

SUPPRESSION OF NEGATIVE SELF-REFERENT AND NEUTRAL THOUGHTS: A PRELIMINARY INVESTIGATION

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Abstract. Inconsistent results have emerged in thought suppression studies using thought frequency counts as the primary dependent measure. In the present study, we used cognitive and emotional measures to assess the effects of suppressing negative self-referent and neutral thoughts. Although no between-group differences in cognitive outcomes emerged, participants in the negative self-referent thought condition experienced more anxiety, frustration, and hostility than did participants in the neutral thought condition. Affective measures appear necessary to assess the effects of suppressing personally relevant thoughts.

Keywords: Thought suppression, self-esteem, coping, anxiety.

Introduction

People commonly experience negative thoughts about themselves (Borton, 2002). Often, they try to escape from the discomfort such thoughts cause by trying not to think about them. Thought suppression frequently results, however, in a subsequent paradoxical increase in thought intrusions (e.g., Clark, Ball, & Pape, 1991; Harvey & Bryant, 1999; Wegner, Schneider, Carter, & White, 1987; for reviews, see Purdon, 1999; Purdon & Clark, 2000; Wenzlaff & Wegner, 2000).

Inconsistent findings have emerged, however, in suppression studies using personally relevant thoughts. Most studies have not found paradoxical effects (e.g., Borton, 2002; Janeck & Calamari, 1999; Kelly & Kahn, 1994, Exp. 1; Muris, Merckelbach, Horselenberg, Sijsehaar, & Leeuw, 1997; Purdon, 2001; Purdon & Clark, 2001; Roemer & Borkovec, 1994; Rutledge, 1998), although a few have (Harvey & Bryant, 1998; Salkovskis & Campbell, 1994; Shiphard & Beck, 1999). Elsewhere, we have argued that directly measuring rebound of personally relevant thoughts via thought frequency counts may be problematic, because such thoughts may have overlapping content with other closely related thoughts

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(Borton, Markowitz, & Dieterich, 2001). If a participant is trying to suppress the thought, ‘‘I hate the way I look’’, for example, and the thought, ‘‘I feel lonely because I do not have a romantic partner’’ comes to mind, the latter thought may partially activate the former insofar as the participant believes his or her appearance has contributed to not having a partner. This partial activation of the suppression target thought caused by activation of related thoughts may complicate the decision of whether or not to record an intrusion of the suppression target thought. Further, frequency counts ignore factors such as the duration and intensity of thought intrusions. One long, intense thought intrusion, for example, may have more harmful emotional effects than two brief, mild intrusions.

One goal of our previous research (Borton et al., 2001) was to assess whether cognitive and emotional measures would detect the counterproductive effects of suppressing personally relevant thoughts, given that direct measures typically fail to do so. A second goal was to examine the effects of suppressing negative self-referent thoughts, a type of personally relevant thought previously unexplored within the suppression literature. Although researchers have begun to study the suppression of *personally relevant* thoughts in general (defined as individuals’ most common intrusive thoughts; e.g., Kelly & Kahn, 1994), they have not specifically studied negative *self-referent* thoughts, which we define as individuals’ negative thoughts about their own personal qualities or characteristics.¹ Although suppressing (non-self-referent) personally relevant thoughts might impair mood (Roemer & Borkovec, 1994), suppressing negative self-referent thoughts might also lead to decreased self-esteem because such thoughts are closely related to individuals’ self-concepts.

In past research, we assigned participants either to suppress or not to suppress their most negative self-referent thought (Borton et al., 2001). Relative to control participants, suppression participants subsequently performed more poorly on a reading comprehension task and experienced more anxiety, more depression, and lower state self-esteem. We interpreted this cognitive and emotional impairment among suppression participants as evidence for the paradoxical or counterproductive effects of suppressing personally relevant thoughts.

Overview of the current study

The purpose of the present study was to assess whether the post-suppression impairment of mood, cognitive performance, and state self-esteem reported in Borton et al. (2001) would extend to suppressing *any* thought or was a unique consequence of suppressing negative self-referent thoughts. To address this issue, we conducted a preliminary study comparing the effects of suppressing negative self-referent thoughts with those of suppressing the neutral thought of a white bear. We expected cognitive performance, mood, and state self-esteem to be more impaired following suppression of a negative thought than following suppression of a neutral one.

¹ Howell and Conway (1992) used the term *self-referent* to refer to thoughts about life events taken from a list provided by the experimenter; however, we use the term to refer only to individuals’ thoughts about their personal characteristics, and consider the thoughts in Howell and Conway to be *self-relevant*, but not *self-referent*. Although we distinguish negative self-referent thoughts from *non-self-referent* personally relevant thoughts, the former are still one type of personally relevant thoughts.

Method

Participants and design

Forty-three Hamilton College undergraduates (22 women, 21 men) on campus during the summer participated for \$10. Participants ranged in age from 18 to 22 ($M = 20.08$, $SD = 0.97$) and were requested to participate via an e-mail announcement (approximately 25% of the sample) or were approached in their dormitories (approximately 75%). The participants represented approximately half of all students on campus over the summer.

Materials and procedure

Practice stream-of-consciousness task. Participants recorded their stream-of-consciousness for three minutes. They were instructed not to worry about spelling or grammar, but simply to write whatever came to mind.

Experimental manipulation. Participants were randomly assigned to either a negative self-referent or neutral thought condition. Participants in the negative thought condition received verbal and written instructions to record their most negative, upsetting thought about themselves. The thought had to be (a) about their own personal qualities or characteristics, (b) experienced fairly regularly, and (c) negative and upsetting. To further activate the negative thought, the experimenter instructed participants to write about the thought for two minutes. They were told that it might help to write about “past instances when the thought has come to mind and how it feels when the thought comes to mind.” To activate the thought of a white bear for control participants, the experimenter asked them to write for two minutes about whatever came to mind when they thought about white bears. After this phase and all remaining phases of the experiment, the participant was left alone to complete the task.

Suppression instruction. Participants were instructed to try *not* to think of the thought they had just written about. If the thought popped into their minds, however, they were to mark an “X” in the right margin of the page. The number of Xs served as the measure of thought intrusions during suppression.

Cognitive measures. Participants completed reading comprehension and word recall tasks on a Power Macintosh 7300 running the PsyScope computer program (Cohen, MacWhinney, Flatt, & Provost, 1993). First, participants read a passage taken from the verbal section of a practice Graduate Record Examination. They pushed buttons labeled “a”, “b”, or “c” on a button-box to indicate their answers to six multiple-choice questions. Next, a list of 40 common 4-, 5-, and 6-letter words appeared on the screen. After participants studied the list for two minutes, the words disappeared and participants wrote down as many words as they could recall. Participants also completed the *Cognitive Interference Questionnaire (CIQ)*; Sarason, Sarason, Keefe, Hayes, & Shearin, 1986), a measure of how frequently distracting thoughts come to mind during a task (in this case, the reading comprehension and word recall tasks). The questionnaire consists of 10 task-related thoughts (e.g., “I thought about how poorly I was doing”) and 11 non-task-related thoughts (e.g., “I thought about personal worries”), each rated on a 5-point scale ranging from 1 = “never” to 5 = “very often”).

Affective measures. Participants next completed the 58 items from the anxiety, depression, hostility, and positive affect subscales of the state version of the *Multiple Affect Adjective Checklist-Revised (MAACL-R)*; Lubin & Zuckerman, 1999). Participants rated each adjective on a 7-point scale, from 0 = “not at all” to 6 = “a great deal”. Next, they completed the *State Self-Esteem Scale* (Heatherton & Polivy, 1991), a widely used and well-validated measure consisting of 20 statements (e.g., “I feel inferior to others at this moment”), each rated on a 5-point scale, ranging from 1 = “not at all” to 5 = “extremely”. Participants next completed a 6-item frustration measure that we constructed for the present study; each item was rated on a 5-point Likert-type scale. Some items assessed frustration directly (e.g., “I felt frustrated during portions of this study”), whereas others assessed it indirectly (e.g., “Keeping the thought out of my mind was harder than I expected it to be”). Finally, participants provided demographic information and were carefully and thoughtfully debriefed.

Results

Data from nine participants were discarded, six for being outliers (2 or more standard deviations above or below the mean for their experimental condition on at least one dependent measure), two due to computer malfunctioning, and one for prior participation in a thought suppression study. Data from five negative and four neutral thought participants were omitted from analyses. Note that the same patterns of results emerged when we included these participants in all analyses.

Two independent raters classified participants’ negative thoughts. Inter-rater agreement was 95.5%; the one disagreement was resolved through discussion. The most frequent type of thought identified was about interpersonal concerns (40.9%), followed by physical appearance and personality characteristics (18.2% each), global feelings about self as a person and intellectual abilities (9.1% each), and self-uncertainty (defined as worries about who one is and what one’s future holds; 4.5%).

Table 1. Mean cognitive and affective outcomes by experimental condition

Dependent measure	Negative thought ($n = 20$)	Neutral thought ($n = 14$)
Thought intrusions ⁺	10.10 (7.07)	5.93 (4.32)
<i>Cognitive measures</i>	5.62 (1.71)	5.64 (1.22)
Reading Comprehension		
Recall (# of words)	6.25 (3.34)	7.07 (4.18)
Cog. Interference Q-aire	1.99 (0.44)	1.89 (0.48)
<i>MAACL-R</i>	1.34 (1.11)	0.62 (0.48)
Anxiety*		
Depression	1.05 (1.04)	0.70 (0.74)
Hostility*	0.90 (0.90)	0.37 (0.41)
Positive Affect	2.73 (1.36)	2.86 (1.44)
Frustration*	2.93 (0.81)	2.26 (0.68)
State Self-Esteem	3.63 (0.62)	3.78 (0.60)

Note. Standard deviations are in parentheses. *MAACL-R* = *Multiple Affect Adjective Checklist, Revised*.

* $p < .05$, + $p < .06$

Independent samples *t* tests were used to compare outcomes for participants in the negative and neutral thought conditions. Negative thought participants experienced marginally more thought intrusions during suppression than did neutral thought participants $t(32) = 1.96, p < .06$. As predicted, participants in the negative thought condition experienced significantly more post-suppression anxiety, hostility, and frustration than did participants in the neutral thought condition (all t s $> 2.06, p$ s $< .05$). There were no significant differences, however, in depression, positive affect, state self-esteem, or cognitive outcomes, all t s $< |1.25|, p$ s $> .20$. (See Table 1 for all means and standard deviations.)

Discussion

In the experiment reported above, we compared the effects of suppressing negative self-referent thoughts with the effects of suppressing the neutral thought of a white bear. As predicted, compared to neutral thought participants, negative thought participants experienced significantly more anxiety, hostility, and frustration. Contrary to expectation, the two groups did not differ in depression, state self-esteem, or cognitive outcomes. (Note that one reason for the lack of differences in reading comprehension scores may be an unanticipated ceiling effect on this measure.)

One potential shortcoming of the present study is the lack of control conditions against which to compare the negative and neutral thought suppression conditions. One might argue that the same effects would have emerged if participants had simply *thought about*, rather than *suppressed*, the target thoughts. In previous research (Borton et al., 2001), however, we found that suppressing negative self-referent thoughts led to worse mood and lower state self-esteem than did merely identifying such thoughts. Thus, it seems that suppression – and not mere identification – of negative self-referent thoughts produced the negative outcomes in the present study. Other researchers have also eliminated nonsuppression control groups when interested in the relative magnitude of rebound for two or more groups (e.g., Becker, Rinck, Roth, & Margraf, 1998; Howell & Conway, 1992; Letarte, Ladouceur, Freeston, & Rheume, 1997).

Although our previous findings (Borton et al., 2001) suggest that the suppression, not mere identification, of negative self-referent thoughts led to impaired affect, we note that the results of the current study should be interpreted with caution. We recommend that future researchers use this preliminary report as a foundation on which to build by including nonsuppression groups. Such studies will provide stronger tests of whether the cognitive and emotional impairment among individuals suppressing negative self-referent thoughts in the present study and our past work (Borton et al., 2001) is unique to suppressing these thoughts or is a result of suppressing *any* thought.

Recall that because of the potentially problematic mental connections between the target thought and closely related thoughts, we chose to measure the effects of suppression via cognitive and emotional outcomes rather than directly via frequency counts, as past researchers have done. An alternative strategy would be to ask participants to record intrusions of both the target thought and any closely related thoughts. This approach, however, has several problems. First, how closely related to the target thought do other thoughts need to be to count as intrusions of “closely” related thoughts? This threshold may vary considerably among participants. Second, this approach assumes that participants are fully aware of the partial activation of the target thought caused by intrusions of related thoughts. Third, this

approach ignores factors such as the duration and intensity of each target or closely related thought intrusion. For these reasons, we find our indirect approach of assessing the effects of suppression preferable to the direct approach of frequency counts.

In summary, the effects of suppressing negative self-referent thoughts can be distinguished from the effects of suppressing a neutral thought, particularly with respect to affective outcomes. This finding supports the notion that indirect measures are necessary to assess the effects of suppressing personally relevant thoughts. In future studies, researchers should compare the effects of suppressing negative self-referent thoughts with the effects of suppressing other personally relevant thoughts (not just neutral thoughts), should include non-suppression control groups, and should investigate the utility of strategies other than suppression to cope with negative self-referent thoughts.

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