



## Emotion regulation in unipolar depression: The effects of acceptance and suppression of subjective emotional experience on the intensity and duration of sadness and negative affect

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### ABSTRACT

This study examined the effects of emotional suppression and acceptance in a depressed sample. Sixty participants with diagnoses of unipolar depression completed a questionnaire packet and participated in an experiment. The experiment utilized two conditions to explore correlates of the spontaneous use of emotion regulation strategies and the effects of an experimental manipulation of acceptance and suppression. Results demonstrated that suppression produced short-term reductions in sadness. Notably, anxiety about the experience of depressed mood influenced the efficacy of emotional suppression with findings showing that suppression was no longer effective at moderate and higher levels of anxiety about the experience of depressed mood. Implications of study findings for understanding emotion dysregulation in depressive disorders and the treatment of depression are discussed.

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### Introduction

Unipolar depressive disorders are among the most common psychological disorders with lifetime prevalence rates estimated at 16.6% for major depressive disorder (MDD) and 2.5% for dysthymia (Kessler, Berglund, Demler, Jin, & Walters, 2005). Given the widespread occurrence of unipolar depression, it is important to investigate factors that may influence the development and maintenance of these disorders as well as facilitate recovery from depressive episodes. Notably, recent theory and research have highlighted the role of altered emotional reactivity and associated emotion regulation dysfunction in depressive and related psychological disorders (e.g., Barlow, Allen, & Choate, 2004; Gross & Munoz, 1995).

Although consensus does not exist currently about the precise nature of these deficits, depression has been posited to change emotional reactivity in several different ways (Rottenberg, Gross, & Gotlib, 2005). First, the Positive Attenuation Hypothesis suggests that depression is associated with reduced emotional responding to positively-valenced stimuli. This hypothesis is supported by research demonstrating decreased appetitive motivation or behavioral activation in depression (Campbell-Sills, Liverant, & Brown, 2004; Davidson, 2003). Secondly, the Negative Potentiation Hypothesis

(e.g., Beck, Rush, Shaw, & Emery, 1979) suggests that depression is marked by increased negative emotional responding to negatively-valenced stimuli. However, empirical support for this hypothesis in clinically-depressed samples is limited (e.g., Allen et al., 1999). Thirdly, the Emotion Context-Insensitivity Hypothesis (ECI; Rottenberg et al., 2005) proposes that depressed individuals are characterized by a generalized emotional hypoactivity or flattening of emotional responding to both positively and negatively-valenced stimuli (Peeters et al., 2003; Rottenberg et al., 2005). Overall, preliminary data with depressed samples offers support for the ECI hypothesis (e.g., Rottenberg, Kasch, Gross, & Gotlib, 2002).

Despite continuing theoretical debate about the exact form of emotional reactivity variation in depression, consensus supports the presence of changes in emotional reactivity during depressive episodes. Although data demonstrating altered reactivity in depression cannot be definitively extrapolated to reflect concurrent emotion regulation dysfunction among depressed individuals, it is likely that these observed changes in reactivity may be associated with impairment in the selection and/or implementation of emotion regulatory processes. However, even with the preponderance of studies supporting changes in emotional reactivity, few studies to date have actually examined the function of different emotion regulation strategies in depressed samples.

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### *Emotion regulation: definition and research findings*

Emotion regulation is defined as a heterogeneous set of processes, which involve changes in the experiential, behavioral, and physiological response systems that comprise emotion (Gross, 1999). Emotion regulation processes are typically divided into two broad categories, antecedent-focused or response-focused (Gross, 1998). Antecedent-focused strategies involve attempts to modify the production of emotion before the emotion is generated, while response-focused strategies involve attempts to alter emotional responding after it has been initiated.

### *Emotional suppression: a response-focused emotion regulation strategy*

Emotional suppression involves attempts to reduce any of the three components of emotional responding, behavior, subjective experience, and physiological arousal, after they have been initiated. The majority of experimental research examining the effects of different emotion regulation strategies has been conducted with nonclinical samples (e.g., Gross & Levenson, 1997). Findings from these studies suggest negative outcomes from the behavioral suppression of emotion, including increased sympathetic activity in the cardiovascular system (Gross & Levenson, 1993, 1997), impairments in memory during emotion regulation tasks (Richards & Gross, 2000), and disruptions in social relationships (Gross & John, 2003).

### *Emotional acceptance: an emotion regulation strategy*

Emotional acceptance is an example of an emotion regulation strategy, which incorporates elements of antecedent-focused emotion regulation (e.g., cognitive reappraisal of the acceptability of emotional experience) and response-focused emotion regulation (e.g., allowing the experience of emotion without attempts to alter or suppress it after the emotion has been generated). Notably, emotional acceptance is an important component in several psychological treatments, including Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) and mindfulness-based therapies (e.g., Teasdale et al., 2000). Preliminary findings support the efficacy of ACT and mindfulness-based treatments for improving functioning in individuals with numerous psychological disorders, including depression (e.g., Bach & Hayes, 2002; Ma & Teasdale, 2004). Cumulatively, treatment outcome research supports the efficacy of acceptance as an adaptive emotion regulation strategy with potential utility for individuals with depressive disorders.

### *Experimental findings examining emotional acceptance and suppression in clinical samples*

The majority of experimental studies investigating the effects of acceptance and suppression have focused on panic symptoms and the effects of these regulatory processes in response to a carbon dioxide (CO<sub>2</sub>) challenge (e.g., Eifert & Heffner, 2003; Feldner, Zvolensky, Eifert, & Spira, 2003; Levitt, Brown, Orsillo, & Barlow, 2004). Studies with panic disorder suggest that suppression is ineffective for the reduction of panic symptoms, and results in paradoxical increases in anxiety and distress. In contrast, acceptance was associated with less fear, catastrophic thoughts, and avoidance behavior in these studies (e.g., Levitt et al., 2004).

Building on findings with panic disorder, Campbell-Sills, Barlow, Brown, and Hofmann (2006a, 2006b) explored the effects of acceptance and suppression in a mixed clinical sample composed of patients with anxiety and mood disorders. Results demonstrated that emotional suppression was associated with poorer recovery from changes in negative affect and a different pattern of heart rate activity as compared to acceptance (i.e., mean heart rate in the suppression group increased during the mood induction, whereas

mean heart rate in the acceptance group decreased during the mood induction). However, no experimental studies have explored the effects of emotional suppression and acceptance in an exclusively depressed sample.

### *Potential moderators of the utility of different emotion regulation strategies*

Several emotion regulation researchers have recently emphasized the importance of flexible application of emotion regulation strategies for healthy adjustment or resilience (e.g., Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). Bonanno et al. (2004) argued that successful adaptation does not result from exclusive use of one universally beneficial emotion regulation strategy, but rather from the ability to flexibly suppress or enhance emotional responding. This perspective necessarily raises questions about the factors that determine the given efficacy of particular emotion regulation strategies (i.e., what situational characteristics or dispositional traits determine the effectiveness of these strategies for specific individuals). As a result, the work of Bonanno et al. (2004) suggests the importance of exploring potential dispositional factors or situational characteristics that may serve as moderators of the efficacy of different emotion regulatory processes. Although few studies have examined potential moderators, limited findings in this area suggest that dispositional factors, such as experiential avoidance and perceived control, affect the relationship between the use of emotional suppression and the experience of negative emotion (e.g., Feldner et al., 2003).

### *Anxiety about the experience of depressed mood: a potential moderator*

Anxiety about the experience of discrete emotions was first highlighted in the phenomenology of psychological disorders with the concept of “fear of fear” (or interoceptive conditioning), in the etiology of agoraphobia (Goldstein & Chambless, 1978). Later theorists extended this concept to include anxiety about the physical sensations associated with anxious arousal in all anxiety disorders and anxiety about the experience of sadness in depressive disorders (Barlow, 1991; Reiss, 1991; Taylor & Rachman, 1991). In 1997, Williams, Chambless, and Ahrens proposed a generalized “fear of emotion,” which they defined as apprehension about losing control over one’s emotional experience or over one’s reactions to those emotions (including anxiety about the experience of depression, anxiety, anger, and positive emotion). Increasingly, researchers suggest that anxiety or future-focused apprehension about the experience of emotion may be a shared component across psychological disorders (Barlow et al., 2004; Mennin, Heimberg, Turk, & Fresco, 2005). Furthermore, research suggests that higher baseline anxiety about the experience of negative emotion (e.g., anxiety sensitivity) may potentiate emotional responding and be predictive of differential behavioral responses during laboratory emotion induction tasks (e.g., Brown, Smits, Jasper, & Telch, 2003). Thus, level of apprehension about the future experience of depressed mood may be an important individual difference variable among people with depression that influences emotional reactivity and/or the outcome of specific emotion regulation strategies. Specifically, high levels of initial distress or anxiety about the future experience of depressive emotional states may make subsequent efforts to suppress these states particularly unsuccessful, while conversely, lower levels would allow for more successful suppression efforts.

### *Current study*

The current study investigated the impact of different emotion regulation strategies on the experience of negative emotion in

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