Segregation of study items in memory determines the magnitude and direction of directed forgetting

Michal Icht1*, Eran Chajut2 and Daniel Algom3
1Ariel University Center of Samaria, Ariel, Israel
2The Open University of Israel, Ra’anana, Israel
3Tel Aviv University, Tel Aviv, Israel

When words at study are divided into to-be-remembered and to-be-forgotten ones, people recall more of the former than of the latter in a surprise memory test for all words. In this study, we also tapped memory for word identity at study (forget or remember) by asking participants to reproduce in memory selected portions of the original words. We found word identity to be parasitic on word reproduction. As a result, there is a noted tendency to recall forget-words from study as remember-words in the memory test more than vice versa.

Can people forget information on intent? A large body of laboratory (and real life) evidence suggests that they can. In the laboratory, instructions to forget portions of studied material proved remarkably successful. Words followed by instructions to remember (R-words) are recalled better than words followed by instruction to forget (F-words) – the directed forgetting effect (DFE). In the typical experiment, the participants are asked to report all the words on a surprise memory test, and the DFE is calculated as the difference in the number of words reported from the two types of words at study. Note that the participants are not asked to report or otherwise indicate the identity (F or R) of the words at study. In this study, we did test for memory for identity. Given recent evidence on the importance of source monitoring and inhibitory control in memory (Jacoby, Shimizu, Daniels, & Rhodes, 2005; Loft, Humphreys, & Whitney, 2008), we decided to deviate from accepted practice and test for (a) identity at source as well as for (b) memory for words. Our goal was to examine the relationship between memory for words per se (serving to derive the DFE) and memory for their source at study.

In the typical DFE study, memory for the words is tested and it is the experimenter who calculates the DFE by classifying the remembered words according to their identity at study (R or F). What is left unchecked is the participant’s memory for word identity. In principle, it is possible for the participant to display an appreciable DFE, which is...
based on inaccurate recall so that the R-words are recalled as F-words and vice versa. In everyday life, it is often important to recall the source of a piece of information as much as to recall the information itself. Remembering the source of information or the context in which it was first encountered can influence the decision to convey or withhold the information. Depending on the initial context, one may elect to share the information only with certain persons, and, in general, to decide how and when to use it.

Of the relatively small set of studies that did test memory for identity, the correct labelling of R-words exceeded that of F-words (Davis & Okada, 1971; MacLeod, 1975; see also Basden & Basden, 1998). In a similar vein, Tzeng, Lee, and Wetzel (1979) and Basden and Basden (1996) reported better judgement of serial position for R- than for F-words (see also Sheard & MacLeod, 2005). These results are compatible with those of studies demonstrating the phenomenon of source constrained retrieval (Dennis & Humphreys, 2001; Humphreys et al., 2003; Jacoby et al., 2005; Loft et al., 2008). The collective results are suggestive of better memory for identity of the R-words, yet they also show that the segregation of words is not fully accurate. If there is a link between memory for identity and memory for the words themselves, then the former can impact the DFE.

In the item method of directed forgetting, a random half of the words are followed by a remember instruction, and the remaining half by a forget instruction. An early yet still influential theory of the DFE obtained by this method places the mental segregation of R- and F-words at the heart of the DFE. Bjork (1970; see also Woodward, Bjork, & Jongeward, 1973) suggested a differential rehearsal account of the DFE. According to this account, people first mentally segregate the R-words from the F-words, and then they engage in an extensive rehearsal of the R-words only. This exclusive rehearsal leads to superior memory for the R-words.

Although the selective rehearsal account of the DFE is fairly well-established, virtually all tests of the theory employed an ‘inclusive-production’ methodology by which the participant is asked to reproduce all words from study. In this research, we introduce a novel methodology, ‘exclusive production’, in which the participant is asked to reproduce selected portions of the source material at study (F- or R-words), but to exclude other portions. This test provides for a novel crucial test of the selective rehearsal theory. It is invited because all features of the theory are not fully articulated - existing support notwithstanding. In particular, the theory rests on the critical assumption of segregation in the participant’s mind between R- and F-words. However, this segregation may not be complete even at study. The participant may decide to forgo rehearsal for a (very) familiar R-word, or engage in rehearsal for a peculiar word despite its F-tagging by the experimenter. With time, memory processing of the segregation may change further, impacting the DFE. Therefore, it is important to follow memory for identity. It constrains the selective rehearsal account as well as the DFE-related observations in potentially significant ways.

Recently, Goernert, Widner, and Otani (2006) tested Bjork’s ideas by recording memory for the studied items as well as for their identity (F or R) at study. The authors presented 40 pictures, half of which were followed by a remember instruction (R-items) and half by a forget instruction (F-items). Following the study phase, the participants were asked to report as many of the R- and the F-items as they could recall. Notably, the authors also acquired information on the identity of the items by asking the participants to report the pictures separately as R- or F-items. The results revealed the routine DFE for the pictures themselves so that more R- than F-items were reported. Simultaneously, the results also revealed instances of inaccurate memory for the identity of the pictures
at study. In an immediate memory test, the proportion of R-items reported erroneously as F-items exceeded that of F-items reported as R-items.

The results largely supported Bjork’s (1970) differential rehearsal account. However, the authors noted that the segregation of R-items from F-items was not complete. Goernert et al. (2006) proposed that, following study, a pool of items that differ on trace strength is present in memory. The items fall on two continua, accessibility and identification. For an item to be reported, it must be above the threshold of accessibility, although it does not need to be above the threshold of identification. Asking the participant to report the labelling of each item imposes a decision with respect to these items. How does one go about an item that is present in memory but lacks its identifier at source? On immediate recall, the participants have a bias to report unidentified items as F-items. The participants assume that the loss of the identifier in memory results from minimum prior rehearsal, which, in turn, characterizes F-items.

In our view, the bias of misattributing R-items as F-items on immediate recall (but not on delayed recall) reported by Goernert et al. (2006) is the likely result of the request to report explicitly the label of all items at study. This request might have invited strategic responding, favouring a conservative decision. When in doubt, extra-caution led to an F-item decision. The notion of a pair of operative mental continua, accessibility and identification, is feasible, but we believe that a more parsimonious account is possible. The presence of an item in memory, in the absence of information on labelling, is strong positive evidence in favour of an R-item source. Reporting an item satisfies the memory probe – with item identity parasitic on memory performance. As a rule, one does not think of identity when attempting to recall everything from study. Successful recall, in turn, encourages a bias towards an R-item identification by virtue of accessibility.

Therefore, we share Goernert et al.’s (2006) concerns with identification, but suggest another way of manipulating and gauging it. Goernert et al. (2006) asked their participants to report all items – a non-selective procedure – and simultaneously asked them to classify the source of those items – a selective procedure. In our novel paradigm, the organization of items occurs in advance of the memory test – created by the request to reproduce exclusively the R-words or exclusively the F-words. This request is a natural one and does not demand the participant to identify each word after the act of recall. Therefore, we predict a bias to classify F-words from study as R-words in memory, the opposite tendency to that suggested by Goernert et al. (2006).

The present study

The goal of the first experiment was to further test the selective rehearsal account by a new method of probing memory, the global exclusion test. The global exclusion condition forbids the use of any and all words from study (see David, Brown, Pojoga, & David, 2000; Russo & Andrade, 1995, for early attempts using exclusion methods). This condition is the direct opposite of the standard memory condition that invites the participant to use any and all words from study regardless of their tagging (R or F). Selective rehearsal theory predicts a reverse DFE under the exclusion condition by which F-words are reproduced in memory at a higher rate than R-words. The logic is straightforward. Because F-words are not rehearsed during study, they might well function at the time of memory as new, non-studied words. Such words are permitted under the exclusion instructions. The R-words are rehearsed and presumably remembered, but they are forbidden under the exclusion instructions. The net result is
a reverse pattern of memory production. Observing such a reversal of the standard DFE under the global exclusion condition supports the selective rehearsal account.

In order to rule out the possibility that the F-words in the exclusion condition were recalled but under-reproduced, we performed a control experiment, Experiment 2, to support the claim that the F-words indeed function as novel words due to the lack of rehearsal.

The goal of the third and the fourth experiments was to test memory for identity by the request to selectively reproduce R- or F-words. Virtually all DFE methods to date refer to the words at study as a monolithic block. The standard requirement is that all words from study should be reproduced regardless of their tagging in study. In contrast, the hallmark of our new methods is the violation of this unwritten rule. Our new methods do not refer to the words at study as an integrated source list. Instead, we referred the participants to a specific study source, R- or F-words. In contrast with Goernert et al. (2006), who asked participants to report all words from study, we asked participants to report words from a specific study source only, R- or F-words. In one of our novel selective memory conditions, the inclusion-remember condition, the participants were asked to reproduce only R-words but not F-words from study. In another novel condition, the exclusion-remember condition, the participants were surprised in the memory test by the request to reproduce only F-words but not R-words from study.

We used a stem-completion test (Paller, 1990; see, Basden et al., 1993; MacLeod, 1998; Roediger, Stadler, Weldon, & Riegler, 1992; Suzuki, 2001, for the related procedures) in which the first three letters of a word were presented, and the participant’s task was to provide the succeeding letters in order to complete the stem into a legitimate word. This routine method enables to assess memory performance in the exclusion conditions as well as in the more typical inclusion conditions. With free recall, it is impossible to test memory performance for exclusion. Moreover, the stem-completion method is singularly well suited to test performance in the novel selective conditions applied in our study.

**EXPERIMENT 1**

We applied the global inclusion and exclusion tests of memory. The inclusion test is the standard memory condition used in the great bulk of DFE studies. The exclusion condition is unique: The participants are instructed to use any legitimate word except those presented at study. Note that in this overall exclusion condition, the use of R- and F-words to complete stems are errors committed by participants. One expects to find the routine DFE for the standard inclusion condition, but a reversed DFE for the novel exclusion condition. This prediction of an enhanced use of F-words in memory derives from the poor encoding of such words at study. Because they are not rehearsed, the F-words function as novel words that are permitted in the exclusion condition.

**Method**

**Participants**

Forty undergraduate students from Tel Aviv University received course credit for performing in the experiment. There were 16 men and 24 women, their age ranging between 18 and 28 years.
**Apparatus and stimuli**

The pool of items consisted of 78 Hebrew words, each with a different stem (i.e., the first three letters differed across the words). Each stem could be completed into (at least) eight different words (one of which, of course, was the word presented at study). During study, each word was presented at the centre of the 15-inch colour monitor of a Compaq laptop computer under the control of Authorware 6 program. For memory, the entire set of 78 stems (i.e., the first three letters of 78 words at study) was printed on three separate sheets of paper (A4). The stems appeared in a random and different order for each participant. A framed empty space next to each stem served for filling in the missing letters in order to complete the stem into a word. Four arithmetic problems printed on an A4 paper were prepared for a filler task. The problems were those of multiplication of four-digit numbers.

**Design**

The 40 participants were randomly assigned to one of two groups defined by the test of memory (inclusion, exclusion). At study, each participant was exposed to 78 words, presented singly for view. Half of the words were R-words, and the remaining half F-words. The assignment of the words into the R- or F-classes was random and different for each participant.

A random half of the words were followed by a remember instruction, and the remaining half by a forget instruction. The participants were asked to remember the R-words for a later memory test, and to forget the F-words. Each word appeared for 1 s followed by the instruction ‘Remember’ or ‘Forget’. These instruction words appeared 3 cm above the study word. In order to further distinguish the study word from the instruction, the instruction appeared coloured, a different colour for each type (Remember in red and Forget in green or in the reversed colours across the different participants). The word and the instruction remained visible for an additional 3 s. The next word appeared after a blank screen of 1 s. All study words were presented in Arial font (size 36).

Following the study phase, the participants solved four arithmetic problems in a filler task. They performed then in the memory test of stem completion. The participants were asked to complete the word stems into a whole word under the inclusion or the exclusion instructions. Half of the participants performed in the inclusion condition, and the remaining half performed the exclusion condition.

In the inclusion condition, the participants were asked to complete the stems into words from study regardless of whether these words were of an R or F status. Failing to do so, they could use any other word. In the exclusion condition, the participants were required to complete the stems into words by using any word except those from study.

**Procedure**

The participant was seated 60 cm from the centre of the screen. The study phase took approximately 10 min. After study, the participant was handed a sheet of paper with four arithmetic problems of multiplication. The participant was asked to solve those problems without a time limit by writing down the solution. This task took about 4 min, on average. The participant was then assigned to one of the two memory conditions, inclusion or exclusion. Of the 40 participants, a random 20 were assigned to the inclusion condition, and the remaining 20 to the exclusion condition. The participants were given
three sheets of paper with a list of 78 stems of the words previously presented at study. The participants were asked to complete the stems into legitimate Hebrew words. In the inclusion condition, participants were instructed to complete the word stems with words from study. In the exclusion condition, participants were required to complete the word stems with novel words, that is, ones that were not presented at study. There was not a time limit for the memory test.

Results and Discussion

In the inclusion condition, the participants used 21 words from study to complete the R-stems (54%), but only 17 such words to complete the F-stems (44%). This difference documented a routine DFE \[F(1,19) = 14.6, p < .001, \eta^2_p = .42\]. In contrast, a reversal in the pattern of memory performance was evident in the exclusion condition. In this condition, the participants used an average of five words from study to complete the R-stems (13%), but used an average of seven such words (18%) to complete the F-stems. This difference documented a reverse DFE \[F(1,19) = 12.5, p < .005, \eta^2_p = .36\]. Again however, the most intriguing feature of the results presented in Figure 1 is the reversal of performance under the two memory conditions.

The results of Experiment 1 provide support for the selective rehearsal account of the DFE. The item method of learning that we used enables differential encoding of the individual R- and F-words. The result was the routine DFE observed in the inclusion condition. The reversal of the effect in the exclusion condition is also predicted by the selective rehearsal account. If the F-words are not encoded, they function as novel words that can be and are used under the exclusion condition. Because words from study are not permitted, the result is the reversal of the routine DFE.

Nevertheless, one should exercise caution before drawing too strong conclusions. It is important to support the claim that the F-words reproduced in the exclusion condition functioned as new words (i.e., were not remembered from study). Alternatively, one could argue that the relatively small number of F-words reproduced in the exclusion condition reflects source memory, albeit a fairly poor one. In order to rule out this latter possibility, the following control experiment was run.

![Figure 1](image-url). Results of Experiment 1: Mean number of study words used as a function of word-tagging at study (remember, forget) and memory condition (inclusion, exclusion). The bars depict one standard error around the mean.
EXPERIMENT 2

We included in the memory test an additional set of stems of completely new words (i.e., words that were not presented to the participants at study). The critical question was this. Would the rate of completion for the new stems match that of the F-stems from study? Comparable performance would support the claim that the F-words do not function differently from new words.

Method

Participants
Twenty undergraduate students from Tel Aviv University received course credit for performing in the experiment (none of these students participated in the previous experiments). There were 8 men and 12 women, their age ranging between 21 and 27 years.

Apparatus and stimuli
The apparatus was the same as in the Experiment 1. The stimuli were 117 different Hebrew words divided into three sets of 39 words: R-words, F-words, and new words (not presented at the time of study, but their stems appeared at test for completion). The assignment of the words into the experimental sets (R, F, new) varied across participants. For memory production, the 117 stems (78 stems of the R- and F-words from study, and 39 new stems) were printed on a paper (A4) for completion. The stems appeared in a random and different order for each participant.

Design
The participants learned the 78 study words (39 R- and 39 F-words) by the item-method. Subsequently, they performed under the exclusion condition. They were required to complete the 117 stems into words using any word except those presented at study. In all other respects, the design was similar to that used in Experiment 1.

Procedure
In the study phase, 78 words were presented singly for view. Of these, a random 39 words were followed by a remember instruction, and the remaining 39 words were followed by a forget instruction. Following the word presentation, the participants performed in a filler task of four multiplication problems. Finally, at the memory test, the participants preformed under the exclusion condition. They were asked to complete each stem into whatever word that comes to mind except words that appeared at study. The participants were given four pages, listing 117 different stems, and were asked to complete them into novel words.

Results and Discussion
The number of stems completed into R-words, F-words, and new words, is presented in Figure 2. Of the stems that were completed using words from study (in violation of the instructions), most were F-words. The participants used only 4.5 of the 39 R-words (12%) but 8 of the 39 F-words (21%) from study to complete the stems into words. This difference was reliable \(|t(19) = 6.66, p < .0001, d = .66|\), producing a reverse DFE.
However, the most important finding of Experiment 2 was the comparable completion of F-words and new words \( t < 1 \). Our participants completed the new stems into words from the new set of words at the same rate that they completed the F-stems into words from the set of F-words from study. This result suggests that the F-words do not function differently from new words, their presentation at study notwithstanding.

On the surface, the phenomenon of a reverse DFE (greater amount of F- than R-words in memory) supports the selective rehearsal account of the DFE. According to a strong version, the R-words are deeply learned at study and retained subsequently in memory. The fate of F-words is different. The instruction to forget discourages rehearsal. The end result is that these words are not retained for memory use. In a future encounter, the F-words thus function as new words for all practical purposes. The original set of F-words was used for completion of the F-stems in memory at the same rate as that of a completely arbitrary set of new words for completion of their appropriate stems.

Experiments 1–2 still share a feature common with the majority of DFE studies to date: The subjective source of the reproduced word (R- or F-word at study) was not tested and hence is unknown. The purpose of the next pair of experiments was to recover this information through a new technique.

**EXPERIMENT 3**

The hallmark of our new condition was the segregation in memory between R- and F-words. Consequently, we refer to the new condition as a selective condition, contrasting it with the global conditions used in existing DFE research. In virtually all DFE studies to date, all the words from study are permitted for memory report or production – regardless of their R- or F-tagging at study. The exclusion condition used in Experiment 1 was also global because all words from study were disallowed, thereby preserving
the treatment in memory of study words as a unified block. In sharp contrast, in our novel selective condition, the participant is encouraged to segregate in memory the study words. In the inclusion-remember condition introduced in this experiment, the participant was asked to produce in memory only the R-words, but not the F-words.

**Method**

**Participants**
Twenty undergraduate students from Tel Aviv University received course credit for performing in the experiment (none of them participated in Experiments 1–2). There were 8 men and 12 women, their age ranging between 20 and 28 years.

**Apparatus and stimuli**
The apparatus and stimuli were the same as in Experiment 1.

**Design**
All participants learned the words by the item-method. Subsequently, the participants were asked to complete stems into words using only the R-words from study (or novel words). The instructions explicitly forbid the use of F-words from study for completion. In all other respects, the design was similar to that of Experiment 1.

**Procedure**
Viewing conditions were those of Experiment 1. In the study phase, 78 single words were presented by the item-method. Each word was followed by a Remember or a Forget instruction (the instructions were assigned in a random fashion). Following the presentation, the participants performed in a filler task of four multiplication problems. The participants were given then four pages, listing 78 stems (the first three letters of each word from study) and were asked to complete them into any of the R-words from study (or into new, unstudied words).

**Results and Discussion**
Figure 3 presents the number of stems completed into words from study in this new memory condition. The participants used 19 matching words from study to complete the R-stems (48%), whereas they used only 12 matching words from study to complete the F-stems (30%). This difference yielded a large remember-DFE \( F(1,19) = 18.38, p < .0005, \eta^2_p = .53 \).

Notably, the request to use only R-words from study still yielded a fair number of F-words (erroneously produced in this selective condition). People were asked to produce only the R-words from study, yet 12 F-words were nonetheless reproduced. These 12 words are F-words misattributed to be R-words. We conclude that there is a massive phenomenon in memory of inaccurately recalling F- as R-words. Note that the last sentence merely depicts a measurable statistics: F-words from study are extensively misattributed as R-words in memory. However, one should be circumspect when pondering the psychological meaning of this statistics. It is entirely possible that some (all!) of the F-words from study were treated as new words by the participants, conforming thus to the experimental instructions.
When people are asked to produce words from memory, they produce more relevant words (i.e., R-words) than irrelevant words (F-words), the DFE. However, referring people explicitly to the relevant words improves their memory, so that the difference between relevant and irrelevant words favouring the former becomes even larger. The DFE was almost twice as large in this experiment than in the standard global inclusion condition of Experiment 1 (36 and 21%, respectively). The only difference between the global and the selective memory conditions of Experiments 1 and 3 was the instructions given at the memory test. The selective R-condition used in Experiment 3 also revealed a systematic bias of reporting F-words from study as R-words in memory.

Does the reverse bias also occur? Do people inaccurately recall and reproduce R- as F-words in a selective memory task that requires them to use only the F-words from study?

EXPERIMENT 4

In this experiment, we introduced yet another selective memory condition, the exclusion-remember condition. In this condition, the participant was asked to complete stems in memory using only F-words from study, but not the R-words.

Method

Participants

Twenty undergraduate students from Tel Aviv University received course credit for performing in the experiment (none of them participated in Experiments 1–3). There were 4 men and 16 women, their age ranging between 19 and 28 years.

1 The DFE is calculated as R-F/R where R stands for the number of stems completed using the original R-words and F stands for the number of stems completed using the original F-words.
**Apparatus and stimuli**
The apparatus and stimuli were the same as in Experiment 1.

**Design**
All participants learned the words by the item-method. Subsequently, the participants were asked to complete stems into words using only F-words from study (or novel words). Memory instructions banned the use of R-words. In all other respects, the design was similar to that of Experiment 1.

**Procedure**
The study phase, filler task, and method of memory testing were the same as in Experiment 3. The sole difference was the classes of words permitted for use at test. In this experiment, only F-words from study were permitted.

**Results and Discussion**
Figure 4 presents the number of stems completed into words from study. The participants used an average of six words from study to complete the R-stems (15%), but used an average of nine words from study (23%) to complete the F-stems. This pattern documented a reverse forget-DFE \(F(1,19) = 25.5, p < .0001, \eta^2_p = .68\).

A glimpse at the global exclusion condition of Experiment 1, in which all words from study (not just the R-words) were banned, is revealing. The pattern of memory performance is similar, if not identical, to that found in the selective exclusion condition in this experiment. When none of the study words were permitted (hence the words

![Exclusion Remember](image)

**Figure 4.** Results of Experiment 4: Mean number of study words used as a function of word-tagging at study (remember, forget) in the exclusion-remember condition. The bars depict one standard error around the mean.
produced are not remembered by definition), the results are similar to the present selective condition, in which F-words only are permitted. So, people do not seem to exhibit a bias to recall R-words from study as F-words.

GENERAL DISCUSSION

The most important DFE context, indeed the foundational context in the DFE framework, is the separation of items into R- and F-words (with the R-words presumably receiving enhanced rehearsal). Eliminate this separation, and you eliminate the entire phenomenon of DFE. The vital importance of the segregation has been recognized early on (e.g., Bjork, 1972; Epstein, 1972; Epstein & Wilder, 1972), but has been somewhat ignored in more recent accounts. On the one hand, the segregation of items into R- and F-words is an experimental procedure; on the other hand, it carries mental significance. The participants are sensitive to the segregation and represent it mentally – otherwise there would not have been an observable DFE. Remarkably, this major context of study has been missing from tests of memory in the great bulk of DFE research. In the great majority of DFE studies, the memory test did not make a reference to the segregation of words at study and considered all study words as a monolithic list. This practice probably accounts for the relatively poor memory observed in many DFE studies as well as for the relatively small DFE that typically obtains.

On this background, the recent study by Goernert et al. (2006) is most valuable in focusing attention on segregation accuracy in memory. These authors asked their participants to report all recalled items from study thereby applying the routine global test of memory. However, they also collected information on the recalled identity of each item by asking the participant to classify the items into R- or F-groups. Goernert et al. (2006) found inaccurate memory for identity; in particular, they reported an immediate bias to classify R-items from study as F-items. The goal of Goernert et al. (2006) is well taken, but we challenge their particular method and associated results.

In the novel method introduced in this study, we did not ask participants to reproduce all of the words from study. As a result, we did not ask participant to classify words upon recall. Instead, we directed participant to reproduce selected portions of the original stimuli. This is a natural request emulating common instances of memory in everyday life. Applying this method, we found a large bias to report F-words from study as R-words. This bias is opposite to that reported by Goernert et al. (2006).

For all the new selective methods used, the current study leaves a certain indeterminacy with respect to the fate of F-words in memory. On the one hand, there are indications that these words are genuinely forgotten (due to lack of rehearsal), so that they do not function differently from new words. On the other hand, the segregation of R- and F-words may not be perfect even at study, so that some F-words are rehearsed and subsequently retained in memory. It is with such words that we found the phenomenon of source misattribution, namely, conceiving F- as R-words from study. If the first possibility is the case, then what we dub as ‘misattribution’ is merely a statistical summary. Clearly, more research is needed to resolve the critical issue of memory (if there is one) for F-words.

Why is it important to probe memory for identity? One reason is methodological. Testing memory for words only, the routine procedure in the majority of DFE studies entails a lingering indeterminacy. It is possible, in principle, to remember many F-words that the person subjectively recalls as R-words. In the absence of data on recall for source
we simply do not know. There is also a substantive reason. In life, it is often essential to recall the context and source of information as much as to recall the information itself. This study shows that the two are interrelated in sustaining the phenomenon of DFE. Theoretically, the accuracy of segregation puts a limit on the maximum DFE possible under the selective rehearsal account of the phenomenon.

For the particular relationship, we conclude that memory for identity is parasitic on memory for the item itself. Successful memory for an event or an item increases the subjective probability that this item was indeed relevant, one that was meant to be remembered in the first place.

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