling words, not whether they remembered being tested for the words.

After completing all three phases of the experiment, participants were debriefed and given extra credit for their introductory psychology course.

Results

All analyses used a criterion of $\alpha = .05$. Effect sizes were calculated using Cohen's *d* for comparisons between 2 groups, and partial η^2 for comparisons involving more than 2 groups. Within-subject confidence intervals were calculated using Masson and Loftus's (2003) equation using the error term from the interaction effect.

Recall Performance

Mean proportions of target words correctly recalled for each condition of Test 1 and Test 2 are shown in Table 1. Proportions of target words correctly recalled on Test 1 were analyzed in a 2 (Test 1: studied-context vs. other-context) x 2 (studied pictures vs. words) mixed factorial analysis of variance (ANOVA).[6] Results indicated that correct recall on Test 1 was significantly higher for target words cued with studied-context sentences ($M = .96$, $SD = .05$) compared to target words cued with other-context sentences ($M = .70$, $SD = .17$), $F(1, 46) = 92.60$, $d = 1.44$, $p < .01$. Studying pictures ($M = .82$, $SD = .14$) versus words ($M = .85$, $SD = .09$) had no influence on Test 1 recall performance, $F(1, 46) = 1.17$, *ns*.

Proportions of target words correctly recalled on Test 2 were analyzed in a 3 (Test 1: studied-context vs. other-context vs. not tested) x 2 (Test 2: studied-context vs. other-context) x 2 (studied pictures vs. words) mixed factorial ANOVA.[7] Results revealed a main effect of Test 2 context. Correct recall on Test 2 was significantly higher for target words cued with studied-context sentences on Test 2 ($M = .97$, $SD = .06$) compared to target words cued with other-context sentences on Test 2 ($M = .85$, $SD = .14$), $F(1, 46) = 114.19$, $d = .87$, $p < .01$.

TABLE 1

Mean Proportion of Items Correctly Recalled

Test 1/Test 2 Cues	Test 1	Test 2
Pictures		
Studied/Studied	.98 (.06)	.98 (.04)
Other/Studied	.69 (.24)	.97 (.05)
Not Tested/Studied		.95 (.09)
Studied/Other	.94 (.10)	.90 (.11)
Other/Other	.66 (.22)	.81 (.14)
Not Tested/Other		.87 (.15)
Words		
Studied/Studied	.97 (.06)	.99 (.03)
Other/Studied	.77 (.14)	.95 (.06)
Not Tested/Studied		.95 (.08)
Studied/Other	.96 (.07)	.88 (.12)
Other/Other	.71 (.17)	.83 (.18)
Not Tested/Other		.84 (.11)

Note. Standard deviations are in parentheses.

[6] Due to the presence of an unusually low score in the Test 1 other-context group, the assumption of homogeneity of variances was not met. Values from the Greenhouse-Geisser test are reported.

[7] Due to the presence of outliers, the assumption of homogeneity of variances was not met for the Test 2 studied/studied pictures and words groups, and the Test 2 other/studied pictures group. Values from the Greenhouse-Geisser test are reported.

Correct recall on Test 2 was also influenced by Test 1, $F(1, 46) = 6.25$, partial $\eta^2 = .12$, $p < .01$. Planned comparisons revealed that Test 2 recall performance was higher for target words cued with studied-context sentences on Test 1 ($M = .94$, $SD = .07$) compared to those cued with other-context sentences on Test 1 ($M = .89$, $SD = .11$), $t(47) = 3.27$, $d = .95$, $p < .01$, and target words not tested on Test 1 ($M = .90$, $SD = .11$), $t(47) = 2.72$, $d = .79$, $p < .01$.

There was no interaction between context on Test 1 and Test 2, $F < 1$. As well, studying pictures ($M = .91$, $SD = .10$) versus words ($M = .91$, $SD = .10$) had no effect on Test 2 recall performance, $Fs < 1$ for the main effect and interactions.

Judgment of Previous Recollection

As with Arnold and Lindsay's (2002, 2005) FIA studies, the subsequent analyses were performed on prior-recall judgment data for target words correctly recalled on both Test 1 and Test 2. The proportions of correct "yes" judgments were analyzed in a 2 (Test 1: studied-context vs. other-context) x 2 (Test 2: studied-context vs. other-context) x 2 (studied pictures vs. words) mixed factorial ANOVA. A main effect of Test 1 context was found. Participants were significantly more likely to correctly judge target words as "recalled" on Test 1 when target words were cued with their studied-context sentences on Test 1 ($M = .84$, $SD = .17$) compared to their other-context sentences on Test 1 ($M = .79$, $SD = .21$), $F(1, 46) = 6.39$, $d = 1.10$, $p < .05$. Studying pictures ($M = .82$, $SD = .20$) versus words ($M = .81$, $SD = .18$) had no effect on previous recall judgments, $F < 1$.

As expected, there was a significant interaction between context on Test 1 and context on Test 2, $F(1, 46) = 28.84$, partial $\eta^2 = .39$, $p < .01$ (see Figures 1a and 1b). Planned comparisons showed that for target words cued with studied-context sentences on Test 1, participants were more likely to forget their previous recall when those target words were cued with other-context sentences on Test 2 ($M = .76$, $SD = .24$) compared to when they were cued with studied-context sentences on Test 2 ($M = .92$, $SD = .10$), $t(47) = 5.43$, $d = 1.58$, $p < .01$. Conversely, for target words cued with other-context sentences on Test 1, participants were more likely to forget their previous recall when those target words were cued with studied-context sentences on Test 2 ($M = .70$, $SD = .25$) compared to other-context sentences on Test 2 ($M = .88$, $SD = .16$), $t(47) = 6.51$, $d = 1.90$, $p < .01$.

False Positives

False positives were analyzed in a 2 (Test 1 not tested/Test 2 studied-context vs. Test 1 not tested/Test2 other-context) x 2 (studied pictures vs. words) mixed factorial ANOVA.[8] Results revealed a main effect of Test 2 context. For target words that were not tested on Test 1, participants were significantly more likely to

FIGURE 1a

Mean proportion of items judged as "recalled" on Test 1 for pictures condition (error bars indicate a 95% within-subjects confidence interval).

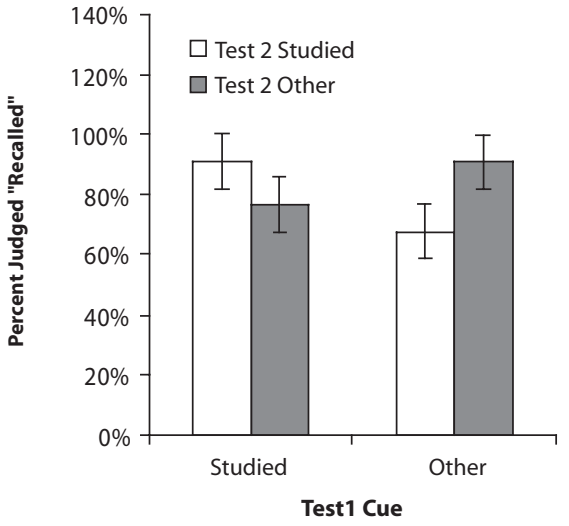
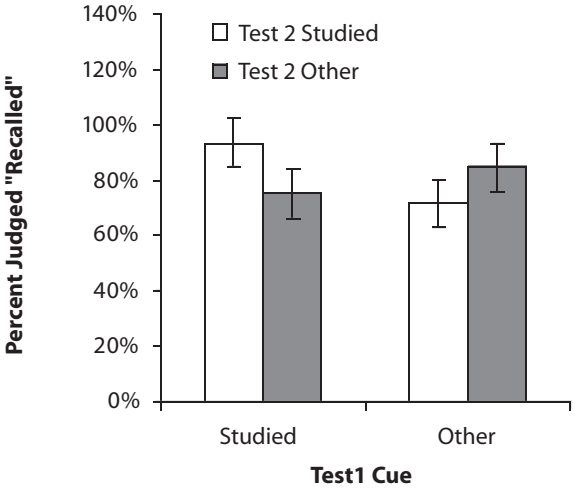


FIGURE 1b

Mean proportion of items judged as "recalled" on Test 1 for words condition (error bars indicate a 95% within-subjects confidence interval).



falsely judge a target word as having been recalled on Test 1 when they were cued with studied-context sentences on Test 2 ($M = .17$, $SD = .23$) compared to items cued with other-context sentences on Test 2 ($M = .11$, $SD = .16$), $F(1, 46) = 5.90$, $d = 1.08$, $p < .05$ (see Figure 2). Interestingly, a near-significant effect of studying pictures versus words was found: Participants who studied words were more likely to falsely judge that they had recalled target words that were not tested in Test 1 ($M = .18$, $SD = .22$) compared to participants who studied pictures ($M = .09$, $SD = .16$), $F(1, 46) = 3.51$, $d = .46$, $p < .10$.

FIGURE 2

Mean false positive rates for each condition (error bars indicate a 95% within-subjects confidence interval).

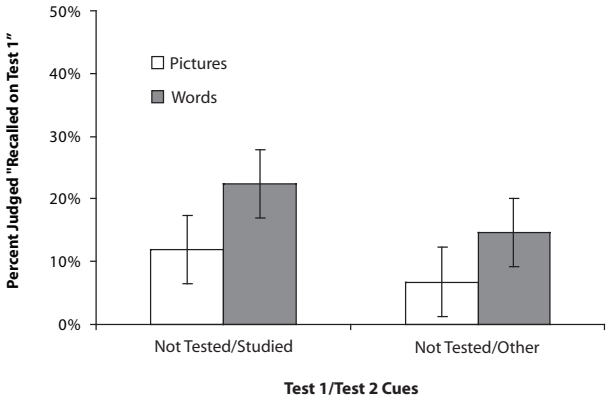


TABLE 2

Mean Confidence Rating for Each Condition

Test 1/Test 2 Cues	Confidence Rating
Pictures	
Studied/Studied	5.26 (.49)
Other/Studied	4.83 (.86)
Not Tested/Studied	4.65 (.72)
Studied/Other	4.95 (.67)
Other/Other	5.16 (.75)
Not Tested/Other	4.70 (.87)
Words	
Studied/Studied	5.30 (.56)
Other/Studied	4.96 (.66)
Not Tested/Studied	4.66 (.69)
Studied/Other	5.09 (.54)
Other/Other	5.07 (.73)
Not Tested/Other	4.48 (.65)

Note. Standard deviations are in parentheses.

[8] Due to the presence of outliers, the assumption of homogeneity of variances was not met for the not tested/studied pictures condition. Values from the Greenhouse-Geisser test are reported.

Confidence Ratings

Mean confidence ratings for each condition are shown in Table 2. Overall, participants were confident in their prior-recall judgments. The subsequent analyses were performed on prior-recall-judgment confidence ratings for target words correctly recalled on both Test 1 and Test 2. Confidence ratings were analyzed in a 2 (Test 1: studied-context vs. other-context) x 2 (Test 2: studied-context vs. other-context) x 2 (studied pictures vs. words) mixed factorial ANOVA. Results revealed a marginally significant main effect of Test 1 context. Participants were more confident in their previous recall judgments when target words were cued with studied-context sentences ($M = 5.15$, $SD = .56$) compared to target words cued with other-context sentences ($M = 5.00$, $SD = .75$) on Test 1, $F(1, 46) = 4.02$, $d = 1.00$, $p = .05$. Studying pictures ($M = 5.05$, $SD = .69$) versus words ($M = 5.10$, $SD = .62$) had no effect on level of confidence, $F < 1$.

Results also revealed a significant interaction between Test 1 and Test 2 context on confidence, $F(1, 46) = 15.25$, partial $\eta^2 = 0.25$, $p < .01$. Planned comparisons revealed that for target words cued with studied-context sentences on Test 1, participants were significantly more confident in their previous recall judgments of target words cued with studied-context sentences on Test 2 ($M = 5.26$, $SD = .54$) compared to target words cued with other-context sentences on Test 2 ($M = 5.03$, $SD = .60$), $t(47) = 2.85$, $d = .83$, $p < .01$. Conversely, for target words cued with other-context sentences on Test 1, participants were significantly more confident in their previous recall judgments of target words cued with other-context sentences on Test 2 ($M = 5.11$, $SD = .73$) compared to target words cued with studied-context sentences on Test 2 ($M = 4.90$, $SD = .76$), $t(46) = 2.51$, $d = .74$, $p < .05$.

Discussion

As hypothesized, results show a substantial FIA effect for participants who studied pictures and for those who studied words. When participants were led to remember target words in different ways across two cued-recall tests, they were significantly more likely to forget previously recalling those words on the first test. Moreover, the observed FIA effect occurred regardless of which direction context was manipulated (i.e., the FIA effect occurred for both the Test 1: studied/Test

2: other and Test 1: other/Test 2: studied conditions). Like the results reported by Arnold and Lindsay (2002, 2005), this finding indicates that the encoding specificity principle and transfer-appropriate processing approaches to memory also apply to memory of prior remembering. It is likely that memory of prior remembering is similar to other kinds of remembering, in that memory is better when the processes at encoding and retrieval match.

As Johnson, Hashtroudi, and Lindsay (1993) asserted in their source monitoring framework, the sources of memories containing rich and distinctive euphoric information tend to be more easily discriminable. What makes the tasks in our experiment particularly difficult is that all tasks involve similar content and procedures. In all three phases, participants read sentences and spoke target words. Consequently, distinguishing between memories of studying words and memories of recalling words was quite complex, as the content of memories of studying words had the potential to blend with memories of remembering those words.

Similarity in task content may also explain the small number of false positives that occurred. When participants falsely reported that they remembered recalling a target word that was not tested on Test 1, they may have confused a memory of seeing the target word at study with a (false) memory of that target word from Test 1.

Interestingly, little evidence of a picture superiority effect was found. Contrary to our initial hypothesis, studying pictures versus words had no influence on the size of the FIA effect. Participants who studied pictures were just as likely to exhibit the FIA effect as those who studied words. Participants may not have encoded the pictures deeply enough for them to influence memory of prior remembering. One possibility is that the sentences may have been a more salient feature of the tasks relative to the pictures, which were viewed in Phase 1 only. Some anecdotal evidence of this was collected during participant debriefing, when participants were casually asked the number of times during Test 2 they had thought of or imagined the pictures that accompanied the target words in Phase 1. The majority of participants indicated that they brought the pictures to mind 6 to 10 times out of 50 trials, a small number for stimuli that, theoretically, should have been remembered better. Participants were informed that they would be given sentences as cues to remember target words, which may have motivated them to focus most of their attention on the sentences. Future researchers might attempt to replicate this study using related words, rather than sentences, as cues to recall target words. This simple alteration may decrease the salience of the sentences, thereby motivating participants to focus more on the pictures. In turn, researchers may be better able to draw a conclusion of whether a picture superiority effect can be found within the FIA paradigm.

Despite the lack of difference in the FIA effect for pictures versus words, one hint of the hypothesized picture superiority effect was observed when analyzing false positive rates. For target words not tested on Test 1, participants who studied words were more likely to falsely report having recalled those words on Test 1 compared to participants who studied pictures. This finding makes sense from a source monitoring perspective, in that the increased sensory-perceptual quality of pictures, relative to words, may have enabled participants to better distinguish between memories of recalling versus studying words.

Confidence rating analyses supported our third hypothesis, revealing that participants were less confident in their previous recall judgments of target words cued differently across the two tests. However, mean confidence ratings were high overall, which indicates that participants were confident in their previous recall judgments, even when these judgments were erroneous. This finding demonstrates that, when asked whether they remembered recalling a word on Test 1, participants were not merely guessing. Participants would most likely have rated their confidence much lower for judgments that were guesses.

One of the driving forces behind memory research is the applicability of its findings to our everyday lives. As such, examination of memories of remembering autobiographical stimuli is essential in expanding our understanding of memory of prior remembering. One group of researchers has begun to examine this aspect of memory of prior remembering. In research conducted subsequent to that reported here, Geraerts, Arnold, Lindsay, Merckelbach, Jelicic, and Hauer (2006) investigated memory of prior remembering in individuals who reported recovered memories of CSA. Results revealed that participants who reported recovering memories of abuse were more susceptible to the FIA effect compared to participants who had not reported recovering memories of abuse. A comprehensive examination of memory for remembering should also include studies of nontraumatic autobiographical memories (see Geraerts et al.). As well, it would be interesting to examine the effects of factors such as emotional quality, temporal location, richness of sensory-perceptual detail, and content (e.g., memories that relate to the self vs. memories that do not) on the FIA effect.

This study supports the existence of a FIA effect that can generalize to verbal and pictorial stimuli.

When individuals remember a stimulus in qualitatively different ways on separate occasions, they more often forget remembering the stimulus on the first occasion. Implications of the FIA effect can be found in clinical settings, where the practice of uncovering forgotten memories of trauma is sometimes used. Individuals are encouraged to bring to mind forgotten memories of traumatic events in an effort to promote healing and closure. When using clinical techniques involving recovering memories of past events, it is important for clinicians to be aware that memories of *remembering* traumatic events can also be forgotten.

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