

Automatic emotion regulation during anger provocation [☆]

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Abstract

Individuals frequently have to regulate their emotions, especially negative ones, to function successfully. However, deliberate emotion regulation can have significant costs for the individual. Are there less costly ways to achieve emotion regulatory goals? In two studies, we test the hypothesis that more automatic types of emotion regulation might provide the benefits of deliberate emotion regulation without the costs. Study 1 introduces a priming technique that manipulates automatic emotion regulation. Using this priming technique, we show that relative to priming emotion expression, priming emotion control leads to less anger experience in response to a laboratory anger provocation. Study 2 examines the experiential and physiological consequences of automatic emotion regulation. Results suggest that relative to priming emotion expression, priming emotion control reduces negative emotion experience without maladaptive cardiovascular responding. Together, these findings suggest that automatic emotion regulation may provide an effective means of controlling powerful negative emotions.

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Introduction

Emotional impulses, especially potentially destructive ones such as anger, regularly present us with the question of how we ought to respond to them. Should we openly express them or attempt to control them? On the one hand, frequent expression of anger has costs for individuals' well-being, social functioning, and physical health (Baumeister & Exline, 2000; Booth-Kewley & Friedman, 1987; Mayer & Salovey, 1995; Tavis, 1984), suggesting that it is important to regulate negative emotions. On the other hand, emotion regulation often seems to come at a price for individuals' well-being, social and cognitive functioning, and even physical health (e.g., Bonanno, Papa, Lalande, Westphal, &

Coifman, 2004; Gross & John, 2003; Muraven, Tice, & Baumeister, 1998; Polivy, 1998), suggesting that emotion regulation may not be a satisfactory solution either. Ideally, there would be a way for individuals to exert the emotion control that they need without "paying a price." Is that possible?

One way to address this question is to re-examine how emotion regulation has been conceptualized in the past. Thus far, interest in emotion regulation has centered principally on *deliberate, response-focused* emotion regulation (e.g., Bonanno et al., 2004; Gross & Levenson, 1997; Muraven et al., 1998; Wegner, Erber, & Zanakos, 1993), whose costs may arise from the conscious effort involved in suppressing emotion-related responses. Less attention has been given to automatic (largely unconscious) regulatory processes such as those involved in overlearned habits or culturally transmitted norms (e.g., Cohen, 1997; Fitzsimons & Bargh, 2004; Gollwitzer, 1999). This is unfortunate, because such automatic regulatory processes might operate with less cost to the individual, as they are executed relatively effortlessly, and might thus provide a solution to the dilemma of how

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negative emotional impulses can be managed. However, at present, only correlational evidence is available to support this hypothesis (Jackson et al., 2003; Mauss, Evers, Wilhelm, & Gross, 2006). In the present studies, we use an experimental manipulation to test whether automatic emotion regulation is an effective means of reducing anger.

Because the literatures on emotion regulation (e.g., Davidson, Jackson, & Kalin, 2000; Gross, 1998; Thompson, 1994) and on automaticity (e.g., Bargh, 1994) are both fraught with conceptual complexities (e.g., Cole, Martin, & Dennis, 2004; Gross, 1998), it is essential to clarify our terms at the outset. We use the term “emotion regulation” to refer to the modification of any aspect of an emotional response, including experience, physiology, and expressive behavior (cf. Eisenberg & Spinrad, 2004; Goldsmith & Davidson, 2004; Gross, 1998; Gross & John, 2003). In the present context, our focus is on processes that reduce one or more aspects of emotion. “Automatic” emotion regulation includes two types of processes: first, implicitly (largely unconsciously) represented *ideas* or *goals* that individuals have regarding emotion regulation, and, second, automatic (largely unconscious and effortless) emotion regulation *behaviors* that individuals engage in during emotional situations (cf. Bargh & Chartrand, 2000; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001). It is likely that emotion regulation goals prompt emotion regulation behavior (e.g., Bargh et al., 2001; Shah & Kruglanski, 2003). However, because this cannot be *presumed*, we empirically test whether our priming manipulation is associated with observable responses to an emotional situation.

To set the stage for our studies, we first review the repressive coping literature and the automaticity literature which, as we will see, offer contradictory perspectives on the likely impact of automatic emotion regulation. This review suggests a number of limitations in the existing research that make it difficult to come to firm conclusions about the consequences of automatic emotion regulation. These limitations motivate two studies, in which we experimentally manipulate automatic emotion regulation using a priming technique, and then assess affective responses during an experimental anger provocation. Results from these studies raise the intriguing possibility that automatic emotion control relative to emotion expression leads to effective reduction of feelings of anger but is not accompanied by the experiential “cost” of negative emotion experience (e.g., shame or sadness) or the cardiovascular “cost” of heightened levels of maladaptive cardiovascular activation.

The repressive coping literature: Automatic emotion regulation is costly

As formulated by Freud, defensive inhibition of negative emotional experiences, or *repression*, is a form of automatic emotion control that is motivated by the individual’s need to remain unaware of emotions that are intolerably painful or incompatible with the ideal self (Freud, 1930/1961). Freud took a negative view of this type of emotion regula-

tion, postulating that this defensive “work” would come at the cost of expenditure of “psychic energy.”

More recently, repression has been examined empirically, and quantitative measures of repressive tendencies have been developed (e.g., Byrne, Gollwitzer, & Sheffield, 1965; Erdelyi, 2001; Paulhus, Fridhandler, & Hayes, 1997; Weinberger, 1995). When tested in laboratory inductions of negative emotions such as stress or frustration, participants high in repression tend to report experiencing lesser negative emotion, but exhibit impaired cognitive and social skills, as well as greater physiological reactivity (e.g., Aseendorpf & Scherer, 1983; Brosschot & Janssen, 1998; Schwartz, 1995; Weinberger, 1995). Together, these studies suggest that automatic emotion regulation is associated with lesser negative emotion experience, but that this reduction in negative emotion comes at a cost.

The automaticity literature: Automatic emotion regulation is cost-free

In contrast with the literature on repressive coping, recent research on automaticity suggests that automatic emotion regulation may operate at little cost. These studies have shown that complex judgments, social behaviors, and even the pursuit of higher-level goals (e.g., to cooperate with another person in a competitive game) can be executed automatically (e.g., Bargh et al., 2001; Bodenhausen, Macrae, & Hugenberg, 2003; Kihlstrom, 1987; Nosek, Greenwald, & Banaji, 2005).

Three features of automatic goal pursuit suggest that if automatic emotion regulation operates in a similar fashion to automatic goal pursuit, one would expect it to be effective for controlling feelings and behaviors, and to occur with little or no psychological and physiological cost. First, automatic goal pursuit can occur without subjective awareness, and thereby may consume little or no attentional capacity or subjective effort (Bargh et al., 2001; Chartrand & Jefferis, 2003; Fitzsimons & Bargh, 2004; Koole & Jostmann, 2004). Second, automatic processes presumably are activated quickly and operate efficiently (Bargh, 1994; Kihlstrom, 1987; Webb & Sheeran, 2003; Wilson & Schooler, 1991). Automatic emotion control might thus be antecedent to the emotional response, effectively interrupting the development of an emotional impulse *before* it unfolds and resulting in adaptive experiential and physiological responding (Gross, 1998). Third, automatic emotion control might avoid some of the “side effects” of deliberate emotion control that result from one’s conscious awareness of controlling one’s emotions. Such side effects of conscious emotion control might emerge from individuals feeling “inauthentic” (not expressing feelings goes against North American notions of expressing oneself; Gross & John, 2003), or from “ironic effects” of control (consciously focusing on the anger to down regulate it might make it more salient, leading to more anger; Wegner, 1994). By avoiding conscious awareness of emotion control, thus, automatic emotion control should presumably also avoid its negative concomitants.

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