

Learning,
Remembering,
Believing

**ENHANCING
HUMAN
PERFORMANCE**

Daniel Druckman and Robert A. Bjork, *Editors*

Committee on Techniques for the Enhancement
of Human Performance

Commission on Behavioral and Social Sciences and Education

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Thought Suppression

People often try to control their thoughts in the hope that they will therefore be able to control their emotions, behaviors, or performances. It is clear from everyday life that the control of mental activity meets with some success: people can sometimes concentrate or study at will; they can sometimes eliminate bothersome worries from mind; they can sometimes relax, sometimes get aroused, sometimes get in a better mood; they may even seem to reduce their thoughts of food during a diet or of cigarettes while trying to quit smoking. And people who are grieving over a loss sometimes conclude that their eventual recovery was the result of putting the loss out of mind. Within a certain range of everyday uses, then, people can exercise some mental control. But in terms of the overall topic of enhancing human performance, the key issues for this chapter are research and theory on why people suppress thoughts, how effective thought suppression may be, what later consequences may result from it, and what alternatives exist that may be more effective in the pursuit of freedom from unwanted thoughts.

The form of thought suppression considered in this chapter is the intentional avoidance of a thought or category of thoughts: for example, "I don't want to think about food" or "I won't think about my ex-husband." This kind of suppression is distinguished from thought suppression that occurs in the service of intentional attention to something else. Wegner and Schneider (1989) distinguished between primary and auxiliary suppression: when one suppresses a thought simply to avoid that thought, they termed it primary thought suppression; when one suppresses a thought in order to focus on something else, it is auxiliary thought suppression. This chapter is about primary thought suppression.¹

Primary thought suppression is, in some sense, more troublesome than auxiliary thought suppression. Rather than having a handy replacement thought, in primary thought suppression one has no obvious "next thing to think." One simply wants to escape a current thought, without a particular idea or activity to replace it.

MOTIVATION

One easy way to find out why people might suppress thoughts is to look over the titles of self-help books in any bookstore. Such books tout themselves as aids to the satisfaction of a variety of self-improvement desires, among them helping to produce freedom from worry, fear, depression, addiction, overweight, anger, low self-esteem, obsession, victimization, bad relationships, thoughts about traumatic life events, secrets of the past, stress, failure at work, and so on (see Starker, 1989). Quite aside from whether reading these books is useful in any way, the topics of the books present a catalog of issues for which people are seeking help, and thought suppression is a form of self-help, a strategy that is so simple and direct that one doesn't need to visit either a psychologist or a bookstore.

In general, it appears that thought suppression may be chosen as a self-help strategy when people are attempting to avoid painful emotions (e.g., fear, depression, anxiety), to control unwanted actions that the thoughts suggest (e.g., eating during a diet, smoking, suicide), to prevent the communication of secret or undesirable thoughts (e.g., victimization, inappropriate sexual desires or relationships), to prevent thoughts that may cause ineffective performance (e.g., failure, worry, low self-esteem), or to stop thoughts that are themselves abhorrent and appear to be occurring too often (e.g., death of a family member, hurting a child). Studies of the unwanted thoughts of both normal individuals and those diagnosed as having clinically significant obsessions indicate that people have a wide range of reasons to wish their thoughts away (Edwards and Dickerson, 1987; Rachman and de Silva, 1978; Rachman and Hodgson, 1980; Salkovskis and Harrison, 1984). Although some people prefer to use thought suppression more than do others, everyone seems to engage in suppression from time to time (Wegner and Zanakos, in press).

Thought suppression is often chosen as a mental control strategy in performance contexts. There are a variety of thoughts and actions that one might not want to experience when performance is at issue. For example, one might want to suppress thoughts of a previous bad performance or of a flaw in one's technique—such as raising one's shoulder in swinging a golf club—that is not desirable for performance. Like the desire not to hook the golf shot, the desire to avoid any performance flaw can be a compelling motive for suppression in a variety of performance settings.

Thought suppression strategies have also been recommended as forms of professional help. The idea that people can stop thoughts at will, and should be encouraged to do so, has been present in the psychological literature at least since the late nineteenth century (see Rosen and Orenstein, 1976). Thought stopping was introduced as a psychotherapeutic regimen in the contemporary literature by Wolpe and Lazarus (1966). Although there are a number of variations on the technique, in general a therapist recommends that a client suffering from some unwanted thought practice stopping it (usually first with the therapist, then later alone). In some variations, a client may be encouraged to say "stop" aloud, or even make a noise, move abruptly, or self-administer a mildly painful stimulus each time the thought recurs. In some cases, a therapist proposes that the client replaces the thought with some specific distractor. The technique of thought stopping is now widely recommended as a potentially effective treatment for several psychological symptoms (e.g., Ross, 1984; Seligman, 1990; Stauffer and Petee, 1988).

Thought suppression, then, is both a self-help technique and a strategy that is recommended by psychotherapists. Thought suppression is something people may attempt whenever they encounter circumstances in which they desire self-control—whenever there is a schism between what they might naturally say, do, or feel and what they would prefer to say, do, or feel.

EFFECTIVENESS

When one is motivated to suppress a thought, can it be done? The answer to this question depends on how successful one wants the suppression to be. If one is asking for total victory, then the answer is a clear no.

Overall, studies of thought-stopping techniques have indicated the likely ineffectiveness of suppression for some time. Clinical reports that thought stopping can be effective in individual cases are balanced by others that report it is ineffective, and such case research is difficult to evaluate or summarize. More controlled clinical studies that compare thought stopping to other therapeutic strategies—such as desensitization or relaxation, or even to no strategy at all—sometimes show positive results (Arrick et al., 1981), but more frequently the results are negative (Neziroglu and Neuman, 1990; Stern, 1978; Stern et al., 1973; Teasdale and Rezin, 1978). Summaries of the literature have repeatedly concluded that the technique remains unproven despite considerable research (Reed, 1985; Tryon, 1979). In sum, thought suppression as a therapeutic regimen for people suffering from naturally occurring unwanted thoughts does not appear to provide relief from those thoughts.

When a person attempts to suppress a thought under instructions to do so in a laboratory experiment, in turn, various measures indicate that the thought is still very much in mind. An early observation of the difficulty of

suppression in the laboratory was made by Wegner et al. (1987), who asked subjects to try not to think of a white bear as the subjects reported their thoughts aloud. Although subjects regularly voiced a plan to distract themselves, and did report intervals of successful absorption in other things, they were incapable of sustaining suppression for very long. The typical participant expressed a replacement thought only to the end of a sentence, paragraph, or some other pause in the flow, and then abruptly signalled the occurrence of a thought about a white bear. On average, this happened more than once a minute in a 5-minute period. This effect has been replicated in several investigations (Clark et al., 1991; Lavy and van den Hout, 1990; Wegner et al., 1991; Wenzlaff et al., 1991).

People show similar vexations in their oral and written reports when they try to suppress thoughts that are more involving and relevant than a white bear. People cannot easily suppress thoughts of depressing events when they are asked to do so (Conway et al., 1991; Roemer and Borkovec, in press; Wenzlaff et al., 1988); they show similar difficulty in suppressing thoughts of exciting or arousing topics (Roemer and Borkovec, in press; Wegner et al., 1990), and they also express difficulty in stopping thoughts of people when instructed to do so (Wegner and Gold, 1993). By the simple measure of conscious reports of thought recurrence, then, thought suppression does not work.

Somewhat more surreptitious measures suggest similar conclusions. Psychophysiological evidence suggests the difficulty of thought suppression without any reporting requirement at all. For example, when subjects are asked to suppress thoughts that are exciting (say, of sex), they show skin conductance level (SCL) reactivity rivaling the strength of reactions that occur when they are asked explicitly to entertain those thoughts (Wegner et al., 1990). Other studies have also called on subjects to inhibit thinking about an exciting thought (using different kinds of instructions or situational pressures) and similarly observed increased SCL in comparison with subjects given no special instructions (Cohen et al., 1956; Martin, 1964; Koriat et al., 1972; and Pennebaker and Chew, 1985).

The continued influence of suppressed thoughts can also be discerned with the use of measures of cognitive accessibility—the ease with which the thought influences cognitive processing (see Higgins and King, 1981). Wegner and Erber (1992) examined the accessibility of suppressed thoughts by imposing cognitive loads on subjects who were attempting suppression during cognitive tasks. In one experiment, subjects made associations to word prompts as they tried to suppress thinking about a target word (e.g., house) or tried to concentrate on that word. Under the load imposed by time pressure to make fast associations, subjects gave the target word in response to target-related prompts (e.g., home) more often during suppression than during concentration. In a second experiment, Wegner and Erber used the Stroop color-word

interference paradigm to measure accessibility. In this experiment, reaction times for naming colors of words under conditions of cognitive load were found to be longer when subjects had been asked to suppress thinking of the word than they were without load or when subjects had been asked to concentrate on the word (see also Wegner et al., in press).

The results of these investigations support the idea that thought suppression prompts the creation of an automatic cognitive process that searches for the suppression target. It does seem that during thought suppression some part of a person's mind is ironically tuned to the very thought she or he wishes to stop. This research suggests that this part-of-the-minds phenomenon indeed makes one more sensitive to that thought—at least while intentional attempts to distract oneself from the thought are undermined by concurrent activities. In fact, that corner of the mind makes a person more sensitive in the act of suppression than when one is intentionally concentrating on that thought.

Further indications of the potential ineffectiveness of thought suppression can be found in research on directed forgetting. To some degree, the suppression of thoughts is related to forgetting: it is much easier to keep a thought from consciousness, after all, if that thought can be completely erased from memory. This was an early observation of Freud (e.g., 1915/1957), one that suggests that a key measure of successful suppression would be the occurrence of forgetting.

In studies of intentional forgetting (see reviews by Anderson and Bjork, in press; R. A. Bjork, 1989), subjects are given material to learn and are asked at some point to forget it. The results of this research indicate that the recall of to-be-forgotten information is indeed impaired in comparison with information that is to be remembered. People are less able to volunteer those items they have been instructed to forget than the ones they have been asked to remember. It is possible, of course, that subjects in such experiments are reluctant to recall the information just because they are trying to humor the experimenter and go along with the request to forget. But a more subtle measure of memory suggests another indication of forgetting, one that is less susceptible to intentional contrivance: items that are to be forgotten don't seem to get in the way of later attempts to remember other things. As a rule, the standard finding in memory studies is that the presentation of one set of items to be remembered will interfere with a subject's ability to recall a subsequent set of items. This interference is not as likely to occur if subjects have been directed to forget the first set (R. A. Bjork, 1970; Geiselman et al., 1983).

This finding does not mean that the to-be-forgotten information is gone, however, because there are a variety of signs that it still has important effects. One key finding is that the recognition of to-be-forgotten information remains at about the same level as corresponding to-be-remembered information (e.g.,

Elms et al., 1970; Geiselman et al., 1983). In other words, when a memory test involves asking subjects to recognize whether specific items are ones that appeared in the initial memory list (rather than asking for free recall of the items), the subjects are as prone to recognize the items they tried to forget as those they tried to remember. Similarly, indirect tests of memory that examine the influence of items without specifically asking subjects to recall the items—such as word-fragment, stem completion, or perceptual identification tests—also show effects of exposure to the to-be-forgotten items that are about the same as to-be-remembered items (Basden et al., in press; E. L. Bjork et al., 1990; Paller, 1990). Finally, recall of the to-be-forgotten items can be reinstated fully by their being presented again as to-be-remembered items (Geiselman and Bagheri, 1985).

These findings and others suggest it is reasonable to say that directed forgetting produces retrieval inhibition. Intentional access to the to-be-forgotten items through free recall is inhibited, but the items remain at full strength as far as their storage in memory. Considered together, the studies of thought suppression and directed forgetting suggest an interesting possibility. It may be that environmental cues to suppressed thoughts or the to-be-forgotten items play a particularly important role in returning those items to conscious attention. The studies of thought suppression effectiveness generally show that the suppressed thoughts return automatically in response to relevant cues—as when, for example, people were cued to think the unwanted thought by the presentation of associated words or by the presentation of the thoughts themselves (Wegner and Erber, 1992; Wegner et al., in press). These findings are comparable to the findings of research on directed forgetting that indicate that the recognition of to-be-forgotten items is unimpaired.

Taken together, the studies suggest that the success of thought suppression may depend on the absence of environmental cues to the thought. A person may be able to keep a thought from mind, or to inhibit the retrieval of a memory, as long as the person is not reminded of the target by cues in the environment.

Although research on this possibility is incomplete, this suggestion makes sense in view of the finding that distractions from unwanted thoughts or emotions can sometimes be quite successful (e.g., Nolen-Hoeksema, 1993). In terms of directed forgetting, it is also known that the presentation of new information to be remembered aids in inhibiting the recall of items that are to be forgotten (Gelfand and Bjork, 1985). It is possible that when circumstances allow a person to be isolated from cues to unwanted thoughts or inhibited memories, the person can achieve some minimal level of freedom from those thoughts or memories. To the extent that one can become immersed in absorbing activities that have no relevance to suppressed thoughts or memories, one may escape those thoughts for a time. If there are re-

placements for old information that allows one to successfully update memories, a person may not suffer from the undesired retrieval of old items. But there are many sources of reminders, sometimes very subtle, that can bring suppressed thoughts back very quickly, and sensitivity to those reminders will remain for some time following suppression (Wegner and Erber, 1992).

The evidence currently available indicates that thought suppression can be difficult, even in the short run. When there are compelling replacements for an unwanted thought, as in the case of new information that is presented during intentional forgetting, a person may be able to avoid an unwanted thought, perhaps indefinitely. If no new information is available, however—or even worse, if reminders of the thought are presented—a person will succumb to the thought very easily. Having once tried not to think of something, a person becomes a pawn to subsequent circumstances, perhaps able to avoid the thought but sensitive to its recall if environmental cues are presented.

CONSEQUENCES

It seems difficult to stop oneself from unintentional recall after having tried thought suppression (Rachman and de Silva, 1978). The thought returns to mind in such sharp bursts when one is reminded of it that one may well find oneself trying to suppress it again. Still, there are times when it is possible to relax suppression and let one's mind do what it will. It appears there are moments when it is even possible to return to formerly suppressed thoughts and think about them on purpose. What happens then?

Thought Rebound

Some laboratory research indicates that thinking about a topic that was once suppressed can become unusually preoccupying. This rebound of a suppressed thought was initially observed among subjects who had been asked to suppress the thought of a white bear (Wegner et al., 1987). The subjects individually thought aloud for 5 minutes and rang a bell if the thought of a white bear came to mind during suppression. As noted above, the subjects typically rang the bell and mentioned the thought of a white bear occasionally during this time. When the subjects were next asked to think about a white bear for a similar interval, they produced more mentions and more bell rings than did subjects who had simply been thinking of a white bear from the start.

The rebound effect has been observed several times for bell rings and mentions during a think-aloud period (Wegner et al., 1987; Wegner et al., 1991). It has also been observed when individuals write their ongoing thoughts and make check marks on paper for thought occurrences (Wenzlaff

et al., 1991). These experiments have typically contrasted thought frequencies that occur when subjects are asked to think about something with those that occur when subjects are asked to think about something following a period of suppressing that thought. The rebound has also been observed among individuals who were asked to think about anything (not just the suppressed thought) following suppression (Clark et al., 1991). The effect is not always a strong one; it has not been observed at significant levels in studies attempting to replicate it with reduced sample sizes (Merkelbach et al., 1991).

The rebound effect appears to occur because of a certain "stickiness" of suppressed thoughts that is brought about by what people do during suppression. Typically, suppression brings to mind many items other than the suppressed thought. The person turns from one distracter to another, and another, as each fails to keep the unwanted thought away. The critical feature of such unfocused self-distraction is that it creates associations between the unwanted thought and all the various distracters. If one has focused in turn on a door-knob, the weather, and an intransigent fingernail as distracters from the thought of a white bear, for instance, these items are now likely to be reminders of a white bear, at least more so than the person did before the suppression. This means that many of the person's current contents of mind become linked to the unwanted thought during suppression. These items can then serve as cues to remind the person of the thought when the thought is invited—so to yield the observed rebound effect.

One test of this explanation of the rebound was offered by Wegner et al. (1987). This study called for some subjects to use a "focused" self-distraction strategy for suppression. Subjects were asked to try not to think of a white bear, but to think of a red Volkswagen in case they did. This instruction was intended to help subjects avoid using their current thoughts and context as distracters and was expected to produce an attenuation of the rebound effect. And in fact, this outcome was observed for bell rings and think-aloud mentions: the results showed a rebound effect only among those subjects for whom no special strategy was suggested. Presumably, subjects given the red VW as a distracting focus were later unlikely to think about red VWs very much during their opportunity to express the unwanted thought and so escaped the unusual level of contextual reminding that underlies the rebound.

If unfocused self-distraction operates by forging connections between environmental features and the unwanted thought, then the continuity of context between suppression and later expression would seem to be a key condition for the rebound effect. This possibility was tested when Wegner et al. (1991) asked subjects to suppress or express thoughts of white bears in the context of a slide show featuring either classroom scenes or shots of household appliances. Subjects who next expressed white bear thoughts in a different slide-show context showed no evidence of rebound. However,

when these same subjects were invited again to express white bear thoughts with the initial slide-show context reinstated, the rebound appeared. Those who had initially suppressed the thought later experienced a rebound of preoccupation with it—but only when they were once again exposed to the slide show during which the suppression had taken place.

These findings indicate that the context of suppression plays a critical role in the rebound effect. Items on a person's mind become bonded to the unwanted thought during suppression, such that later reinstatements of context that bring back those items may have the effect of reintroducing the unwanted thought. Wenzlaff et al. (1991) followed up this idea to investigate the role of thought suppression in the bonding of thought and mood. They noted that a variety of research programs had examined, with mixed success, the possibility that thoughts experienced while a person is in a particular mood state might be more easily retrieved when that mood was experienced anew (e.g., Bower and Mayer, 1985). Research of this kind had not investigated suppressed thoughts, though, focusing instead only on thoughts that were given attention during a mood state. If suppression links the suppressed thought to context, then suppression of a thought during a mood state should link the thought to the mood such that the later reactivation of one would lead to the reinstatement of the other.

In one experiment, Wenzlaff et al. (1991) induced subjects by music to experience either a positive or negative mood and asked them to report their thoughts in writing while trying to think or not to think about a white bear. Later, all subjects were asked to think about a white bear and write their thoughts during a second mood induction (using different but equally moody music). These thought reports indicated that subjects who experienced similar moods during the periods of thought suppression and expression displayed a particularly strong rebound of the suppressed thought during the expression opportunity. Those who were led to experience different moods during initial suppression and later expression showed lessened evidence of a rebound effect.

A second experiment by Wenzlaff et al. (1991) tested the complementary connection—whether thought bonded to mood during suppression could later reinstate that mood. Initially, subjects who were in music-induced positive, negative, or neutral moods were asked to think or not to think about a white bear. Later, all subjects were asked to think about a white bear for a period, after which they reported their moods. The mood reports showed that subjects who had initially tried to suppress white bear thoughts experienced a reinstatement of the mood state that existed during the initial period of suppression. Those who first expressed white bear thoughts showed no evidence of such reinstatement.

These findings suggest that suppression may create a bond between a thought and the cognitive and emotional context in which the thought is

suppressed. The contextualization of suppressed thoughts might be widely responsible for difficulties of self-control.

This finding has an interesting possible application in attempts to overcome addictions. The contextualization process could link suppressed thoughts of tobacco, alcohol, or drugs, for instance, with the mental states that accompany withdrawal from these substances—and so build up strong linkages between our cravings and thoughts of the craved items. In suppressing a thought, a person may unwittingly play a role in making that thought more difficult to dispel in future instances. This idea suggests that one strategy for overcoming addictions is to try to quit in an unfamiliar setting.

Currently, however, behavior therapists usually suggest that self-control strategies should be conducted at home because these circumstances will allow adequate generalization of training. Learning that occurs at home presumably will enhance the performance of the learned activity (of not smoking, not drinking, etc.) in the home. However, there is little supporting evidence for the superiority of this approach: the research typically indicates that residential treatment and quitting at home are about equally effective (Cohen et al., 1989; Miller and Hester, 1986; Polich et al., 1981). It may be that quitting bad habits in residential treatment facilities offers some advantage because the distracters found at the facility will no longer be present to act as reminders when the person returns home and that this counteracts the generalization benefits that accrue from home treatment.

Emotion Dishabituation

The thought-rebound effect has not yet been observed with emotional thoughts. Roemer and Borkovec (in press), for instance, found no evidence of a postsuppression rebound for depressing, anxious, or even neutral thoughts. Kelly and Kahn (in press) reported no rebound effect for thoughts that subjects had identified as having some trouble avoiding, although these researchers did find a rebound following suppression of white bear thoughts. Wegner and Gold (1993), in turn, specifically examined the postsuppression rebound effects for comparable emotional and unemotional thoughts. The target thought for some subjects in this study was a still-desired past relationship, a "hot flame"; the target thought for others was a no-longer-desired past relationship, a "cold flame." A rebound of thoughts about the old flame was observed in two experiments for the relatively unemotional thought of the "cold flame," while this effect was not observed in either experiment for the relatively more emotional thought of the "hot flame." Although it is too early to draw a firm conclusion from this research, it suggests that the rebound of unwanted thoughts following suppression might be limited to thoughts that are not strongly emotional in tone.

Perhaps the reason that emotional thoughts do not seem to rebound is that the emotional reactions they promote are themselves heightened by prior suppression, and people therefore subtly suppress the thought even as it rebounds. In the old flame study, for example, Wegner and Gold (1993) tested the effect of suppression on psychophysiological reactivity to thoughts of an old flame. Subjects in the two experiments were asked to think about an old flame, and an initial finding was that those who thought about a hot flame showed higher skin conductance level (SCL) than those who focused on a cold flame. Subjects were then instructed either not to think about their old flame or to perform a comparison task (not thinking about the Statue of Liberty or thinking about the old flame). In a final period, subjects in both experiments were asked again to think about the old flame. Subjects who had previously suppressed the thought of a hot flame showed elevated SCL; those who had not suppressed the thought showed lowered SCLs; those focusing on a cold flame showed no such effect of suppression. These results suggest that trying not to think about a still-desired relationship may prolong emotional responsiveness to thoughts of the relationship (see also Wegner and Zanakos, in press).

Cioffi and Holloway (1993) found a parallel effect that thought suppression can also increase sensations of pain after the painful stimulus is removed. In a study of cold pressor pain, subjects were asked to submerge one hand in a circulating icewater bath as they tried either to focus on the pain, to suppress thoughts of the pain, or to distract themselves from the pain by focusing on an image. During the cold pressor task, subjects suppressing the pain showed higher SCL than those in the other conditions. When the cold pressor was stopped, subjects who had tried to suppress thoughts of the pain showed slower recovery from the experience in their self-reports of pain than the other subjects. And when all subjects were later given ambiguous somatic stimulation (an innocuous vibration on the back of the neck), those who had previously suppressed the pain rated the stimulation as more unpleasant than did those in the other groups. Suppression of pain thoughts, like the suppression of emotional thoughts, appears to magnify subsequent responses.

Research on postsuppression effects suggests that there are effects of attempts at thought suppression that persist even after its simple ineffectiveness is discovered. When people attempt thought suppression despite its ineffectiveness, they may often provoke ironic consequences—effects that are precisely the opposite of those they are attempting. Trying not to think about something can, at least in some circumstances, increase one's later preoccupation with that thought. And trying not to think about something of emotional significance may undermine the usual tendency to habituate to that thought and so prolong the emotion. By trying to suppress unwanted worries, moods, or self-defeating thoughts, people may in effect be increas-

ing the emotional power of the very worries, moods, or thoughts they are trying to suppress.

The sensitivity that thought suppression produces could be a complicating factor in a variety of psychological problems. It has been noted by several researchers, for instance, that people suffering from even mild depression exhibit automaticity in their depressive thinking (Bargh and Tota, 1988; Gotlib and McCann, 1984; Wenzlaff, 1993). In other words, depressed people are so sensitive to depressive thoughts that such thoughts are easily brought to mind even when they are devoting the larger share of their attention to other things. This is precisely the kind of sensitivity that is promoted by thought suppression, and the observation that such problematic sensitivity accompanies depression raises the possibility that depressed people may be unwittingly involved in creating their own difficulties—by trying to suppress them. Perhaps the sensitivity to sad thoughts that occurs with depression is not as much a symptom of depression as it is a symptom of the person's attempt to suppress unwanted depressing thoughts. Ironically and lamentably, the fight against sad thoughts may actually strengthen them (Wenzlaff et al., 1988).

People with other psychological problems also show automatic access to thoughts related to the problem. Individuals reporting phobias, for instance, show evidence of unusual sensitivity to their phobias in the Stroop color-word paradigm (Watts et al., 1986). It is possible that the strong motive to avoid not only the phobic object or situation, but also thoughts of it, could prompt attempts at thought suppression. The resulting high levels of thought accessibility experienced by these people, then, may actually be caused in part by their attempts at thought suppression. Chronic levels of automatic activation could be produced by the mental control strategies that people use in their attempts to overcome unwanted thoughts of spiders, snakes, public speaking, or a variety of other phobia targets. More generally, the stresses that introduce mental load at many points in life may have the result of turning people's struggle against unwanted, seemingly automatic mental states into an invitation for these states to be overwhelming.

ALTERNATIVES

The research we have reviewed on the negative effects of thought suppression suggests that anything that can keep people from suppressing thoughts would be useful as a way of avoiding the effects that suppression can promote. But people are often quite tied to their strategy of suppression, and so alternatives are not readily accepted.

The most straightforward general alternative to suppression is exactly its reverse—concentration on an unwanted thought. This solution has been recommended by many different kinds of psychologists, using quite varied

language, beginning most clearly with Sigmund Freud. Freud (1914/1958) suggested that people should talk about their emotional or traumatic experiences as a means of reducing long-term emotional disturbance, and this proposal was meant in part as a way to avoid suppression of thoughts. Although Freud and others also said that there was something useful about the expression or unleashing of emotion all by itself—the production of a “catharsis”—this observation has not been well-substantiated by the experimental literature (e.g., Geen and Quanty, 1977; see also Zillmann, 1993).

Still, other research suggests that the expression of emotion does have its uses. Rachman (1980) has argued that the processing of emotion requires time and attention and that prevention of this activity by suppression spurs continued emotion. Similarly, Foa and Kozak (1986) suggest that corrective information about emotional reactions may not be appreciated in the rush to suppress or avoid emotional thoughts and that a return to these ideas is critical for recovery from emotional pain. These theorists emphasize the therapeutic effects of exposure to the emotional thoughts per se, and there is much evidence that exposure is indeed helpful. Pennebaker and O'Heeron (1984) found, for example, that spouses who discussed the death of their loved ones with friends and family were less likely to later dwell on the deaths. The question of interest, then, is whether randomly assigning people to talk about emotional events with others would have the effect of reducing suppression and rumination about these events.

The research of Pennebaker (1990) on this topic is particularly instructive. He has conducted a series of studies that examine the psychological and health effects of communicating about traumatic events, on the theory that people usually inhibit such disclosure and suppress thoughts about the events and that this produces rumination, chronic physiological activation, and health deterioration. In a demonstration of what happens when this tendency is reversed, Pennebaker and Beall (1986) asked people to spend four consecutive evenings writing about past traumatic events. Those subjects who were asked not only to tell the facts of the events, but also to describe their emotions—and who did indeed achieve high levels of disclosure—showed improvements in their physical health in comparison with other subjects who did not take part in such disclosure. This phenomenon has been observed in other studies showing not only these health effects (e.g., Pennebaker et al., 1990), but also improvements in immune function (Pennebaker et al., 1988).

Pennebaker (1993) reports that following a traumatic or disastrous event that affects many people (e.g., an earthquake, volcanic eruption, or presidential assassination), the initial reaction of most people is to talk about it. Thus, during the early phases of response to such a stress, people show remarkable psychological resilience and a relatively low level of stress-induced illness. Within a few weeks, however, the topic becomes less

timely, and there is a progressive tendency to avoid the public hashing and rehashing of the event. At this point people begin to find that ruminations about the event builds up to more distressing levels. Apparently, with the inhibition of talk about the event comes the suppression of thoughts about the event and then the negative consequences of suppression. The implication of Pennebaker's research is that psychological and health responses even to disasters could be improved by interventions that encourage people to talk about the events for longer than usually occurs.

In the case of anxieties or phobias, research also indicates that a reversal of suppression is often helpful. Therapeutic regimens that involve asking a client to accept graded increments in exposure to a feared stimulus have become recognized as highly effective in the treatment of phobic reactions (Barlow, 1988). Even more intense exposure strategies (sometimes called "flooding" or "implosion") can be useful in certain circumstances, although they are more aversive and can prompt clients to drop out of therapy (Barlow, 1988). When people are goaded or even forced into thinking about things that they normally suppress, much of the built-up power of those things to produce emotion is dissipated. This process is not easy. If one has a phobia about heights and has been avoiding heights of all kinds and thoughts about heights for many years, a proposal to begin taking rides in glass elevators is not likely to be easily accepted. The habit of suppressing thoughts of heights is an old habit and will also have accumulated massive power through inflating the emotional reaction to the thought.

Becoming exposed to an unwanted thought may therefore have to take place in the same way one becomes exposed to any other unpleasant reality—little by little, with help and lots of complaining. A person may approach a cold lake, for example, by sticking in one foot, yelling, running away, chattering to companions about how cold it is, rubbing and clapping her or his arms, waiting for the sun to come out, deciding just to "wade," going back in up to the ankles, admonishing those nearby not to splash, taking a few steps further, realizing one looks silly half wet, seeing others take the dive, and then, finally, ducking under. Even then one may need to duck a few more times in order to get used to it. The process of coming to grips with unwanted thoughts is a similar slow process, seldom a sheer act of will.

A proposal to think about an unwanted thought is consistent with current practice in clinical approaches to excessive worry. Borkovec's program of research on worry (e.g., Roemer and Borkovec, 1993) indicates that the reversal of suppression may be effective in such cases. In a provocative study on this problem, Borkovec et al. (1983) asked people who had indicated that they were chronic worriers to arrange for a half-hour worry period every day. Then, when the people found themselves worrying outside this time, they were not to suppress the worry, but instead were to make a special point of focusing

on it in the worry period. During the worry period, they were to do nothing but worry. Over the course of a 4-week treatment program, these people showed improvement in comparison with another group of worriers who were left untreated: they worried less all day, and they sometimes found that they had nothing to do in the worry period.

The reversal of suppression is also a common part of therapy for obsessive-compulsive disorder. About 25 percent of individuals who are diagnosed with obsessive compulsive disorder suffer primarily from obsessions (recurrent, intrusive thoughts); the remainder may have such thoughts but also suffer from compulsions (the performance of rituals, or recurrent actions). The therapy of choice for those with compulsions is called "exposure with response prevention" and has evolved from the initial techniques suggested by Meyer (1966). In this approach, a person who has become involved in too-frequent hand washing in response to worries about contamination, for example, might be encouraged to get his or her hands dirty on purpose and then urged to avoid washing them for an extended period of time. The person's access to soap and water might even be limited for a time.

This approach, which is very effective with many kinds of compulsive activities (Barlow, 1988), reverses suppression. It makes a person think about the unwanted thought—in this case, contamination—and at the same time prevents the usual ritual the person uses to dispel the thought—washing. This approach doesn't have a clear analog in the case of obsession, however, as there is no action to prevent. Thought suppression per se is probably what the obsessive person is doing, and it is difficult for a therapist to prevent it. Eventually, however, it may be that the most successful therapies aimed at the obsessive facet of obsessive-compulsive disorders will also focus on the reversal of suppression.

On balance, the reversal of thought suppression is untried and highly experimental for other psychological or performance problems, and there is very little evidence at this point to recommend or discourage it. In the struggle against unwanted thoughts of food, for example, the idea that suppression should be stopped appears to indicate that dieting itself should be stopped. Although there is evidence that dieting can sometimes cause more harm than good and could be halted in many cases with good effect (Herman and Polivy, 1993), it is not clear whether asking people to think about food might have therapeutic effects—in the sense that they might become less obsessed with it. Evidence indicates that if people are asked to focus on thoughts of food as an aid to self-control, it is particularly useful for them to focus on the nonfood aspects of the food thoughts: for example, "Don't those marshmallows look like clouds?" (Mischel and Baker, 1975).

Asking depressed individuals to focus on their negative thoughts and feelings is similarly untested as a form of therapy. Coyne (1989) has made some initial suggestions in this regard, and there are some studies indicating that

therapies that encourage depressed people to confront their negative thoughts may be useful (Beck and Strong, 1982; Feldman et al., 1982). However, many therapists may be very reluctant to do something that seems to make depressed individuals feel worse, even if improved psychological health is the likely long-term result. Like the depressed individuals themselves, therapists may succumb to the client's motive to suppress thoughts and so prolong the problem; the desire to suppress thoughts can be just as powerful for onlookers as it is for participants. And it is not yet known whether thwarting suppression is the best strategy for various psychological problems.

There are also important issues of timing that have yet to be addressed in research on thought suppression. Suppression may be a useful technique just when circumstances make unwanted thoughts most insistent—say, at the height of an unpleasant experience. But turning to focus on the thoughts may be more effective once the most intense and difficult circumstances are over. Research on the relative effectiveness of avoidance and nonavoidance as coping strategies is consistent with this possibility (Mullen and Suls, 1982; Suls and Fletcher, 1985). This research indicates that an avoidance strategy is linked to more effective coping just after a stressful event, but that a nonavoidance strategy is associated with more effective coping as time goes on and the event recedes into the past.

CONCLUSIONS

Research on thought suppression is relatively new to psychology, and large portions of this research have been conducted primarily in the laboratory of one investigator. The conclusions we offer must be understood with these observations in mind. This chapter is intended more to alert readers to the recent emergence of a potentially useful perspective on mental control than to summarize a mature body of research that leads to strong conclusions. Yet, we believe there are enough preliminary indications to suggest that thought suppression may be a problematic strategy of mental control.

Although thought suppression or intentional forgetting may be effective when compelling distractions are available, cues or circumstances that would prompt the recurrence of the thought become especially powerful when a thought has been suppressed. Suppressed thoughts are more easily cued by the environment than they might have been had one never suppressed them, and once-suppressed thoughts that one later thinks about on purpose become stronger than they were before. Suppressing thoughts of emotional topics may not lead to the same magnitude of recurrence as suppression of thoughts of items or actions, it may increase the strength of the emotion attached to that topic. Psychotherapies that depend on suppression—such as thought stopping—are as yet unproven.

Alternatives to thought suppression exist that are likely to be more effective. In cases of anxiety-producing or obsessive thoughts, successful avoidance of the unwanted thought may occur when one faces the thought and even concentrates on it. Encouraging people to talk about their unwanted thoughts enhances their ability to cope with the events. It is not known whether this strategy is useful in all cases, and there are important exceptions. For example, encouraging depressed people to dwell on their problems is a technique that has not received enough research attention to allow any evaluation. In the cases of unwanted thoughts about fears or traumas or worries, however, the approach of confronting them may be more beneficial than the approach of trying to suppress them.

It should be emphasized that the present research on thought suppression does not support a blanket recommendation that people should never try to suppress thoughts. Rather, the available evidence suggests that an attempt not to think about an unwanted thought is likely to fail if it is the only strategy a person adopts for dealing with that thought.

NOTE

¹There are many interesting issues involved in the study of auxiliary thought suppression, such as the subtle yet important need for suppression when one's habitual way of thinking about something gets in the way of new and improved thoughts. When one tries to drive a car with an odd arrangement of controls, for example, one must suppress the proclivity to respond to the old configuration. Or, when plans change, one must set aside thinking about the old plan and attempt to adapt to a new plan. Even in the everyday case of putting off a project or a concern until later, one engages in a kind of thought suppression. Several lines of research by experimental psychologists have examined the way in which people suppress thoughts in order to focus on a new thought (e.g., R. A. Bjork and Landauer, 1979; Gernsbacher and Faust, 1991; Tipper et al., 1991); but these are all cases of what we term auxiliary thought suppression.