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Hidden Complications of Thought Suppression

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Abstract

Although the suppression of thoughts may seem to be an effective solution, this strategy can lead to an exacerbation of the very thought that one is attempting to suppress. This ironic effect is the most obvious unwanted outcome of suppression and has now been investigated empirically for more than two decades. However, the fact that suppression is an effortful process implies that, even when suppression does not lead to an ironic rebound of the unwanted thought, it puts an insidious cognitive load on the individual attempting to suppress. Moreover, whether or not suppression leads to an exacerbation of the unwanted thought, it is rarely successful, and hence adds to the individual's distress. In this article we describe the phenomenon of suppression and consider how it might complicate a range of emotional disorders. Taken together, studies on thought suppression in psychopathology present a more nuanced picture now than was emerging in the early years of its investigation. Some evidence is consistent with the idea that the counterproductive effects of suppression are causally implicated in the disorder, but for the most part a more parsimonious conclusion is that thought suppression acts as a complication of the disorder. In certain disorders, suppression complicates the disorder by leading to an ironic rebound of the unwanted thoughts. In all disorders, the cost of undertaking suppression is a persistent cognitive load, which, in turn undermines the ability to suppress, and hence sets off a cycle of failed expectations and distress.

> Much to his annoyance, a thought popped into his mind. It was very clear and very distinct, and he had now come to recognize these thoughts for what they were. His instinct was to resist them. They were the preordained promptings from the dark and locked off parts of his mind. He sat still and ignored the thought furiously. It nagged at him. He ignored it. It nagged at him. He ignored it. It nagged at him. He gave in to it.
>
> Douglas Adams, *The Restaurant at the End of the Universe* (1980, p. 172)

Sometimes science fiction can remind us of science fact. In the case of this fantasy novel by Douglas Adams, the fact of which we are reminded is the insistent and inevitable return of an unwanted thought. Thoughts we put out of mind seem to come back with a vengeance that makes us wonder whether we may have gone mad. Now as it happens, the hypothesis that recurrent unwanted intrusive thoughts might be associated with psychopathology has occurred to many psychologists over the years (Clark, 2005; Rachman & De Silva, 1978). This paper reviews research on how the suppression of such unwanted thoughts is related to psychological disorder.

The experience of mental disorder is often associated with painful thoughts and feelings and thus will commonly motivate suppression as a reaction (Najmi & Wegner, in press; Wegner, 1989). Most early research on intrusive and obsessive thoughts operated under the assumption that suppression is always reactive in this way, and so did not develop the complementary possibility—that suppression might itself prompt the intrusive return of the suppressed thought. Attention was drawn to this paradoxical effect of suppression by the "white bear" studies in our lab—in which people couldn't stop thinking of a white bear in five minutes of trying (Wegner,

Schneider, Carter, & White, 1987). This effect has now been investigated empirically for more than two decades. In the present paper, we examine this literature to gauge the roles that thought suppression may play—as a response to intrusive thoughts, as a cause of them, and more generally, as a complicating factor in the etiology of psychopathology. We believe that suppression complicates disorders by expanding their psychological damage in subtle ways and hence making them more resistant to treatment.

It is important to place our theory of suppression's role in psychopathology in the larger context of research related to the etiology of perseverative thinking. There are a number of prominent theories of perseverative thinking, many with considerable supporting evidence (for a recent review, see Watkins, 2008). These include, for example, control theory (Carver & Scheier, 1982) and the ruminative response style theory (Nolen-Hoeksema, 1991), which are largely independent of thought suppression.

It is also important to clarify at the outset what we mean by suppression in this article. According to the ironic process theory of mental control (Wegner, 1994), successful suppression is achieved by increasing the accessibility of distracter thoughts. Usually when people try to suppress thoughts, they tend to undertake an *unfocused distraction* strategy—the iterative use of many different distracters rather than just one focus—and experience a rebound of the suppressed thought (Wegner, Schneider, Knutson, & McMahon, 1991). However, this rebound effect is attenuated when using one *focused distracter* thought. Wegner et al. (Experiment 2, 1987) have found that focused distraction can be effective in getting rid of unwanted thoughts. For example, in their study, participants were able to suppress thoughts of a white bear if they focused instead on thoughts of a red Volkswagen. Focused distraction can at times be quite effective, and it is specifically *unfocused* distraction to which we refer throughout this article.

In this article, we begin by describing the phenomenon of suppression. Next, we discuss the specific ways in which suppression is a disorder-complicating moderator of psychopathology, focusing in turn on anxiety disorders and then depressive disorders, substance abuse, and self-injurious behaviors. We explore how suppression may complicate mental disorders by ironically increasing the recurrence of suppressed thoughts, introducing a persistent cognitive load, and otherwise adding to distress.

The Phenomenon of Suppression

Not everybody believes in the effectiveness of suppression, of course, but many do, for example, those scoring high on the *Thought Control Beliefs* factor of a questionnaire designed to assess beliefs about the process and outcome of thinking (Metacognitive Beliefs Questionnaire; MCBQ; Clark, Purdon, & Wang, 2003). Typical items on the questionnaire include "I should be able to gain complete control over my mind if I exercise enough will power." But as the white bear studies revealed, this is generally not the case. Instead, suppression can lead to an exacerbation of the very thoughts one is attempting to suppress. Wegner (1994) offered a theory of "ironic processes" to account for this effect. The theory holds that two processes are involved in suppression: an effortful and conscious operating process that diverts attention away from unwanted thoughts, and an effortless and unconscious ironic monitoring process that both maintains vigilance for occurrences in awareness of the unwanted thought, and triggers further action of the operating process if the unwanted thought appears in awareness. These two processes work hand in hand to ensure that unwanted thoughts remain outside of awareness. Ironically, however, by maintaining vigilance for the unwanted thought, the monitoring system helps assure that the unwanted thought never becomes dormant. Two aspects of this dual-process mechanism of suppression are particularly relevant to psychopathology: First, since the

operating process is effortful, suppression is psychologically costly (cf. Barrett, Tugade, & Engle, 2004), and second, if suppression is attempted under conditions of competing cognitive load, the effortful operating process is impaired and hence the effortless monitoring process begins to usher in the very thoughts that are targeted by the suppression attempt, thereby resulting in an ironic return of the unwanted thought.

There is now considerable evidence for the ironic return of unwanted thoughts. In the original thought suppression experiments, Wegner et al. (1987) found that after a period of thought suppression, people instructed to stop suppressing the thought and instead to begin thinking about it reported more intrusions of the thought than occurred without prior suppression. This "rebound effect" has since been observed repeatedly (see reviews by Abramowitz, Tolin, & Street, 2001; Rassin, 2005; Wenzlaff & Wegner, 2000). Subsequent studies revealed, in accord with the ironic process theory, that this effect is particularly likely to occur under conditions of mental load. In both clinical and non-clinical populations, the unwanted thought is faster to return to consciousness while it is being actively suppressed.

In addition to empirical support for the ironic, intrusive, return of unwanted thoughts, there also exists evidence indicating difficulty disengaging from these thoughts. For instance, Wegner and Erber (1992) found that people suppressing a thought under cognitive load showed interference with the task of color-naming in a modified Stroop (1935) paradigm. Remarkably, this interference was even greater than the interference found when people were concentrating on the thought under load. These results imply that people could not disengage attention to escape from the unwanted thought, and this difficulty became more pronounced with the imposition of cognitive load. This hyperaccessibility of suppressed thoughts has also been observed repeatedly

with clinical and non-clinical samples (e.g., Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Klein, 2007; Newman, Duff, & Baumeister, 1997; Page, Locke, & Trio, 2005).

The combination of an ironic, intrusive, return of unwanted thoughts and difficulty of escape from them represents a certain asymmetry in the way unwanted thoughts are linked to other thoughts in our associative networks: We find ourselves being reminded of a particular unwanted thought by most everything that comes to mind, but the idea itself seems to remind us of nothing more than our desire to eliminate it from consciousness. This unusual asymmetry in the way unwanted thoughts are linked to other thoughts was examined in a recent study (Najmi & Wegner, 2008). Participants who were asked to suppress a thought or to concentrate on it completed a task assessing the influence of priming on reaction time to word/nonword judgments (associative priming lexical decision task). Results indicated that suppression under cognitive load produced asymmetric priming: Priming with the associate of a suppressed word speeded reaction time to the suppressed word, but priming with a suppressed word did not speed reaction time to associated words. This suggests that suppression induces an unusual form of cognitive accessibility in which movement of activation toward the suppressed thought from associates is facilitated but movement of activation away from the suppressed thought to associates is undermined. Thus, suppression of an unwanted thought ironically increases its return while precluding other related thoughts from entering into awareness. This notion that suppressed thoughts are a cognitive dead-end of sorts might well explain the phenomenon of perseverative thinking that characterizes a wide array of psychological disorders.

Suppression in Psychological Disorders

A question that remains unanswered is how the perseverative thinking that characterizes many psychological disorders begins in the first place. One possibility proposed in the theory of

synthetic obsessions (Wegner, 1989) is that suppression itself is the cause of subsequent intrusions and obsessive thinking. This idea that suppression failure is an etiological process in certain forms of psychological disorder has dictated much of the early empirical investigation of thought suppression in psychopathology. Research has yielded some evidence that the counterproductive effects of suppression may be causally implicated in psychopathology, but for the most part a more parsimonious conclusion is that suppression acts as a complication of psychopathology. In certain disorders, suppression complicates the disorder by leading to an ironic rebound of the unwanted thoughts. In all disorders, the cost of an effortful strategy such as suppression is a cognitive load, which, in turn undermines the ability to suppress (Beevers & Scott, 2001; Macrae, Bodenhausen, Milne, & Wheeler, 1996). Finally, unrealistic expectations of suppression success and inevitable failure to achieve these unrealistic expectations set off a relentless cycle of distress, mental load, and unyielding, unwanted thoughts.

Anxiety Disorders

Obsessive-compulsive Disorder (OCD) is defined by the persistence of intrusive thoughts. Although the occurrence of unwanted, intrusive, thoughts is a normative phenomenon, compared to non-clinical individuals, OCD patients experience more frequent, distressing intrusive thoughts, perceive them to be less controllable, and more strongly try to resist them using maladaptive mental control strategies such as thought suppression (Janeck & Calamari, 1999; Rachman & De Silva, 1978). In one study, Purdon, Rowa, and Antony (2007) asked OCD patients to keep a detailed diary of their suppression attempts over a three-day period and found that individuals with OCD indeed engage in frequent, effortful, unsuccessful suppression of unwanted thoughts. According to the cognitive-behavioral perspective on OCD (Rachman, 1997; Salkovskis, 1985), the intrusive thoughts that characterize many psychological disorders

may persist because of faulty pre-existing beliefs, faulty interpretations of intrusions, and futile efforts to suppress the intrusive thoughts.

The counterproductive effects of suppressing negative, intrusive thoughts in non-clinical samples have been observed fairly consistently (for exceptions, see Kelly & Kahn, 1994; Purdon & Clark, 2001). In a series of studies using non-clinical analogue samples, Salkovskis and colleagues (Salkovskis & Campbell, 1994; Salkovskis & Reynolds, 1994; Trinder & Salkovskis, 1994) observed a suppression-related increase in intrusive thoughts both in the lab and over a four-day naturalistic follow-up. McNally and Ricciardi (1996) presented non-clinical participants with a list of thoughts reflecting various themes of obsessions and asked them to identify one that they had previously experienced. They observed a marginally significant tendency for the obsessional thought to occur more often after suppression whereas neutral thoughts tended to occur less frequently after suppression. In a more recent study with a non-clinical sample, although Marcks and Woods (2005) did not find evidence for a suppression-related rebound of unwanted thoughts, they found that those instructed to suppress were unable to do so, and that they reported an increase in level of distress after suppression. Similar to the lab study, naturalistic follow-up (e.g., Trinder & Salkovskis, 1994) revealed that suppression of personally-relevant intrusive thoughts was associated with an increase in subjective ratings of discomfort.

To date, there has been limited investigation of the effects of instructed suppression of obsessional thoughts in OCD. Purdon, Rowa, and Antony (2005) found that individuals with OCD exerted effort to suppress their obsessional thought despite explicit instructions not to suppress. This highlights the sheer relentlessness of the suppression-related cognitive load experienced by OCD patients. It may also explain the absence of suppression rebound or

enhancement effects in the studies of instructed suppression of obsessional thoughts conducted with clinical samples of OCD patients (Janeck & Calamari, 1999; Purdon et al., 2005). Tolin, Abramowitz, Przeworski, and Foa (2002) argue that if individuals with OCD have general deficits in their ability to control thoughts, this will be manifested in their ability to control neutral thoughts. Consistent with their hypothesis, they found that individuals with OCD had more occurrences of a neutral target thought after suppressing compared to baseline.

It is possible, however, that the studies of instructed suppression of obsessional thoughts in OCD patients (Janeck & Calamari, 1999; Purdon et al., 2005) reflect accurately the lack of suppression-related rebound/enhancement effects. This absence of a suppression-related increase in obsessions notwithstanding, the psychological damage associated with chronic suppression in OCD is profound. One possibility is that suppression works temporarily. If so, it serves as a neutralization strategy (Purdon, Rowa, & Antony, 2007), terminates exposure to the obsession and prevents disconfirmation of the perceived negative consequences of the obsession. Thus, it serves to maintain anxiety associated with the obsession in the long run.

Another possibility is that suppression fails. Failed suppression can serve to increase the salience of the unwanted thought and the need to control it in order to avoid the perceived negative consequences. Failure of suppression is associated with worse mood, and faulty appraisals of suppression failure may lead to greater effort to suppress (Clark, 2004; Purdon et al., 2005). Faulty appraisals of the failure of suppression and faulty beliefs about the need to control thoughts and about the controllability of thoughts may be both causal precursors of the obsessional state as well as complicating factors that further aggravate it. Clark, Purdon, and Wang (2003) investigated the relationship between obsessional thinking and faulty beliefs about the control of intrusive thoughts in a large sample of college students. They found that such

beliefs about the control of intrusive thoughts and perceived negative consequences of a failure to suppress such thoughts had a unique significant relationship with obsessions. The authors conclude that metacognitive beliefs—beliefs about the process and outcome of ones own thinking—are implicated in the pathogenesis of obsessions. Consistent with this, Tolin, Abramowitz, Hamlin, Foa, and Synodi (2002) observed that OCD patients were more likely than anxious and non-anxious controls to attribute a failure of thought suppression to internal, negative attributions (e.g., "I am mentally weak"). These beliefs may predispose the individual to exert more attempts at control over thoughts, and consequently, to suffer the counterproductive effects of mental control. Thus, it may well be the case that repeated attempts at suppression serve to exacerbate distress and to maintain an obsessional state.

Posttraumatic Stress Disorder (PTSD) is characterized by unwanted intrusions of traumatic recollections and avoidance of all things associated with the trauma. This suggests that individuals with PTSD are motivated to suppress trauma-related thoughts. However, recent studies with non-clinical samples reveal that suppression *enhances* memory bias for threat-related material (Kircanski, Craske, & Bjork, 2008), thus setting the stage for a counterproductive cycle of suppression of trauma-related thoughts.

Research on thought suppression in PTSD indicates that the disorder is characterized by a bias in the ability to suppress trauma-related thoughts. Shipherd and Beck (1999) examined the effects of instructed suppression of rape-related thoughts in female sexual assault survivors with PTSD and those without PTSD following the sexual assault. They found that trauma survivors with PTSD experienced a post-suppression rebound in the frequency of rape-related thoughts, whereas trauma survivors without PTSD did not experience a rebound. A more recent study (Shipherd & Beck, 2005) replicated these findings in a follow-up investigation of the intentional

suppression of trauma-related thoughts in survivors of motor vehicle accidents with and without PTSD. Results revealed that both groups successfully suppressed trauma-related thoughts temporarily, but that the PTSD group experienced a post-suppression rebound, whereas the no-PTSD group did not. In this study, participants were given an additional task of suppressing a personally relevant thought that was not related to the trauma. In this task, the PTSD group did not experience a rebound effect, suggesting that this effect was specific to the suppression of their trauma-related thoughts. However, in a further follow up study (Beck, 2006), both PTSD and no-PTSD groups showed a post-suppression rebound of trauma-related thoughts, suggesting that difficulties in suppressing trauma-related thoughts may be ubiquitous after exposure to trauma, and not specific to PTSD.

Finally, correlational studies have shown an association between the tendency for chronic suppression and the severity of PTSD symptoms (e.g., Vazquez et al., in press). Taken together, results to date suggest that the mental effort expended in the suppression of trauma-related thoughts serves only to exacerbate trauma-related intrusions and consequent distress.

Generalized Anxiety Disorder (GAD) is characterized by the persistence of uncontrollable worries. Worry is defined as thoughts that are motivated by the avoidance of emotionally negative imagery and of concomitant aversive somatic sensations (Borkovec & Inz, 1990). According to this conceptualization, although worry is initiated in order to avoid imagery of future catastrophe and of current anxiety sensations, it quickly becomes aversive and is experienced as increasingly uncontrollable (Borkovec & Roemer, 1995). An important difference between worries and the type of unwanted thoughts in OCD and PTSD discussed above is that they are ego-syntonic (consistent with the individual's self-image) and hence the motivation to suppress them is not obvious. It may be the case, however, that once the worries

themselves become aversive, they may motivate a cycle of counterproductive attempts to suppress them. Consistent with this, Wells' (1995) metacognitive theory suggests that individuals with GAD engage in unsuccessful suppression of intrusive thoughts that trigger worry, and that they tend to interpret suppression failures as evidence for loss of mental control.

Nevertheless, a study conducted by Behar, Vescio, and Borkovec (2005) to distinguish between the effects of thought- versus image-suppression about a worrisome target did not reveal a rebound effect for either group. Becker, Rinck, Roth, and Margraf (1998) tested the hypothesis that patients with GAD show a bias in ability to suppress their worries. Consistent with their hypothesis, they observed that GAD patients found it more difficult to suppress thoughts of their worries than thoughts of a neutral target. However, Mathews and Milroy (1994) did not observe a suppression-specific rebound effect for worries in a non-clinical sample of excessive worriers. They found that worriers had more frequent worry thoughts than non-worriers regardless of whether or not they were instructed to suppress. Finally, McLean and Broomfield's (2007) study revealed results that were in direct contradiction to Wells' (1995) metacognitive theory of GAD: Those instructed to suppress worries were successful in spending less time thinking about them, and found them more controllable and less distressing. Taken together, it appears that individuals with GAD may well be motivated to suppress aversive thoughts and/or images; however, the consequences of suppression for this group remain unclear.

In addition to GAD, clinical insomnia is also characterized by persistent worries (Borkovec, 1982). Harvey (2003) found that compared to control participants, people with insomnia reported a greater use of suppression to control their pre-sleep worries. Furthermore, those with insomnia instructed to suppress worries reported worse sleep quality and longer sleep-onset latency than did those with insomnia in the no-suppression condition. An interesting

aspect of these findings is that, although suppression exacerbated sleep disturbance, it did not lead to a rebound of worries. Thus, it may be the case that the effort expended to suppress pre-sleep worries is largely responsible for the worsening of the disorder.

Depression and Dysphoria

Research on the role of thought suppression in depression has yielded two main conclusions: One is the fairly robust finding that the suppression of depressive thoughts results in a rebound of these thoughts (Wenzlaff, Wegner, & Roper, 1988a); the other, more subtle, consequence of suppression of depressive thoughts is that it may mask a cognitive vulnerability to depression (Wenzlaff, 1998).

According to the cognitive theory of depression (Beck, 1967), a depressive schema underlying the disorder makes depressotypic information more accessible. It follows that when depressed individuals attempt to suppress, they do so by choosing distracters that are mood congruent, hence closely linked to their suppression target (Wenzlaff, Wegner, & Roper, 1988b), thereby resulting in a quick return of attention to the unwanted thought. This finding has been replicated reliably in studies of suppression with dysphoric individuals (Conway, Howell, & Giannopoulos, 1991; Howell & Conway, 1992; Renaud & McConnell, 2002; Wenzlaff, 2005; Wenzlaff, Wegner, & Klein, 1991). A recent study extended these findings to the domain of autobiographical memory (Dalgleish & Yiend, 2006). Results showed that in dysphoric individuals, the suppression of a negative memory resulted in increased activation of other negative information (presumably distracters used in order to achieve suppression), thereby rendering negative information more accessible on a subsequent autobiographical-memory retrieval task.

An important aspect of depression is that it is associated with impairment in cognitive resources. More specifically, depressed mood may deplete the cognitive resources needed for an effortful cognitive process such as suppression. Hartlage, Alloy, Vázquez, and Dykman (1993) have observed that depression interferes mostly with effortful processing and only minimally with automatic processing. Thus, ironic process theory (Wegner, 1994) predicts that suppression undertaken during a depressed mood would impair functioning of the effortful operating process (which diverts attention away from the target thought) and leave unhindered the functioning of the automatic monitoring process (which maintains vigilance for the target thought), thereby increasing accessibility of the target thought.

The hypothesis that suppression conceals a cognitive vulnerability to depression was proposed by Wenzlaff and Bates (1998) and tested in a series of studies with individuals at high risk for depression (e.g., individuals remitted from depression). Theories of cognitive vulnerability to depression assert that depressive schemata may be latent but can be activated by conditions similar to those experiences that were initially responsible for creation of the schemata (Beck, Rush, Shaw, & Emery, 1979). According to Wenzlaff and Bates (1998), individuals remitted from depression may in fact be suppressing the depressive cognitions associated with the underlying depressive schema. In this sense, the depressive cognitions of remitted-depressed individuals are latent not in that they are inactive but because their influence is masked by active suppression.

Research in this area supports the idea that thought suppression masks a cognitive vulnerability to depression and that this vulnerability becomes apparent when mental control is disabled by the imposition of an additional cognitive load (Wegner & Zanakos, 1994; Wenzlaff, 1998; Wenzlaff & Eisenberg, 2001; Wenzlaff, Meir, & Salas, 2002; Wenzlaff, Rude, Taylor,

Stultz, & Sweatt, 2001). One such study, for example, revealed that the imposition of a cognitive load caused remitted-depressed individuals to interpret recorded homophones in a more negative fashion (performing more similar to depressed than to control subjects), and that this was not the case without the cognitive load. Similar studies have been done using scrambled sentences which could be unscrambled to form depression-relevant themes. In all of these studies, the increase in negative thinking induced by the cognitive load was significantly correlated with Wegner and Zanakos's (1994) measure of propensity to suppress unwanted thoughts. Results of these studies are consistent with the hypothesis that the active suppression of depressive thoughts may serve to mask an underlying depressive schema in individuals at risk for depression.

Substance Abuse

Research on thought suppression in substance use supports the idea that suppression leads to an increase in substance-related information. Early research in this area revealed that individuals in the process of quitting smoking experienced an enhancement of smoking-related intrusions under suppression (Salkovskis & Reynolds, 1994). Palfai, Colby, Monti, and Rohsenow (1997) tested the hypothesis that in a sample of heavy social drinkers, suppression of urges to drink would lead to increased accessibility of alcohol-related information, particularly information regarding expectancies about the effects of alcohol. In their study, heavy social drinkers were exposed to their usual alcoholic drink during which one group was instructed to suppress the urge to drink alcohol and the other group received no instructions. Following this, both groups made timed judgments about the applicability of a number of alcohol outcome expectancies. As hypothesized, those in the suppression condition were faster to endorse alcohol outcome expectancies than those in the control condition. This heightened accessibility of

alcohol-related information under suppression in heavy social drinkers is consistent with results of a study conducted with a sample of alcohol abusers. In this study, Klein (2007) found that alcoholic subjects who had tried to suppress thoughts of alcohol prior to performing a modified Stroop task showed increased interference for the word "alcohol" as compared to those alcoholic subjects who had expressed thoughts about alcohol freely prior to the task. These results are consistent with the idea that suppression of substance-related thoughts leads to hyperaccessibility (Wegner & Erber, 1992) of substance-related information and that this may play a role in maintaining the disorder.

Some research suggests that, in addition to the observable increase in accessibility of substance-related material, suppression may affect health in more subtle ways. For instance, the effects of suppression in alcohol abuse have been assessed on biological indicators of psychological well-being, such as heart-rate variability (HRV). HRV has been shown to be positively correlated with measures of cognitive flexibility and with the ability to regulate emotion (Johnsen et al., 2003). Consistent with this idea, Ingjaldsson, Laberg, and Thayer (2003) found a negative association between HRV and the propensity to suppress unwanted thoughts in chronic alcohol abuse. These results support earlier findings that suggest that low HRV is associated with impaired cognitive control and rigid thinking (Thayer & Lane, 2002), and that thought suppression is particularly counterproductive for reducing alcohol-related urges and cravings (Palfai, Colby et al., 1997; Palfai, Monti, Colby, & Rohsenow, 1997).

Self-Injurious Thoughts and Behaviors

The role of suppression in maintaining self-injurious thoughts and behaviors has not been studied extensively. These thoughts and behaviors include suicidal ideation, suicide attempts, and non-suicidal self-injury, or direct, deliberate destruction of body tissue in which there is no

intent to die (e.g., cutting or burning one's skin). Recent conceptualizations of self-injurious behaviors suggest that they functions to avoid aversive cognitive and/or emotional experiences (Baumeister, 1990; Boergers, Spirito, & Donaldson, 1998; Chapman, Gratz, & Brown, 2005; Nock & Prinstein, 2004, 2005). It follows that individuals engaging in self-injurious thoughts and behaviors may be motivated to intentionally suppress aversive thoughts and experiences.

To date, no experimental studies of suppression in this group have been reported. A recent correlational study by Najmi, Wegner, and Nock (2007) tested a model suggesting that the propensity to suppress unwanted thoughts is a cognitive mediator of the relationship between emotional reactivity and self-injurious thoughts and behaviors. Results of this cross-sectional study revealed that the tendency to suppress unwanted thoughts partially mediates the relationship between emotional reactivity and the frequency of non-suicidal self-injury as well as suicidal ideation. Moreover, those with a higher tendency to suppress unwanted thoughts reported engaging in non-suicidal self-injury primarily in order to reduce aversive emotions. Thus, it is likely that a general tendency to suppress unwanted thoughts is manifested in the need to suppress the specific distressing thoughts and emotions that trigger non-suicidal self-injury.

Conclusion

The past two decades have yielded substantial evidence for the harmful role of thought suppression in psychopathology. During this time, theories of suppression in psychological disorder have become increasingly nuanced and complex. Table 1 presents a summary of the various antecedents, consequences, and targets of thought suppression that have been explored in

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Insert Table 1 about here

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this research. Much of the earlier research on thought suppression and mental disorder focused primarily on the ironic return of the unwanted thoughts. More recently, our understanding of the role of suppression in psychopathology has been broadened by investigations of the less obvious consequences of suppression as well as the cognitive precursors of suppression. Some evidence is consistent with the idea that the counterproductive effects of suppression may be causally implicated in psychological disorder, but in many cases a more parsimonious conclusion is that thought suppression acts as a complication of the disorder (Najmi & Wegner, in press). In certain disorders, suppression complicates the disorder by leading to an ironic rebound of the unwanted thoughts. Across many disorders, the hidden cost of undertaking suppression can be a persistent cognitive load, which in turn undermines the ability to suppress and hence sets off a cycle of failed expectations and distress. Apparently, it's not necessary to go to the restaurant at the end of the universe to find unwanted complications of thought suppression. They're on the menu at the diner right next door.

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Table 1.

Possible antecedents and consequences of thought suppression

Antecedents of Thought Suppression	**Consequences of Thought Suppression**	
	Suppression Target	Consequence
Faulty negative appraisals of UITs	Obsessional, trauma-related, or depressive, thoughts	Increases frequency of UITs
Faulty beliefs about the need to control UITs	Obsessional, trauma-related, depressive, or worry-related thoughts	Increases distress
Faulty beliefs about the controllability of UITs	Obsessional, trauma-related, depressive, or worry-related thoughts	Depletes cognitive resources / Interferes with other cognitively effortful tasks
Faulty negative beliefs about the failure of thought suppression	Obsessional or trauma-related, thoughts	Prevents habituation of UIT-related anxiety
	Obsessional, trauma-related, or depressive, thoughts	Increases salience of UIT
	Negative thoughts or memories	Mediates effect of emotional reactivity on self-injurious thoughts and behaviors
	Trauma-related thoughts	Enhances memory bias for unwanted material
	Worry-related thoughts	Reduces quality of sleep
	Worry-related thoughts	Increases sleep onset latency
	Obsessional, trauma-related, depressive, or worry-related thoughts	Increases effort to suppress
	Depressive memories	Increases accessibility of other depressive memories
	Substance-related thoughts	Increases accessibility of alcohol-related information
	Substance-related thoughts	Increases alcohol-related urges/cravings

UIT = Unwanted Intrusive Thought

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