Cognitive Effects of Self–Awareness on Thought Suppression of a Past Romantic Relationship

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Disclaimer

This article describes a study conducted for an undergraduate social psychology course. This experiment was a class exercise under the time constraints of a course term and with a limited number of subjects. As a class assignment, the normative standards for statistical significance (p < .05) were not strictly adhered to. It should be emphasized that this is preliminary research that offers only suggestive ideas on the study of thought suppression.

Abstract

Suppressing thoughts of a “cold flame” (a no-longer-desired relationship) leads to cognitive rebounding (or having more recurring thoughts after suppression) and suppressing thoughts of a “hot flame” (a still-desired relationship) leads to emotional rebounding (or more psychological arousal after suppression), but it has not been shown that thought suppression of a still-desired relationship leads to cognitive rebounding (Wegner & Gold, 1995). This article examines the absence of cognitive rebounding for individuals who suppress thoughts of their hot flames. Stemming from Wegner’s defensive suppression hypothesis that people confronted with a psychologically charged topic will naturally act defensively and avoid talking about the topic to protect themselves from displaying an unwanted emotional reaction, we propose that triggering self-awareness will overpower people’s defensive suppression and produce cognitive rebounding through greater introspection about themselves and their past relationship. Indeed, our findings do provide some support that hot flame suppressors do seem to show traces of cognitive rebounding when induced with heightened levels of self-awareness. Our results are suggestive that self-awareness may potentially be a means to overcome defensive suppression and produce cognitive rebound effects. The results are not statistically significant under normative standards, but the incorporation of self-awareness adds another perspective to the phenomenon of cognitive rebounding and will hopefully stimulate discourse for definitive research in the future.

INTRODUCTION

In everyday life, people often have a tendency to try to subdue their unwanted thoughts in hopes that mental control of their thoughts will enable them to keep upsetting emotions at bay. The break-up of a romantic relationship is a common situation many people deal with at some point in life, and blocking out emotional thoughts of the old relationship can be difficult. Thought suppression has been cited as a response to psychological discomfort. More specifically, deliberate suppression of conscious thoughts about an ended relationship is often an effort to escape the negative emotions surrounding those thoughts (Wegner & Gold, 1995). Despite attempts to suppress thoughts, complete avoidance of unpleasant thoughts is virtually hopeless because the very act of suppressing a thought subsequently produces a preoccupation with the unwanted thought (i.e., rebound; Wegner et al., 1987).

Cognitive rebounding is a phenomenon that occurs when people suppress an unwanted thought yet think more about that unwanted topic afterwards. Emotional rebounding occurs when people who had thought-suppressed experience higher skin conductance levels (indicating physiological arousal) than people who had not suppressed their thoughts. In Wegner and Gold’s (1985) Fanning Old Flames experiment, participants’ past relationships were divided into still-desired relationships (hot flames) and no-longer-desired relationships (cold flames). Wegner and Gold then looked at how the suppression of these two types of old flames compared to the amount of cognitive and emotional rebounding that subsequently occurred. It was found that cold flame subjects who suppressed thoughts of the flame
experienced cognitive rebounding indicated by the fact that cold flames were more inclined to talk about the past relationship when they were later given an opportunity to express. Hot flame subjects who suppressed thoughts of the flame experienced emotional rebounding (measured by elevated skin conductance levels), when they were later instructed to express. Cognitive rebounding was not observed after hot flames had suppressed thoughts of still-desired relationships.

Why was there no cognitive rebounding for hot flames? Wegner and Gold (1985) proposed a hypothesis of defensive suppression but were not able to examine it in their study. Wegner and Gold wrote that “the absence of cognitive rebound among participants experiencing the emotional rebound is the result of a choice to suppress thoughts of the old flame in subtle defiance of the experimenter’s instructions” (Wegner & Gold, 1995). Proceeding from Wegner and Gold’s study, our experiment on thought suppression examines the effects of increasing self-awareness in an attempt to overcome the defensive mechanisms which inhibit hot flames from experiencing cognitive rebounding. Previous research illustrates that the presence of a mirror heightens levels of self-awareness in subjects (Batson et al., 1999; Macrae et al., 1998; Wicklund & Duval, 1971). Heightened levels of private self-awareness have been shown to promote effects such as intensification of emotional affect, clarification of knowledge, and greater adherence to personal standards of behavior (Franzoi, 1996). Conversely, public self-awareness induces evaluation apprehension, temporary loss of self-esteem, and greater adherence to social standards of behavior.

This study hypothesizes that increasing self-awareness will cause hot flame thought suppressors to decrease their defensive suppression and become more introspective about themselves and their old flames. If the mirror induces more emotional affect and greater clarity of self-knowledge, then hot flame subjects will be more inclined to express their thoughts about a past relationship and experience cognitive rebounding. It is hypothesized that cold flame subjects will still experience cognitive rebounding with the added self-awareness manipulation.

However, there is a caveat: if the mirror makes personal standards salient and subjects have a personal standard against the expression of emotions, then it may produce the exact opposite result. Instead, subjects will not engage in emotional expression and may show less cognitive rebound. Therefore, we gave a cognitive prime to subjects in an attempt to set a behavioral standard that expression of emotions is healthy and to encourage subjects to talk at length about their emotions.

Suppression of unwanted thoughts is a common practice to avoid dealing with difficult personal issues. Wegner & et al. (1987) demonstrated that suppression of thoughts is an ineffective coping strategy because it produces rebound effects which create a preoccupation with the suppressed thoughts and may prolong the pain involved in broken relationships. Understanding how self-awareness may affect thought suppression could shed light on how to deal with unwanted thoughts a person is trying hard to forget.

METHODS

Subjects and Design. Sixty-four Dartmouth undergraduates (23 men and 41 women) who participated in exchange for an opportunity to win a $50 raffle. All participants were given a cognitive prime of healthy expression that was intended to encourage their disclosure of feelings during the talk periods. The experiment was a 2 x 3 factorial design in which participants were assigned the cells of 2 (hot flame vs. cold flame) based on pretest questionnaires about feelings about the past relationship and randomly assigned to cells of 3 (mirror-suppression vs. mirror-expression vs. no mirror-expression).

Pretest questionnaire items were targeted to account for individual differences that may exist between participants as well as to determine whether participants still desired their old flames (used to split participants into hot and cold flame conditions as indicated above). Examples of the pretest statements include: “Breaking up with him/her was the worst thing that ever happened to me,” “Sometimes I get an aching feeling in my heart when I think about him/her,” and “I try to avoid thinking about him/her.” For the purposes of this experiment, an “old flame” was defined to participants as “a person you had a romantic relationship with in the past but has since ended.”

Apparatus. Following the completion of
the pretest questionnaire, participants were moved into the experimental room, where they sat at a table with a mirror leaning up against the wall, a compact disc player and speakers, and a tape recorder. Participants in the no mirror condition sat facing a white, blank poster that covered the mirror placed behind it. Participants in the mirror conditions (some suppress and some express) sat in the experimental room facing the uncovered mirror. A compact disc player played recorded instructions and a tape recorder recorded the verbal expressions during the talk periods. Stopwatches were used to measure the number of seconds each participant talked about his or her old flame or relationship during each of the initial expression, manipulation, and final expression periods.

PROCEDURE

Talk periods. Participants were asked to talk freely about anything they wished for a 2-minute period to help them become comfortable talking into a tape-recorder. Following this free-talk period were a series of three, 4-minute talk periods that consisted of: 1) initial expression period, 2) manipulation period, and 3) final expression period. Participants in the expression (no suppression) conditions were instructed to express their feelings for their old flame throughout all three periods. Participants in the suppression condition were instructed to suppress thoughts of the old flame during the manipulation period.

After the completion of the talk periods, participants completed a posttest questionnaire that contained measurements of feelings for flame, disclosure, perceived benefit of expression, positive and negative affect, and self-consciousness. Examples of the questionnaire statements that participants rated include: “I am still in love with him/her,” “I completely disclosed my true feelings during the experiment,” and “Talking about my relationship during the experiment helped me resolve issues.” The posttest questionnaire also included the Positive and Negative Affect Schedule (PANAS) which was used to measure of the positive and the negative emotions of participants (Watson, Clark & Tellegen, 1988). Additionally, the Personal Reaction Survey was included to measure self-consciousness with private, public, and social anxiety subscales. Specifically, the private self-consciousness scale was used as a measure of self-awareness in terms of subjects’ reflectivity and internal state awareness (Fenigstein, Scheier; & Buss, 1975).

RESULTS

Summary of Results. It must be emphasized again that liberal p–levels of statistical significance were utilized. The findings are not in any way conclusive, and this study of the effects of self-awareness on thought suppression is merely suggestive. The preliminary results are as follows: 1) hot flame participants were less likely to remember the cognitive prime of healthy emotional expression, 2) participants in mirror conditions produced more personal pronouns and perhaps more self-aware, 3) hot flames talked less about their old flames overall than cold flames, 4) hot flames seemed to experience a cognitive rebound in terms of talk time and flame mentions, 5) participants who suppressed had higher levels of private self-consciousness in the Personal Reaction Survey and this was significantly driven by internal state awareness, 6) hot flames in the mirror conditions seemed to be both more positively and negatively emotional, 7) hot flame participants disclosed significantly less about themselves and their old relationships than cold flame participants and tended to have been in longer lasting relationships than cold flame participants.

2 x 3 Design: Conditions and distribution of 64 participants

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Manipulation Check on Prime of Healthy Expression. A 2 (hot-cold flame) x 3 (condition) analysis of variance was conducted on participants’ recollection of the prime. There was a significant main effect of flame such that hot flame subjects remembered the cognitive prime less, $F(1, 58) = 4.980$, $p = 0.030$. Despite being told before the pretest questionnaire and before the free-talk period, hot flame participants were less likely than cold flames to remember that the experimenter stated that the expression of emotions is healthier.

Reliability Check on Self-report Measures. An analysis was carried out to check the reliability of the questionnaire measures. Scale responses on participants’ feelings about flame (0.891), level of disclosure (0.809), private self-consciousness (0.759), positive affectivity (0.860) and negative affectivity (0.835) yielded high reliability coefficients (alpha).

Manipulation Check of Mirror on Self-Awareness. A pronoun scale was produced to assess the degree to which self-awareness had been effectively manipulated. The number of first-person pronouns (i.e. I, me, my) and the number of first-person plural pronouns (i.e. we, us, our) combined to form the pronoun scale. A post-hoc analysis indicates that the mirror seems to induce greater self-awareness with a trend towards a significant main effect of mirror, $T(1, 51) = -1.350$, $p = 0.183$. Participants in the mirror conditions used more personal pronouns, suggesting that they were more self-aware than participants not exposed to a mirror.

Measurement of Talk Time. The amount of time participants spent talking about their old flame was measured in initial expression, manipulation, and final expression periods. There was a trend towards a main effect of flame, $F(1, 51) = 1.896$, $p = 0.175$ such that hot flames talked less about their old flames overall than cold flames.

Measurement of Cognitive Rebounding. Wegner and Gold defined cognitive rebounding as when suppression of thoughts yields a greater amount of time spent talking of those thoughts when participants are subsequently invited to express them (as compared to participants who did not suppress thoughts). The time that participants spent talking about the old flame and the frequency of flame mentions were the two dependent measures used to establish the presence of a cognitive rebound.

It was not possible to make a full comparison between mirror and no mirror conditions given the 6-cell design. However, with a highly significant interaction of the suppression vs. expression conditions and the different talk periods on amount of talk time, $F(2, 51) = 30.126$, $p <
0.01, post-hoc tests were performed comparing the means of mirror participants in the suppression condition versus the expression condition to determine cognitive rebounding. A post-hoc analysis on the amount of time participants spent talking about their old flames in the final expression period illustrated a trend towards a significant difference between hot flame suppressors and hot flame expressers, $T(1,57) = -1.346$, $p = 0.184$ such that hot flames seemed to experience a cognitive rebound in terms of talk time. Another post-hoc analysis was similarly conducted for the number of old flame mentions in the final period, which illustrated an analogous trend towards a difference between hot flame suppressors and hot flame expressers, $T(1,57) = -1.557$, $p = 0.125$ such that hot flames likely experienced a cognitive rebound in terms of flame mentions. Based on these two post-hoc tests on talk time and on flame mentions of participants in the two mirror conditions (using our liberal levels of statistical significance), hot flame participants in the mirror-suppression condition were the only participants who seemed to experience cognitive rebounds.

Interestingly, although hot flames talk less overall about their old flame (as shown in talk time measurements above) in the mirror-suppression condition, hot flames talk more about their past relationship than cold flames in the final expression period.

Measurement of Self-Awareness. In addition to the mirror inducing self-awareness (as discussed in the manipulation check above), other variables also were shown to affect the self-awareness of subjects. An analysis of variance showed a significant main effect of flame, $F(1,51) = 1.98$, $p = 0.165$ such that hot flames use more first person plurals in all talk periods combined. Another analysis of variance demonstrates a trend towards a main effect of flame on use of first-person pronouns, $F(1,57) = 1.971$, $p = 0.164$ such that hot flames use more first-person pronouns during the manipulation period. The measure on levels of private self-consciousness in the Personal Reaction Survey, $F(1,58) = 1.73$, $p = 0.194$, is suggestive that hot flame subjects have greater levels of self-awareness.

There is also a main effect of condition in terms of suppression or no suppression as demonstrated by scores on the self-consciousness scale, $T(2, 58) = 1.921$, $p = 0.060$ such that participants in the suppression conditions had higher levels of private self-consciousness than participants in the no suppression conditions. A multiple analysis of variance (MANOVA) was subsequently run on the reflectivity and the internal state awareness subscales of private self-consciousness. The MANOVA results demonstrated that the higher level of private self-consciousness of suppressors is significantly driven by internal state awareness, $F(4,58) = 3.426$, $p = 0.039$. Internal state awareness essentially implicates a greater cognizance of emotional feelings. Thus, participants in the suppression condition were more self-aware (specifically in terms of internal state awareness) than participants in the expression condition.

Emotional Affect. The PANAS (positive and negative affective scales) was the dependent measure utilized to gauge positive and negative emotions of participants. There was a trend towards a main effect of flame for both positive affectivity, $F(2,58) = 2.233$, $p = 0.116$, and negative affectivity, $F(2,58) = 2.358$, $p = 0.104$ such that participants in the mirror conditions were both more positively and negatively affective than participants in the no mirror condition. Additionally, there was a trend towards a significant interaction of condition by flame for both positive affectivity, $F(2,58) = 2.799$, $p = 0.069$, and negative affectivity, $F(2,58) = 1.939$, $p = 0.153$ such that hot flames in the mirror conditions seemed to be both more positively and negatively emotional.

Disclosure Level. Self-report measures were used to assess subjects' level of disclosure during the talk periods. There was a main effect of flame on disclosure, $F(1,58) = 9.45$, $p = 0.003$ such that hot flame participants disclosed significantly less about themselves and their old relationships than did cold flame participants.

Differences Between Flames. There seemed to be a difference in the length of time the relationship lasted for hot flame participants and cold flame participants. There was a trend towards a main effect of flame $F(1,58) = 2.35$, $p = 0.130$ such that hot flame participants tended to have been in longer lasting relationships than cold flame participants.
DISCUSSION

These findings suggest some possibilities on thought suppression and the conditions that might produce cognitive rebounds of an emotionally sensitive subject such as a still-desired relationship. A heightened level of self-awareness appears to be one element that seems to prompt hot flame participants who still desire their old flames to think more about their old relationships after having engaged in thought suppression. Conversely, the self-awareness condition did not seem to prompt cold flame subjects to cognitively rebound. A number of questions involving self-awareness and cognitive rebounds are discussed to address the potential implications of this preliminary study.

Why do Hot Flames have greater Self-Awareness? The higher level of private self-consciousness as well as the greater emotional affectivity of hot flame subjects (in the mirror condition) indicates that hot flame participants are more generally aware of their internal state and have intensified emotional affectivity when in the mirror condition. Individual differences between hot and cold flame participants may account for part of the greater level of self-awareness of hot flame participants over cold flame participants. Perhaps simply having a hot flame and being in a heart-breaking situation in which one is still pining for a past relationship makes a person naturally more sensitive and self-conscious than a person who has only a cold flame and is not in an emotionally vulnerable position after a relationship.

The length of time the old relationship lasted may also play a role in the how much self-awareness was stimulated from thinking about the old flame. Hot flame participants were involved in relationships that endured significantly longer than cold flames. Having longer-term relationships of hot flames implies that the old flames may be more etched into their self-concept. Self-concept is a psychological term for the sum of thoughts and feelings a person incorporates to define one’s self (Franzoi, 1996). If the past relationship lasted longer for hot flame participants, then it is likely that the hot flame relationship impacted the person’s perception of self much more than a short and less meaningful past relationship. The use of more personal pronouns overall further insinuates that the old relationship tended to be a greater part of the hot flame participants’ self-concept since they refer to their old flame and themselves as one entity (i.e. “we” or “us”) more often than do cold flame participants. This study is proposing that individual differences of having a hot flame (being longer-term relationships combined with the relationship being a more influential part of self-concept) activated and intensified the self-awareness of hot flame participants when they were placed in front of a mirror.

Why do Suppressors have more Self-Awareness? The higher level of private self-consciousness of suppressors is driven by more internal state awareness than expressers. According to the emotion accessibility hypothesis, “emotional reactivity may be produced following suppression of an emotional thought because that thought is made more accessible” (Wegner & Gold, 1995). Incorporating this hypothesis with the results of private self-consciousness seems to indicate that the act of suppression may cause emotional arousal that subsequently makes suppressors more internally aware of the changes in their mood or emotions and therefore more self-aware. Essentially the idea of emotion accessibility is that the very act of suppression causes people to be aroused, and the nature of their emotional reaction makes people more cognizant of how they are feeling inside and more self-aware after the suppression of thoughts.

Why No Cognitive Rebound for Cold Flames? It was hypothesized that cold flames would cognitively rebound in the mirror condition of this experiment just as they had rebounded in Wegner and Gold’s no mirror conditions. However, this hypothesis did not prove true in our experiment. It is quite possible that the original hypothesis may still be correct, since we were not able to systematically replicate Wegner and Gold’s conditions. The primed behavioral standard of the benefit of healthy expression may have also been a variable that confounded the results. The prime encouraged participants to follow the behavioral standard of expressing emotions and talking continuously about the old flame. Cold flame participants had a tendency to remember the prime significantly more than hot flame participants, implying...
that cold flames were more likely to follow the prime than did hot flames. Indeed, cold flame participants did talk significantly more over all talk periods combined than hot flame subjects. Moreover, cold flame participants expressed so much that it might have created a ceiling effect. A ceiling effect is described as when levels of talk are so high that no cognitive rebound can be gauged (Wegner & Gold, 1995). Since cold flame participants followed the prime to express their emotions more than hot flame participants, perhaps cold flames talked about their past relationship so much in the initial expression period (as if they reached a ceiling or a maximum level of expression) that they did not have much more to left to say in the final expression period. If the prime induced a ceiling effect for cold flames, then this would explain why cold flames did not cognitively rebound.

Why the Cognitive Rebound for Hot Flames? If the prime was a confounding variable that prevented cognitive rebounding of cold flames to be detected, why did hot flames have a trend towards cognitively rebounding? According to the self-report measures, hot flames disclosed less of their thoughts and emotions than cold flames. It can be inferred that this personal standard of low disclosure among hot flames was also present when the prime was given. Having a personal standard of low disclosure about the hot flame conflicted with the prime that encouraged expression of emotions. The conflicting standards may have led hot flame participants to be more likely to forget the prime because their personal standards were more salient, and they were more self-aware than were cold flame participants. By not following the standard set by the prime, hot flame participants did not undergo the ceiling effect the cold flame participants seemingly experienced that prevented the cognitive rebounds.

Why is it suggested that hot flame participants seem to cognitively rebound under conditions of heightened self-awareness? Although there are individual differences of having a hot flame that seem to lead hot flame participants to have a greater inclination to be self-aware, it is only under mirror conditions that hot flame participants experienced a trend towards cognitive rebound effects. In Wegner's study, it is possible that his hot flame participants were also more self-aware than his hot flame participants in terms of individual differences, but his hot flame participants did not cognitively rebound without a mirror. This comparison indicates that the mirror may activate and make self-awareness salient for hot flames. Further support for the mirror making self-awareness salient is that it was only under mirror conditions that hot flame subjects had greater positive and negative emotional affect. Put another way, the mirror may make hot flames experience greater private self-awareness as implicated by more intensified emotional affectivity. Along with greater private self-awareness, it can be assumed that the mirror helped hot flame subjects achieve greater clarity of knowledge.

Greater clarity of knowledge from the mirror may help the hot flame subjects overcome the defensive suppression hypothesis and deal with the emotional reaction instead of attempting to avoid it. The mirror seems to make the subjects look more introspectively at why they are feeling the emotions they do and may potentially help them resolve issues they had previously been unable to confront. Self-awareness has been shown to render self-deception strategies ineffective (Batson et al., 1999). The suppression of an emotional thought to avoid the emotional discomfort induced by thinking of the past relationship is a form of self-deception. Hot flame subjects that do not cognitively rebound are practicing self-deception and are essentially denying the emotional hold that the past relationship has on them by continual repression. The preliminary study suggests that self-awareness makes the attempt at denial or deception ineffective as the mirror may force hot flame participants to face their emotional issues and may help them reach greater understanding. Thus, there is possible trend indicating that the effects of the mirror could abate the defensive suppression of hot flames and produce cognitive rebounding.

In Wegner et al.'s thought suppression study, he cited a number of psychological studies that showed that suppression may inhibit the natural tendency to find meaning in traumatic events and can encumber the process by which individuals effectively cope with the emotional trauma (1985). With the general idea that suppression of cognition impedes effective coping processes and can lead to cycles of suppression and preoccupation with the distressing topic, self-awareness as a
means to counter the negative effects of thought suppression may prove to be ultimately helpful to individuals struggling with a difficult emotional issue. Hot flame participants in Wegner and Gold’s study who suppressed but did not cognitively rebound are susceptible to a more potent rebound effect in the future (1985). In contrast, participants in this study that were prompted to have greater self-awareness may possibly have experienced greater clarity of knowledge by dealing with the emotionally charged topic in an expressively open manner.

Future Research. This study failed to find many statistically significant results and only suggests an effect of self-awareness on thought suppression. This research was published in hopes that this line of psychological inquiry will be taken up and carried out more effectively in the future by those interested in the impact of self-awareness on thought suppression. In pursuing this line of inquiry, Wegner and Gold’s experiment should be systematically replicated to produce cognitive rebounding for cold flames and emotional rebounding for hot flames. Furthermore, future researchers when incorporating a mirror manipulation should be wary of potential confounding variables such as a cognitive prime to set behavioral standards of expression. Perhaps future researchers will be able to attain statistically significant results to prove that heightened self-awareness is a preferable strategy over suppression when coping with traumatic events and that increasing self-awareness is an effective counteractive measure against the adverse effects of cognitive rebounding produced by thought suppression.

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REFERENCES


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