

# The role of thought suppression in building mental blocks <sup>☆</sup>

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## Abstract

This research examined the role of thought suppression in the formation of mental blocks. In Experiment 1, participants were asked to generate a series of creative associates for two target words after initially suppressing a word that was semantically related to one of the two target words. Participants produced fewer responses, and experienced a greater sensation of being mentally blocked, when attempting to produce associates for the target word that was semantically related to the suppressed word. In Experiment 2, participants either thought about or suppressed a series of words prior to completing a word fragment completion task. Each word either corresponded exactly to one of the word fragment solutions (target primes) or resembled one of the solutions but was slightly different in its orthographic properties (negative primes). Participants performed most poorly on the items for which they had initially suppressed negative primes.

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## 1. Introduction

Most of us can think of a time when we felt we had a *mental block*, a barrier in our minds preventing us from producing desired information. Often this barrier is relevant to the information we are seeking, but it is nonetheless distracting. While trying to think of a creative solution to a problem, for example, we may find ourselves thinking instead of something quite uncreative—an obvious solution that has come to mind before. Or, while trying to retrieve a name or word, we may think of something that sounds similar or has other surface features in common with the target—and find ourselves mentally blocked. The natural inclination when we have such blocks may be to try to suppress the thoughts we feel are blocking our progress. Research on thought suppression reveals, however, that this approach can have the ironic consequence of increasing the cognitive accessibility of the very information we are trying to avoid (Wegner, 1994a). The present studies explored the idea that the attempt to suppress relevant, distracting information can lead to the formation

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of a mental block, hindering a person's success in generating solutions to a problem. Our experiments examined whether instructions to suppress distracting thoughts might paradoxically increase mental blocking by heightening the influence of semantically related distracters (Experiment 1) and orthographically related distracters (Experiment 2).

### 1.1. *Semantically related distracters*

One common example of a mental block is the “tip of the tongue” or TOT phenomenon (Brown & McNeill, 1966). Such an experience arises when a person cannot retrieve desired information despite the strong feeling of possessing the knowledge (Yaniv & Meyer, 1987). People who experience this type of retrieval failure often report having retrieved several incorrect solutions that were semantically related to the target (Jones, 1988). The specific role of these associated thoughts or interlopers has not been made entirely clear in this literature. Some studies suggest that the related items interfere with the retrieval of the target information (Jones, 1989), while others suggest that they may actually aid retrieval (Meyer & Bock, 1992), and yet others show no influence at all (Perfect & Hanley, 1992).

In a separate line of investigation using a different problem-solving task, Smith and Blankenship (1991) found that the presentation of both relevant and irrelevant distracters prior to a problem-solving task hindered people's ability to solve the subsequent problem. In this study, participants were given a series of problems from Mednick's (1962) remote associates test. For each item, three target words are presented (e.g., *coal*, *peach*, *arm*) and participants attempt to generate a fourth word closely associated with all three (i.e., *pit*). The presentation of target-relevant distracters (e.g., for the problem presented above: *furnace*, *pear*, *leg*) resulted in poorer performance compared to when either no distracters or completely irrelevant distracters (e.g., *belly*, *football*, *election*) were presented. Although problem solving was hampered by the presence of distracters in general, the interference was substantially greater for semantically related distracters.

### 1.2. *Orthographically related distracters*

Distracters need not be semantically related to target information in order to hinder the problem-solving process. Information that is orthographically similar to target information may also impede a person's ability to solve a problem. Smith and Tindell (1997) tested this by having participants attempt to complete a word fragment completion task (e.g., *A\_L\_\_GY* to be completed as *ALLERGY*) after having been primed with words that were either orthographically similar (e.g., *ANALOGY*) or dissimilar (e.g., *UNICORN*) to the correct solution. When participants had been primed with an orthographically similar word (*ANALOGY*), they were significantly less likely to complete the word fragment (*A\_L\_\_GY*) correctly than when they had been primed with a dissimilar word (*UNICORN*).

Prior research has demonstrated that the mere presence of both orthographically and semantically related distracters can impair one's ability to successfully retrieve desired information. However, in these prior studies, participants' attention to the distracting information was not controlled or monitored. Rather, only the relevance of the information to the judgment was manipulated—leaving it an open question whether participants were trying to suppress relevant distracters or not. This leaves the mechanism underlying mental blocks unclear. It could be that the manipulation of thought suppression might reveal how mental blocks are formed.

### 1.3. *Ironic effects of thought suppression*

Research on thought suppression has typically examined what happens when people are instructed to try not to think of something, and has often found that this instruction produces a paradoxical result (Wegner, 1994b). Studies have shown that when people attempt to suppress a thought (e.g., a white bear), the thought may return with greater frequency (Wegner, Schneider, Carter, & White, 1987) and may be more accessible than if they had initially focused upon it (Wegner & Erber, 1992). The suppressed thought can return to influence emotions (Wegner, Broome, & Blumberg, 1997), actions (Wegner, Ansfield, & Pilloff, 1998), memory retrieval (Macrae, Bodenhausen, Milne, & Ford, 1997), and even dreams (Wegner, Wenzlaff, & Kozak, 2004).

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