

PSYCHOLOGY

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REAL WORLD

Essays Illustrating Fundamental Contributions to Society

## When You Put Things Out of Mind, Where Do They Go?

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► *Please tell us about your current position and research interests*

I am Professor of Psychology at Harvard University. My research examines the role of thought in self-control and social life. This includes the study of thought suppression (why we have trouble keeping unwanted thoughts out of mind), transactive memory (how we remember things cooperatively with others), and apparent mental causation (what gives us the sense that we are consciously causing our actions). The past few years I've also become fascinated by mind perception—how people try to make sense of minds that are very different from their own, from the minds of animals to those of robots, infants, people in persistent vegetative states, fetuses, groups such as corporations, and even the nonliving or supernatural.

► *What got you interested in studying how we perceive and control the mind?*

I'd have to say that the early seed of this interest was a sleazy politician. I noticed that when a headline aired someone's denial of an accusation (for example, "Mayor claims she took no bribes"), I often ended up thinking the accusation was true anyway. This got me to wondering if denials ever really work—if you can erase ideas or possibilities with denials once they are known and the "cat is out of the bag." Eventually, this led to experiments on what happens when people are specifically asked not to think about something.

► *What has been the real-world impact of this work?*

I'm not a clinical psychologist, but this work has real-world clinical implications. People who have unwanted thoughts—thoughts that make them anxious or depressed or disgusted or afraid—often come to clinical psychologists hoping that there will be treatments that can ease their struggle. Our studies of people who are simply asked in the lab to try to stop thinking about some neutral item provide a window into what people who are truly troubled by real-world unwanted thoughts can do to cope with them. And it turns out that people can sometimes overcome these thoughts by reversing the impulse to avoid them. Therapies that encourage people to talk about their unwanted thoughts, think about them, or otherwise confront them, often provide surprisingly useful pathways *away* from the thoughts. Research on the disclosure and acceptance of unwanted thoughts is helping to create useful new therapeutic strategies.

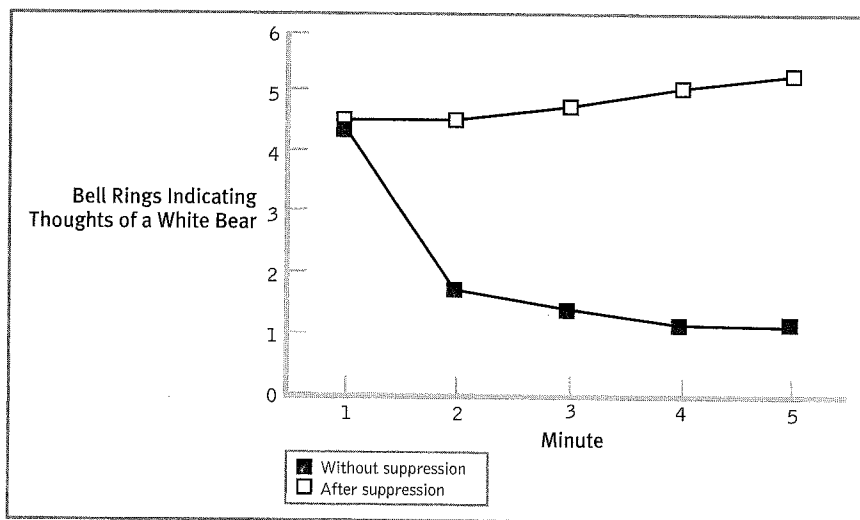
Have you ever tried to stop thinking about something? Try right now to stop thinking about your nose. Yes, the nose right there on your face. Put it out of mind. Really. Just stop everything for a minute and don't think about your nose.

Bet you couldn't. In fact, if you're like me, you may go a bit cross-eyed trying to sneak peeks at the darn thing. Fortunately, as soon as you give up the project of not thinking about it, the thought of your nose will settle back into the netherworld of things you've successfully *not* been thinking about all day. But the lesson is clear: Putting things out of mind brings them to mind. As Fyodor Dostoyevsky observed in *Winter Notes on Summer Impressions*, "Try to pose for yourself this task: not to think of a polar bear, and you will see that the cursed thing will come to mind every minute."

## Dostoyevsky's Challenge

As it turns out, the Russian novelist was exactly right. My research team learned this a number of years ago in experiments that called for participants to accept the challenge of thought suppression (Wegner et al., 1987). We escorted individuals into a recording room and asked them to think aloud—saying anything that came to mind. After a while, we broke in and added a further instruction: Please try not to think about a white bear.

On average, people mentioned the bear about once per minute—just as Dostoyevsky had said. And, when we continued the experiment, we learned something new. After 5 minutes, we released participants from the suppression instruction and asked instead that they go ahead and *think* about the white bear. During this release, we found a further effect of suppression—a kind of rebound effect in which participants talked almost continuously about the bear. In fact, they had much more to say about it than did others who had been asked to discuss it from the outset. If your nose suddenly has come to mind, you are experiencing the rebound.



**FIGURE 1** Rebound effect. Participants were asked to try not to think about a white bear, and then were asked to think about it and to ring a bell whenever it came to mind. Compared to those who were simply asked to think about the bear without prior suppression, those who first suppressed the thought showed a rebound of increased thinking. (Wegner et al., 1987)

Why then would anyone ever try to suppress a thought? It's useless, right? Dostoyevsky had a wise observation about this as well. In *Notes from the Underground*, he wrote, "Every man has reminiscences which he would not tell to everyone but only to his friends. He has other matters in his mind which he would not reveal even to his friends, but only to himself, and that in secret. But there are other things which a man is afraid to tell even to himself, and every decent man has a number of such things stored away in his mind." In other words, we all have thoughts that we may desperately want to suppress. We try not to think about that stupid boast to a friend, the little mole that could be cancer, the tempting ice cream in the freezer, the ridiculous fear that no one seems to share, or perhaps the pesky secret we promised never to reveal (Wegner, 1989).

One of Sigmund Freud's major discoveries was that people are driven by their emotions to try to put things out of mind (for example, Freud, 1915/1957). When thoughts make us anxious, sad, disgusted, afraid, or worse, we try to keep them at bay. Freud suspected that suppression might involve both conscious efforts and unconscious forgetting, which he called repression.

Avoidance processes happen spontaneously when thoughts are too emotional, and that has made such processes notoriously opaque to scientific investigation. Freud and other psychoanalysts found it impossible to observe the way people put things out of mind because the observations could only start after the fact, when emotions had already led people to try to control their thoughts. Figuring out what had happened was a bit like trying to see whether the light is on after the refrigerator door is closed. Freud had to invent methods such as dream interpretation and free association to "uncover" thoughts he believed people might have actively avoided. My colleagues and I found a scientific solution to this problem: Our white bear technique—manipulating suppression by asking people to try not to think about an unemotional thought—offers a new experimental window on the mind.

## Sticky Thoughts

What has the experimental study of thought suppression taught us? We now know that suppression can be superficially effective, in that people can keep things out of mind briefly or intermittently. Some people even tell us that they're pretty good at not thinking about things. Unfortunately, they happen to be the same sort of folks who claim that they floss daily, always wait for the green light to cross the street, and never get sad. Actually, almost anyone can succeed at suppression—if the target is a long list of unrelated items. But research following up on the white bear studies (Najmi & Wegner, 2008; Rassin, 2005; Wenzlaff & Wegner, 2000) reveals that when you try to keep a single neutral thought out of mind:

- You are likely to notice it returning to mind for days.
- Distractions will make you think of it *more* rather than less often.
- Related ideas may remind you of it, but the thought itself is unlikely to remind you of those related ideas.

- You may think about it without even realizing it is on your mind but become conscious that you were thinking of it when someone asks.
- You may find it surfacing in your dreams, more so than if you had tried to think about it on purpose.
- The brain structure linked with remembering what you are doing (the dorsolateral prefrontal cortex) will be persistently activated even if you've pushed the thought out of mind.

One way to account for these findings is to suggest that part of the mind is *looking* for the very thought you are trying to suppress. This insight underlies the theory of ironic processes of mental control (Wegner, 1994). According to the theory, the attempt to stop a thought initiates two mental processes—a conscious operating process that searches for anything to think about other than the unwanted thought, and an automatic monitoring process that searches for the unwanted thought. The two processes normally work together to produce mental control.

When you try not to think of a white bear, for instance, the conscious operating process leads you to think of possible distracters: What's interesting in this room to think about? What will I be doing later today that I can review now? What's over there on the shelf that I can look at for a while? The automatic monitoring process must remain active too, so you can renew your efforts to find distracters if you happen to think of the white bear. This unconscious monitoring process alerts you when the unwanted thought enters consciousness. The two processes usually cooperate to keep the white bear out of mind, but, ironically, the monitoring process increases the mind's sensitivity to the unwanted thought and so increases the likelihood it will return.

## Train Wreck

Does thought suppression begin to sound like a psychological train wreck? When profound motivation to suppress certain thoughts collides with an unconscious process that renders the effort useless, the result can be mental turmoil—cyclic attempts to suppress, punctuated by the thought's return. Unfortunately, this isn't even the worst part.

Suppression produces a cascade of additional unintended effects (Wenzlaff & Wegner, 2000). Many emotions associated with the unwanted thought re-emerge larger than life when the thought surges back to mind. When people try not to think about sex, for example, measures of skin conductance level indicate that their hands perspire and they get every bit as excited as if they were thinking about sex. When people who have no particular fear of visiting the dentist are asked not to think about it before a visit, they report increased anxiety and increased levels of intrusive distressing thoughts about what will happen. And when people are asked not to think about a past relationship with an old flame for whom they still are burning, their skin conductance levels rise to show increased emotionality as soon as they complete the suppression session.

Suppressing emotional thoughts seems to supercharge the thoughts, making them trigger the very emotion the person is trying to avoid through

thought suppression. The eventual effect of suppressing thoughts, then, can be to leave the person overwrought, a bundle of emotions. This is not good. In fact, researchers examining the effects of thought suppression on the body have found that just a few hours spent suppressing emotional thoughts (for example, the feelings of depression and loneliness that come from moving away from home) can undermine bodily immune responses (Petrie, Booth, & Pennebaker, 1998). Perhaps thought suppression breaks down normal defenses and increases people's susceptibility to illness.

And we've not even begun to talk about *mental* disorders. Some psychologists believe that thought suppression may be involved in psychological disorders such as depression, anxiety, and obsessive-compulsive disorder (OCD). People may develop these disorders because they are particularly poor at suppressing and so find that unwanted thoughts plague their minds. People with OCD who experience repetitive unwanted thoughts or find themselves performing compulsive behavioral rituals might have a deficit in mental control abilities. In fact, OCD sufferers have been found to be particularly poor at suppressing even a neutral thought. Perhaps this deficit precipitates their serious hassles with unwanted thoughts in everyday life.

For a wider range of psychological problems, however, thought suppression difficulties are more likely to be a *complication* rather than a cause. Doesn't it stand to reason that people who have unpleasant thoughts, emotions, or mental symptoms would try not to think about their problems? If you are hearing voices, for example, or are not able to stop crying, or are fearful of being outside, trying not to think about the disturbing symptom might at first seem like a sensible thing to do. Suppression may offer a flash of relief, a respite in the face of an alarming realization about oneself. So one possibility is that thought suppression is a common personal response to psychological disorders.

## The Amplifier Hypothesis

The suppression response is not just a minor side effect of psychological disorders. Given what we know about the way suppression can echo in the mind, we might expect that suppression might help briefly but would eventually amplify the person's problem. The process could work like this: Thinking more about the problem would result in more frequent awareness of emotions associated with the problem. Alarmed by these snowballing difficulties and suppressing that response as well, the problem could grow even larger. Thus, a person who started with a minor fear of speaking in public could find that this fear has escalated into a full-blown social phobia.

There is evidence consistent with this amplifier hypothesis (Najmi & Wegner, 2008; Wegner & Zanakos, 1994). People who chronically use conscious thought suppression as a strategy for coping with distressing thoughts are more likely than others to be anxious and depressed and to report symptoms of OCD. This link between suppression and the severity of psychological symptoms is common in other disorders as well. For example, people who report engaging in self-mutilation or self-harm are more likely than others to engage in thought suppression, and people who use thought

suppression as a strategy for quitting smoking are more likely to experience return of thoughts about smoking when they are trying to quit. Children and adolescent victims of traumatic accidents who report using thought suppression are more likely than other accident victims to suffer from post-traumatic stress disorder.

Findings like these are evidence of an association between suppression and increases in the intensity of psychological disorders, but they cannot be interpreted to mean that suppression *causes* the amplification of disorders. In fact, experimental studies to test this idea could be unethical—the predicted effect of instructing people to suppress could possibly make a disorder worse! But an opposite strategy is ethically quite acceptable: In studies of what happens when people are encouraged to *relax* their attempts to suppress thoughts, researchers have reported the expected causal relationship: When people in psychotherapy are led to accept their symptoms and face the thoughts they've been striving to avoid, they can experience noteworthy alleviations of the symptoms of a disorder (for example, Marcks & Woods, 2005).

Facing unwanted thoughts isn't easy. The emotional motivation behind suppression can sometimes push so hard that there is no way to push back. If you fear spiders, for example, sitting and thinking about a spider even for a few minutes might be an emotional nightmare. People think of all kinds of ways to try to escape their unwanted thoughts because thinking such thoughts is exquisitely painful. Psychotherapists who help people stop knee-jerk suppression must often be masterfully persuasive and encourage clients to undertake change one step at a time.

Apparently, hypnosis can help people to suppress thoughts, but it's not an approach that we recommend. Overcoming the emotional urge to suppress is the key, and this can only be done by thinking the unthinkable. As Bertrand Russell (1930, p. 64) observed in *The Conquest of Happiness*:

Now every kind of fear grows worse by not being looked at. The proper course is to think about it with great concentration until it has become completely familiar. In the end familiarity will blunt its terrors; the whole subject will become boring, and our thoughts will turn away from it, not, as formerly, by an effort of will, but through mere lack of interest in the topic. When you find yourself inclined to brood on anything, the best plan is always to think about it even more than you naturally would until at last its morbid fascination is worn off.

## Suggested Further Reading

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