

Forgetting unwanted memories: Directed forgetting and thought suppression methods

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Abstract

Experimental psychopathologists have tested hypotheses regarding mechanisms that ought to be operative if victims possess skills for forgetting material related to trauma. In this article, we review research on directed forgetting and thought suppression paradigms, concentrating on laboratory studies involving attempts by individuals reporting trauma histories to forget emotionally negative material. Most studies have shown that trauma survivors, especially those with post-traumatic stress disorder, are characterized by a breakdown in the ability to forget disturbing material. Studies on individuals reporting repressed or recovered memories of trauma have not confirmed predictions regarding heightened forgetting skills for trauma-related words. However, recent research on suppressing disturbing autobiographical memories suggests that people who report spontaneously recalling childhood abuse outside of psychotherapy may, indeed, possess skills for not thinking about disturbing material.

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1. Introduction

Few debates in psychology have been as controversial as the one concerning the authenticity of repressed and recovered memories of childhood sexual abuse (CSA; McNally, 2003). Some theorists assert that sexually abused children develop a dissociative or avoidant encoding style that enables them to disengage their attention from threatening events and direct it elsewhere (Herman & Schatzow, 1987; Terr, 1994). Although this avoidant encoding style may be adaptive in the short run by enabling the child to blunt the emotional impact of abuse, some theorists believe that it

may make it difficult for survivors to remember their abuse memories later in life (e.g., Terr, 1991). These repressed or dissociated abuse memories supposedly lead to psychiatric symptoms later in life. Alternatively, the memories may be encoded more or less normally, but subjected to inhibitory forces that attenuate their accessibility (See Erdelyi, 2006 on repression).

Experimental psychopathologists have tested hypotheses regarding mechanisms that ought to be operative if victims possess skills for forgetting material related to trauma. In this article, we review research in this area, concentrating on laboratory studies involving attempts by individuals reporting trauma histories to forget emotionally negative material (for an earlier review, see also Koutstaal & Schacter, 1997). As clinical experimental psychopathologists, we are interested chiefly in these methods as means to answer questions about mental disorder. Hence, our review does not address broader issues about memory inhibition.

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2. Directed forgetting

Some authors have suggested that directed forgetting methods may be used to study individual differences in the ability to put disturbing material out of consciousness (e.g., [Brewin & Andrews, 1998](#)). The phenomenon *directed forgetting* refers to impaired memory arising from an instruction to forget the unwanted material ([Anderson, 2005](#)). In the typical directed forgetting experiment, subjects are presented with words and they are instructed either to remember or to forget these words. Next, memory for both the to-be-remembered (R) and the to-be-forgotten (F) words is tested. The modal finding is that subjects recall fewer F words than R words on a subsequent surprise recall test ([Bjork, Bjork, & Anderson, 1998](#)).

There are two versions of the directed forgetting paradigm, known as the *item method* and the *list method* ([Golding, 2005](#); for a direct comparison of these methods, see [Anderson, 2005](#)). In the item method, subjects view a series of words, each immediately followed by an instruction prompting them either to remember or to forget the item. After all the words have been presented, memory is tested with either a recall or recognition test. This procedure yields a significant recall deficit for F items relative to R items, and it occurs on both recall and recognition tests. Selective rehearsal of the R words may account for this directed forgetting effect ([Bjork, 1989](#)). For example, subjects may repeat words until they receive the F or R instruction, at which point they either terminate encoding and rehearsal following a F instruction, or continue to rehearse the word following a R instruction. This idea is consistent with an impaired performance of F items on recognition tests and suggests that item method directed forgetting is attributable to differences in encoding (e.g., [Basden, Basden, & Gargano, 1993](#)). That is, if the F words had been encoded, but subjected to inhibition at retrieval, exposure to these words on a recognition task would presumably release them from inhibition, thereby erasing the memory advantage for R words. Because the R versus F effect emerges on recognition as well as on recall tests, this effect points to encoding, not retrieval, differences as a function of instructions during encoding.

The list method differs from the item method largely according to when the forget instruction is presented. For example, subjects may process a series of words, one at a time, rating each in terms of emotional significance. Halfway through the experiment, researchers tell subjects either to forget or to remember these words. The instruction is unexpected and therefore subjects are likely to continue their best efforts to encode the words until the forget instruction is given. This procedure makes it less likely that differential encoding of words of the first list could underlie recall deficits arising from the F instruction. After they receive either the F or R instruction, subjects study a second list. After both lists have been presented, subjects receive a recall test either for all words, or only for those from either the first or second list.

The list method often produces three main effects that characterize this form of directed forgetting: (a) impaired recall for the first list of items when subjects are instructed to forget this list, relative to when they are instructed to remember it; (b) improved recall for the second list of words when subjects are instructed to forget the first list, relative to when they are instructed to remember the first list; and (c) superior memory for second list words relative to first list words in the F group. Interestingly, the list method yields a directed forgetting effect for recall, but not for recognition tests. That is, although subjects recall more R words than F words, they remember just as many F as R words on a recognition test. This pattern implies that recognition tests release F words from inhibition operating at retrieval, thereby erasing the R versus F difference. Hence, results from the list method are best attributed to a retrieval inhibition mechanism ([Basden et al., 1993](#)).

2.1. Directed forgetting experiments: the item method

Experimental psychopathologists have used directed forgetting methods to test hypotheses arising from several perspectives ([McNally, 2005](#)). In this and the next section, we briefly review the literature, mainly focusing on directed forgetting performance of survivors of trauma.

According to one view ([Terr, 1991](#)), psychiatrically impaired adult survivors of CSA should have acquired a superior ability to disengage attention from threatening cues, thereby impairing their memory for them. If these individuals have, indeed, acquired this cognitive style, then this should be evident in the laboratory. Accordingly, we administered an item method directed forgetting test to examine the ability to forget trauma-related words in three groups of subjects ([McNally, Metzger, Lasko, Clancy, & Pitman, 1998](#)). One group comprised women with histories of sexual abuse who met criteria for post-traumatic stress disorder (PTSD). Another group comprised psychiatrically healthy female CSA victims. The third group comprised women with neither an abuse history nor PTSD. Subjects viewed a series of words on a computer screen, one at a time. Each word appeared for two seconds and was replaced by a cue instructing the subject either to remember or to forget the previous word (i.e., either RRRR or FFFF). There were three categories of words: trauma-related (e.g., *abuse*), positive (e.g., *sociable*), and neutral (e.g., *banister*). Immediately after this encoding phase, subjects were asked to write down as many words as they could remember, regardless of the original instructions to forget or remember.

If abuse survivors with PTSD have a superior ability to disengage attention from trauma-related cues and to forget disturbing events, then they should recall fewer trauma-related R words relative to positive and neutral R words, and relative to healthy abuse survivors and nonabused controls (assuming they lack the ability and motivation to banish trauma-related words from memory).

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