



## Desirable responding mediates the relationship between emotion regulation and anxiety

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### ARTICLE INFO

#### Article history:

Received 12 November 2012  
Received in revised form 15 February 2013  
Accepted 20 February 2013  
Available online 27 March 2013

#### Keywords:

Reappraisal  
Suppression  
Anxiety  
Self-deception  
Impression management  
Self-enhancement

### ABSTRACT

Reappraisal and suppression are two commonly studied emotion regulation (ER) strategies. Their trait expression is often assessed through self-report questionnaires. Recent work suggests that trait-reappraisal is generally associated with lower levels of psychopathology while trait-suppression is linked to greater psychopathology. We propose here that the reappraisal construct represents a set of highly desirable traits, whereas suppression represents unwanted characteristics. If this were true, relationships between self-reported ER traits and psychopathology, such as anxiety, might be systematically biased. To test this hypothesis, we examined whether desirable responding (self-deceptive enhancement and impression management) mediated the link between self-reported emotion regulation traits (reappraisal and suppression) and anxiety in a sample of over 4000 college students, controlling for gender and ethnicity. Our findings show support for this hypothesis. Desirable responding, especially self-deceptive enhancement, mediated the effects of ER traits on anxiety. Our findings recommend caution in the use of self-reported ER traits when assessing links to psychopathology and underscore the influence of self-deception in subjective well-being.

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### 1. Introduction

Emotion regulation (ER) refers to the process through which people attempt to alter their experience and expression of emotions (Gross, 1998). Two commonly studied ER strategies are suppression and reappraisal. According to Gross (1998), suppression reflects the process of inhibiting overt emotional expressions in response to emotional events (e.g., frowning when sad, laughing at a joke). In contrast, reappraisal reflects the cognitive reinterpretation of an emotional event/stimulus to render it more or less emotional. For example, re-interpreting a failed test as a learning opportunity can render this failure less emotional. Although reappraisal and suppression are often assessed as experimentally instructed strategies, their trait-expression can be measured as well, using the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003).

Both instructed and trait-reappraisal and suppression have opposing effects on the experience of emotions. Briefly, while instructed reappraisal often leads to successful down-regulation of (negative) emotions, suppression is less successful (e.g., Gross, 2002). Consequently, trait-reappraisal has been associated with fewer psychopathological characteristics and better mental

well-being compared to trait-suppression. For example, in Gross and John (2003), trait-reappraisal (assessed with the ERQ) was associated with less negative and more positive emotion experience, a greater capacity for negative mood repair, higher self-rated adjustment, higher self- and peer-rated social functioning/support, and greater physiological and mental well-being (e.g., lesser incidence of depression and anxiety) compared to trait-suppression. In line with these findings, a meta-analysis by Aldao, Nolen-Hoeksema, and Schweizer (2010) found that across 114 studies, suppression was positively correlated to psychopathology, whereas the inverse was true for reappraisal. An important limitation of studies investigating relationships between trait-ER and psychopathology is that both trait-ER and psychopathology (e.g., anxiety, depression) are often measured with self-report inventories (e.g., the ERQ; Gross & John, 2003), which could be subject to desirable responding.

Desirable responding refers to attempts by an individual to endorse positive and deny negative personality traits (Paulhus & Reid, 1991). Several researchers have proposed a role of desirable responding in ER. For example, Lieberman, Inagaki, Tabibnia, and Crockett (2011) asked participants to predict the distress they might feel while reappraising emotional images and found that participants over-estimated the effectiveness of reappraisal. The authors suggest participants' predictions about the magnitude of reappraisal effects may indicate their expectations about what reappraisal *should* do. That is, individuals may *expect* that

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reappraisal as an ER strategy is more effective than it actually is. Additionally, Gross and John (2003) reported that people with high trait-reappraisal had closer relationships and were liked more by their peers than suppressors. Thus, a social expectation exists regarding the nature of ER strategies: Individuals are aware of the social benefits of using reappraisal and actively seek out reappraisers as social companions<sup>1</sup> (Gross & John, 2003). Given these findings, we might expect that individuals who endorse positive personality traits (i.e., individuals high in desirable responding) also score high on measures of reappraisal and not suppression.

We argue that self-rated trait-reappraisal may be confounded by desirability. Inspecting the content and structure of the questions in the ERQ (Gross & John, 2003), questions such as: “I control my emotions by changing the way I think about the situation I’m in” are included. These imply the desirable ability to control and harness one’s own emotions and the outcomes of challenging situations. Conversely, trait-suppression is measured by items such as: “When I am feeling negative emotions, I make sure not to express them”, implying deliberate and inauthentic behavioural displays of being calm. Importantly, if self-rated trait-reappraisal represents a desirable trait in itself, self-reports by individuals who would prefer to appear positively on all self-report measures, including measures of mental well-being, may skew our understanding of the relationship between trait-reappraisal and psychopathology (e.g., anxiety, depression).

A few studies assessed desirable responding along with trait-ER. Using the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960) with a sample of 145 undergraduate students, Gross and John (2003) found no substantial relationship between MCSDS and ERQ trait-reappraisal ( $\beta = 0.11$ , small effect size, see Cohen, 1988) or trait-suppression ( $\beta = -0.09$ ). McRae, Jacobs, Ray, John, and Gross (2012) found in 85 participants that instructed reappraisal success was positively correlated with ERQ trait-reappraisal ( $r = 0.24$ ,  $p < 0.01$ ; moderate effect size, see Cohen, 1988). Reappraisal success was negatively but not significantly related to desirable responding ( $r = -0.16$ ,  $p = 0.14$ ; small effect size) in the MCSDS. Correlations between ERQ reappraisal and MCSDS were not reported. The MCSDS assumes a one-factorial construct of desirable responding: The need for approval. MCSDS items describe behaviours and thoughts that are either desirable but uncommon (e.g., “I never hesitate to go out of my way to help someone in trouble”) or undesirable but common (e.g., “I sometimes feel resentful when I don’t get my way”). One could expect suppression (inhibition of desirable and undesirable emotional reactions) to be related to some aspects of such a construct of desirable responding. However, ERQ reappraisal questions describe cognitive reframing of potentially threatening thoughts and feelings which may be linked to unobservable but favourable self-presentation; a construct which is underrepresented in the MCSDS (Uziel, 2010; Ventimiglia & MacDonald, 2012).

A measure of desirable responding that may better capture the commonalities between desirable responding and ER is the Balanced Inventory of Desirable Responding (BIDR; Paulhus & Reid, 1991). In contrast to the MCSDS, the BIDR conceptualizes desirable responding as two different constructs: (1) a positively biased self-view (self-deceptive enhancement scale), for example “My first impression of people usually turns out to be right”; and (2) a positively biased presentation of the self to others (impression management scale), for example “I have never dropped litter on the street”. The self-deceptive enhancement (SDE) subscale is

associated with other defence mechanisms (repression, distancing, self-controlling) (Paulhus & Reid, 1991). Interestingly, external raters (i.e., friends and family) of high SDE scorers perceive these individuals to be less well-adjusted than high SDE scorers perceive themselves. The impression management (IM) subscale has demonstrated associations with traditional lie scales, such as those included in the Minnesota Multiphasic Personality Inventory (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), as well as with the MCSDS (Paulhus & Reid, 1991). Thus, the SDE subscale evaluates defensiveness with the aim of protecting self-esteem, and the IM subscale evaluates a conscious response bias with the aim of making a favourable impression on others (Stöber, Dette, & Musch, 2002; but see Uziel, 2010 for a review of IM scales).

We propose that the ERQ reappraisal items may evaluate the potentially desirable ability to control the outcomes of emotionally challenging situations with the goal of protecting oneself against negative experiences. The ERQ suppression questions, in turn, may measure deliberately inauthentic outward behavioural displays of calmness. Recent findings by English and John (2012) support the latter suggestion: The authors found that self-rated inauthenticity (i.e., a consciously perceived mismatch between inner and public self) substantially influenced links between trait-suppression and poor social functioning (e.g., lower relationship satisfaction, lower social support). Given the similarity in the nature of the constructs measured in the BIDR and ERQ, we suggest that the relationship between desirable responding and trait-ER may be better clarified using the BIDR. Furthermore, we suggest that whereas ERQ trait-reappraisal is more closely related to SDE, ERQ trait-suppression is closer to IM.

Gender and ethnicity likely influence variables of interest in this study. For example, Gross and John (2003) found that men use suppression more than women, implying that emotion expression is typically considered a more feminine quality (Brody, 2000). Similarly, cultural differences exist in the frequency of expressive suppression, with greater use of reappraisal in Euro-North Americans and greater use of suppression in East Asians and other minority groups (Gross & John, 2003). Since we did not have specific hypotheses about potential differential influences of gender or ethnicity on the relationships between ER and anxiety, gender and ethnicity were included as control variables here rather than additional moderators.

### 1.1. The present research

We set out to examine the relationships among ER, desirable responding, and a self-report measure of psychopathology in a large sample of undergraduate college students. As a target measure of psychopathology we chose self-reported trait-anxiety. Notably, desirable responding is usually negatively correlated with self-reported anxiety, both in healthy populations (Weinberger, Schwartz, & Davidson, 1979) as well as in clinical groups (Deshields, Tait, Gfeller, & Chibnall, 1995). As a result, self-reported anxiety may be underestimated, especially in individuals high in desirable responding (e.g., Eysenck, 2000; Weinberger, 1990). The present study tested whether desirable responding (self-deceptive enhancement and impression management) mediates the association between two self-reported ER strategies (reappraisal and suppression) and anxiety. Based on the literature reviewed above, we expected a negative relationship between self-reported trait-reappraisal and anxiety. This relationship was expected to be mediated by desirable responding, especially by self-deceptive enhancement. Conversely, we expected a positive relationship between self-reported trait-suppression and anxiety. This relationship should be mediated by desirable responding, especially by impression management.

<sup>1</sup> Studies suggest that emotional expressiveness is more frequent in individualistic cultures than in collectivistic cultures, implying that emotion suppression is valued more in collectivistic cultures (e.g., Matsumoto et al., 2008; Soto, Perez, Kim, Lee, & Minnick, 2011).

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