DECENTERING FROM DISTRESS:
REGULATING NEGATIVE EMOTION BY INCREASING
PSYCHOLOGICAL DISTANCE

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INTRODUCTION

Major depressive disorder (MDD) is one of the most commonly occurring emotional disorders, having a 12-month prevalence of 6.7% in the adult population of the United States (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). MDD is characterized by sustained depressed mood and/or loss of interest or pleasure in activities of daily living, and symptoms such as changes in appetite, sleep disturbance, changes in activity levels, loss of energy, feelings of guilt or worthlessness, difficulties concentrating, and suicidality (DSM-5, 2013). Furthermore, MDD is frequently accompanied by co-occurring conditions, such as generalized anxiety disorder (GAD) (Kessler et al., 2005).

MDD represents an enormous public health burden, with nearly half of individuals with the disorder receiving treatment, and a large proportion (~40%) of those individuals receiving only minimally adequate treatment (Wang, Simon, & Kessler, 2003). Despite significant advances in the management of the disorder, depression remains a chronic and debilitating condition for many individuals for whom treatment has been ineffective. Thus, there is a pressing need for research that can further elucidate biobehavioral mechanisms of the disorder and identify the active ingredients of existing medical and psychotherapeutic treatments so that approaches can be more targeted and effective (Sanislow, Pine, Quinn, Kozak, Garvey, Heinssen et al., 2010).
Normal Emotion Regulation

The capacity to intentionally alter subjective emotional experiences, to override prepotent behavioral responses and bring actions in line with goals and values is considered critical to mental health, and well-being (Carver & Scheier, 1982). Indeed, the skill to flexibly up- or down-regulate emotional experiences according to dynamic and changing situational demands predicts adaptive adjustment, and resilience to stress (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Waugh, Thompson, & Gotlib, 2011). Mentally healthy individuals demonstrate the ability to employ a wide range of cognitive strategies to regulate emotional experiences, such as cognitive reappraisal (i.e., intentionally reinterpreting the meaning of a stimulus to reduce its impact), suppression (inhibiting thoughts, physiological responses, facial expressions), and attentional shifting (i.e., turning attention away from emotional material), and do so in a contextually sensitive manner. Furthermore the capacity to adopt a metacognitive, “decentered” perspective in response to stress—that is, to take a step back from thoughts and feelings, to view them objectively as mental events, rather than taking them at face value—has been identified as a key characteristic of mentally healthy individuals (Fresco, Moore, van Dulmen, Segal, Ma, Teasdale et al., 2007; Teasdale, Moore, Hayhurst, Pope, Williams, & Segal, 2002).

Adaptive emotion regulation also depends on effective utilization of both explicit emotion regulation strategies (i.e., those that require conscious effort and intention such as cognitive reappraisal), and implicit strategies (i.e., those that normally proceed automatically and without awareness, such as emotional conflict adaptation, for review
see Etkin, Prater, Hoeft, Menon, & Schatzberg, 2010). In healthy individuals, implicit strategies theoretically subserve moment-to-moment, “everyday” emotion regulation, whereas explicit strategies are recruited to compensate when implicit strategies fail (e.g., when emotional intensity is high) (Gyurak, Gross, & Etkin, 2011).

**Emotion Regulation Deficits in Depression**

Individuals with MDD have difficulties performing many of the “tasks” associated with healthy emotion regulation. MDD is characterized by pervasive difficulties regulating negative emotional experiences, as evidenced by persistent reductions in positive affect and elevated, sustained negative affect (Joormann & Gotlib, 2010). Rather than employing a range of contextually sensitive regulatory strategies, individuals with MDD often rigidly rely on a limited number of, often ineffective, strategies such as “rumination” to regulate negative emotional experiences. Rumination describes a self-reflective maladaptive coping strategy in which individuals respond to sad mood by passively and repetitively focusing on the causes and consequences of depression symptoms (e.g., why am I always so sad?) (Nolen-Hoeksema & Morrow, 1991). Although intended to reduce feeling of sadness, use of rumination in depressed individuals is counterproductive. Indeed, rumination has been shown to predict the duration- and future onset of depressive episodes (Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), as well as difficulties disengaging attention from mood-congruent, sad stimuli (Nolen-Hoeksema et al., 1991) and reduced inhibition of negative material in experimental studies (Joormann et al., 2010).
Depression has also been associated with a failure to engage implicit regulatory processes necessary for moment-to-moment, “everyday” emotion regulation (Ehring, Tuschen-Caffier, Schnülle, Fischer, & Gross, 2010). Although little research has directly tested this “implicit deficit hypothesis,” at least one study showed that MDD, as well as GAD, were associated with deficits engaging cortico-limbic inhibitory neural mechanisms associated with adaptive emotional conflict adaptation (Etkin et al., 2010; Etkin & Schatzberg, 2011).

Depressed individuals have also demonstrated deficits in the ability to employ explicit, effortful strategies to regulate emotional responses to stress (Aldao, Nolen-Hoeksema, & Schweizer, 2010). For example, when non-depressed individuals were instructed to down-regulate negative emotional reactions to distressing visual stimuli using cognitive reappraisal, they showed a pattern of neural activation indicative of decreased emotional intensity (i.e., decreased activity in the amygdala, and insular cortex); however, reappraisal attempts in depressed individuals were associated with a pattern of neural activation indicative of increased emotional intensity, suggesting an inability to use “adaptive” strategies to effectively down-regulate emotional intensity (Johnstone, van Reekum, Urry, Kalin, & Davidson, 2007).

In summary, MDD is a disorder marked by deficits in implicit and explicit emotion regulation that often results in inordinate, but fruitless, efforts to effectively down regulate emotional arousal or intensity (Etkin et al., 2010; Etkin & Schatzberg, 2011; Johnstone et al., 2007). Instead, individuals with MDD frequently rely on strategies characterized by negative self-referential processing (e.g., rumination) that may actually
result in increased emotional intensity as well as a worsening and prolongation of depression symptoms (Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema et al., 2008).

Decentering and Depression

The term “decentering” has been defined in various ways by different researchers. For example Safran & Segal (1990) defined decentering as the mental process of adopting an observational perspective on internal states, and thus “[stepping] outside of one’s immediate experience, thereby changing the very nature of that experience.” Similarly, Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau (2000) described a process wherein individuals “become more aware of thoughts and feelings and relate to them in a wider, decentered perspective as ‘mental events’ rather than as aspects of the self or as necessarily accurate reflections of reality. Finally, Fresco, Moore, et al. (2007) described decentering as “the capacity to take a present-focused, non-judgmental stance in regard to thoughts and feelings and to accept them.” Taken together, these definitions all view decentering an intentional process whereby individuals “take a step back” from internal experiences to view them more objectively.

Mechanisms of Change in Cognitive Therapy for Depression

Recent theory and research suggests that the capacity to adopting a decentered perspective in response to stress plays an important role in cognitive therapy (CT) for depression. Indeed, though CT for depression was originally intended to modify dysfunctional schemas, recent research suggests that the benefits of CT do not depend on
the restructuring of attitudes or assumptions (Simons, Garfield, & Murphy, 1984). Rather, CT appears to reduce depressive relapse and circumvent ruminative response styles, by changing the way that patients relate to and interpret depressive thoughts, emotions, and physical symptoms (Teasdale et al., 2002). In particular, it has been proposed that the benefits of CT depend on learning to “stand back” from thoughts as they arise to evaluate their accuracy; this process of taking a step back to view experiences from a non-judgmental, decentered perspective, theoretically reduces the likelihood that those experiences will be experienced as self-relevant or as accurate representations of reality (Teasdale et al., 2002). For example, the thought, “I am a failure,” might be experienced as “I am having the thought that I am a failure.” Thus, when “decentering” is practiced in times of stress, it is thought to decrease the likelihood that normal sad moods will become full-fledged depressive episodes, possibly by promoting disengagement from negative emotional material, and/or interrupting self-focused depressive rumination. Critically, preliminary evidence indicates that meditation can enhance one’s capacity to adopt a decentered, metacognitive perspective, and that harnessing this ability in response to dysfunctional thoughts may reflect the primary mechanism of therapeutic change, rather than a means to changing dysfunctional cognitions (Teasdale et al., 2002).

Studies using recently developed self-report measures of decentering (The Experiences Questionnaire, Decentering factor (EQ), Fresco, Moore, et al., 2007, and the Toronto Mindfulness Scale (TMS), Decentering Subscale, Lau, Bishop, Segal, Buis, Anderson, Carlson et al., 2006) suggest an important role of decentering in cognitive therapy for depression. Specifically, the capacity to decenter was shown to be durably
enhanced by cognitive and mindfulness-based interventions for depression (Bieling, Hawley, Bloch, Corcoran, Levitan, Young et al., 2012; Carmody, Baer, LB Lykins, & Olendzki, 2009; Fresco, Segal, Buis, & Kennedy, 2007; Gayner, Esplen, DeRoche, Wong, Bishop, Kavanagh et al., 2012; Lau et al., 2006; Orzech, Shapiro, Brown, & McKay, 2009; Tanay, Lotan, & Bernstein, 2012). Furthermore, treatment-related gains in self-report decentering were associated with other indices of good emotional functioning, such as increased self-compassion (Orzech et al., 2009), reduced behavioral avoidance, depression and anxiety symptoms, increased positive affect (Gayner et al., 2012), and reduced depression relapse rates (Fresco, Segal, et al., 2007). EQ-measured decentering was also inversely associated with symptoms of anxiety, depression, and psychosocial disability among chronic pain patients (McCracken, Gutiérrez-Martínez, & Smyth, 2013).

*Deconstructing Decentering: Psychological Distance as a Critical Facet*

Decentering appears to be associated with healthy emotional functioning as well as with recovery from depression; however, the mechanisms of decentering remain to be elucidated. We propose that, in addition to proposed facets such as acceptance and non-judgment (Fresco et al., 2007), one potentially important facet or mechanism of decentering is the process of psychological distancing or “taking a step back” to view experiences more objectively. Recent empirical research has begun to elucidate the effects of increasing psychological distance on emotional experience, and suggests that the perceived distance from emotionally evocative mental and physical events can moderate the emotional impact of those events.
In one particular experimental paradigm, participants are prompted to recall and/or analyze autobiographical memories from a self-distanced, third person, “fly on the wall” vs. self-immersed (i.e., from one’s own eyes, first-person) perspective, and report aspects of their emotional experience. Adopting a self-distanced vs. self-immersed perspective resulted in reduced emotional reactivity memories eliciting sadness, anger, and even positive emotions, as assessed by self-reported levels of emotion (Ayduk & Kross, 2008; Gruber, Harvey, & Johnson, 2009; Kross & Ayduk, 2008; Kross, Ayduk, & Mischel, 2005; Wisco & Nolen-Hoeksema, 2011), and physiological indices of emotional reactivity (Ayduk et al., 2008; Gruber et al., 2009). Interestingly, across numerous studies, the benefits of distancing were greater in individuals with higher levels of depression symptoms, and lower levels of depression symptoms were not associated with salutary effects, suggesting that self-immersed analysis may only be detrimental in the presence of depressive symptoms (Kross & Ayduk, 2009). Distancing was also associated with lower levels of depressive thought accessibility in depressed participants (Kross et al., 2008). However, at least one study did not find any relationship between depressive symptomology and the emotion regulatory benefits derived from distancing (Wisco et al., 2011).

Collectively, results of self-distancing work have clinical implications for counteracting rumination in depressed individuals. Specifically, findings indicate that self-reflection can be adaptive for depressed individuals when implemented from a self-distanced perspective. This finding is particularly relevant in light of previous work suggesting that depressed individuals have difficulties engaging in adaptive self-
reflection, without consequent ruminating (Joormann & Gotlib, 2006), and that self-reflection might only be adaptive (e.g., by promoting problem solving) in the absence of clinical depression symptoms (Ingram, Miranda, & Segal, 1998; Nolen-Hoeksema, 1996).

Another complementary line of research has examined the salutary effects of increasing psychological distance from distressing visual stimuli in normative participant samples. In one study, negatively valenced photographs of different emotional categories (e.g., disgust-, and sadness-eliciting visual scenes) that appeared to move toward participants elicited more negative emotional responses and stronger emotional arousal than when the images either remained static, or appeared to move away (Davis, Gross, & Ochsner, 2011; Mühlberger, Neumann, Wieser, & Pauli, 2008). Furthermore, simply imagining a negative scene receding into the distance (i.e., getting smaller) reduced self-reported levels of emotional arousal, whereas imagining a negative scene moving closer to the body increased levels of emotional arousal (Davis et al., 2011). These studies suggest that the salutary effects of distancing from internal stimuli (i.e., memories) observed in self-distancing studies, generalize to external stimuli (i.e., visual images).

**Gaps in the extant literature**

In summary, there appear to be important implications of psychological distancing for our understanding of basic emotion regulation processes as well as the emotional dysfunction in mood and possibly anxiety disorders. However, many basic questions remain to be answered. Specifically, what are the salutary mechanisms of distancing? Under what conditions and for whom will distancing will be associated with
salutary effects? What is the relationship of different forms of distancing to decentering, emotional functioning, and other emotion regulation constructs? Do the salutary effects observed in previous studies generalize to distancing that occurs implicitly, without deliberate effort (e.g., when participants are unaware of the distance manipulation)?

The current study

The current study represented an initial attempt to address the aforementioned gaps in the literature. We undertook the following overarching aims: 1) examine whether the salutary effects of psychological distancing from distressing external stimuli occur when individuals are not deliberately attempting to gain perspective on their experiences (i.e., implicit psychological distancing), 2) further elucidate the relationships between decentering, implicit and explicit psychological distancing, depression and anxiety symptoms, rumination, and other individual differences in emotional functioning and emotion regulation.

Toward these general aims, we recruited two participant samples: a community sample (Study 1), and a small clinical sample of depressed and healthy, non-depressed individuals (Study 2). In Study 1, we assessed individual differences in depression and anxiety symptoms (as measured by self-report), as well as in self-report decentering, and several aspects of self-reported emotional functioning and regulatory abilities (i.e., rumination, emotion regulation, and mindfulness). In Study 2, we assessed depression symptoms using a diagnostic interview. In both studies, we examined the salutary effects of increasing psychological distance from distressing visual stimuli using a novel implicit distancing paradigm and an existing explicit distancing paradigm based on the methods
of Davis et al (2011). Consistent with psychological distancing theory and results of empirical studies (e.g., Davis et al., 2011), we reasoned that, in healthy individuals, imagining distressing stimuli close to one’s own body would elicit relatively greater emotional distress, when compared to imagining distressing objects at a greater distance from the body. However, individuals with deficient emotion regulation (i.e., depression and/or anxiety symptoms, and high levels of maladaptive traits, would not derive salutary benefits from increasing distance. In the implicit distancing manipulation, participants were covertly encouraged to imagine distressing objects (e.g., spiders, sharp objects) close to their own bodies (i.e., in their own hands) versus farther away in psychological space (i.e., encapsulated in a shoebox) (Task 1). In the explicit distancing manipulation participants were prompted to deliberately imagine distressing visual scenes moving away in space (Task 2). In both tasks, self-reported negative affectivity was measured as a function of increasing psychological distance from distressing, negative- and non-distressing, neutral stimuli. Given that longer response times have been associated with increased emotional processing (Algom, Chajut, & Lev, 2004), we collected reaction time to respond to stimuli as an additional indicator of emotional reactivity in the implicit distancing task (Task 1).

We hypothesized that individuals with better emotion regulation capacities (i.e., lower levels of depression and anxiety symptoms, lower levels of rumination and suppression, and higher levels of decentering, mindfulness, and cognitive reappraisal) would demonstrate greater magnitude salutary effects of implicitly and explicitly increasing distance from distressing visual stimuli relative to individuals with lesser
emotion regulation capacities (i.e., higher levels of depression and anxiety symptoms, higher levels of rumination and suppression, and lower levels of decentering, mindfulness, and cognitive reappraisal).
METHOD

Two studies were conducted (Study 1 & Study 2), which shared many methodological features except Study 2 included an additional recruitment screening measure and clinical diagnostic assessment interview.

Symptom and Trait Measures

Depression symptoms were assessed using the Quick Inventory of Depressive Symptomatology – Self Report (QIDS-SR16; Rush, Trivedi, Ibrahim, Carmody, Arnow, Klein et al., 2003). The QIDS-SR16 is a 16-item self-report measure that assesses depressive symptoms experienced in the past week. These items are based on diagnostic criteria for a major depressive episode. The response options for each item range from 0 to 3, where 0 indicates the absence of that symptom. The QIDS-SR16 demonstrated acceptable reliability in this sample ($\alpha = .74$).

Generalized anxiety symptoms were assessed using the Generalized Anxiety Disorder Questionnaire for DSM-IV (GAD-Q-IV; Moore, Anderson, Barnes, Haigh, & Fresco, 2014; Newman, Zuellig, Kachin, Constantino, Przeworski, Erickson et al., 2002). The GAD-Q-IV is a 9-item self-report measure designed to identify individuals with GAD. The items are based on diagnostic criteria for GAD. Most items are dichotomous. One item is open-ended and asks for a listing of the participant’s most frequent worry topics. Two items are rated on a scale of zero to eight and measure functional impairment.
and subjective distress. Scores can be computed dimensionally or categorically (Newman et al., 2002). The GAD-Q-IV demonstrated good reliability in this sample ($\alpha = .84$).

Rumination was assessed by the *Ruminative Response Scale* (RRS; Butler & Nolen-Hoeksema, 1994). The RRS is a 22-item self-report measure of depressive rumination, or passively and repetitively focusing on sad mood. In the current study, a 25-item version was used, consisting of the original 22 items, plus three additional items appended by Treynor et al. (2003), to derive “brooding” and “pondering” factors. Participants rate the frequency with which they engage ruminative thoughts and behaviors on a 4-point Likert-type scale. Reliability analysis revealed that the brooding and pondering factors did not demonstrate acceptable reliability in this sample, when considered separately. Thus, brooding and pondering factors were summed to create an aggregate rumination score reflecting the Treynor et al. (2003) solution (i.e., rumination uncontaminated by items assessing depression). The derived rumination factor demonstrated acceptable reliability in this sample ($\alpha = .75$).

Decentering was measured using the *Experiences Questionnaire* (EQ; Fresco, et al. 2007). The EQ is a 20-item questionnaire, designed to measure decentering or disidentification with the content of negative thinking (e.g., “I remind myself that thoughts aren’t facts”). Participants rate the frequency with which they have various experiences on a 5-point Likert-type scale. A computer-questionnaire coding error during data collection resulted in loss of data for 23 participants in this sample, however the EQ decentering factor demonstrated acceptable reliability in this sample ($\alpha = .74$).
Emotion regulation capacities were measured using the *Emotion Regulation Questionnaire* (ERQ; Gross & John, 2003). The ERQ is a 10-item measure designed to assess individual differences in the habitual use of two emotion regulation strategies: cognitive reappraisal (e.g., “I can control my emotions by changing the way I think about the situation I’m in”), and expressive suppression (e.g., “I control my emotions by not expressing them”). Participants rate agreement with statements on a 7-point Likert-type scale. The ERQ Cognitive Reappraisal subscale demonstrated good reliability ($\alpha = .84$). The ERQ Expressive Suppression subscale demonstrated acceptable reliability (.75).

Trait mindfulness was assessed using the *Five Facet Mindfulness Questionnaire* (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The FFMQ is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing (e.g., “I noticed the smells and aromas of things”), describing (e.g., “I’m good at finding words to describe my feelings”), acting with awareness (e.g., “I find myself doing things without paying attention”), non-judging of internal experience (e.g., “I think some of my emotions are bad or inappropriate and I should not feel them”), and non-reactivity to internal experience (e.g., “I perceive my feelings and emotions without having to react to them”). Participants rate their opinion their agreement with statements on a 5-point Likert-type scale. All subscales of the FFMQ demonstrated reliabilities ranging from acceptable to excellent in this sample: Observe ($\alpha = .79$), Describe ($\alpha = .90$), Act with awareness ($\alpha = .86$), Non-judging ($\alpha = .89$), and Non-reacting ($\alpha = .76$).
Screening Measures (Study 2)

Center for Epidemiological Studies Depression (CES-D; Radloff, 1977). The CESD is a 20-item self-report measure that assesses depressive symptoms experienced in the past week. Participants rate their agreement with statements on a 4-point Likert-type scale. A CES-D cut-off score of 16 is indicative of significant or mild depression symptoms.

Structured Clinical Interview for DSM-IV-TR, Research Version (SCID; First, Spitzer, Gibbon, & Williams, 1995). The SCID is a widely used semi-structured interview that allows for current and lifetime diagnoses of Axis I disorders. Sample questions include: “In the past month has there been a period of time where you felt depressed or down for most of the day, nearly every day?” The SCID interviewer was a graduate student therapist. The student received significant, formal supervision and training in conducting DSM-IV diagnostic interviews and in differential diagnosis through observing- and being observed by experienced interviewers. The student demonstrated competence in diagnostic accuracy prior to conducting interviews independently. Five interviews for which there was diagnostic uncertainty, and seven randomly selected interviews, were reviewed for diagnostic accuracy by a senior, doctoral-level clinician; a consensus diagnosis was achieved in each case.

State measures

State negative affect was measured using items selected from the Positive and Negative Affectivity Schedule (PANAS) (Crawford & Henry, 2004). Participants were prompted to rate the extent to which they were currently experiencing a range of negative
emotions (upset, guilty, hostile, irritable, jittery, scared), and a smaller number of positive arousal items (interested, excited, alert) selected from the PANAS. Negative and positive items were selected based on having the highest factor loadings onto negative and positive affect respectively (Crawford et al., 2004). Participants registered their responses using a sliding scale from 1(not at all) to 5(Extremely). We created a composite negative affect score for each participant, by averaging the negative items. Positive items were not utilized in the current study.

Emotional arousal was measured using the the 9-point Self Assessment Manikin (SAM) for emotional arousal (Bradley & Lang, 1994). The SAM is a non-verbal pictorial measure frequently used to assess emotional reactivity to various types of sensory stimulation. Participants view a row of figures depicting different levels of emotional arousal and are instructed to indicate which figure illustrates their current level of arousal.

Study 1: Normative Sample

Participants

The original sample included 98 adults, however two participants were removed due to technical malfunctions during data collection, and five participants were removed due to having outcome measure scores at least three standard deviations above the mean. The excluded participants did not appear to be systematically different from the included sample in terms of relevant characteristics (e.g., depression symptom scores). Thus, participants consisted of 91 adults (72% Caucasian, 64% female, age range 18-48 years, M = 20.77 years, SD = 4.67). 7.1% of participants reported a current diagnosis of
depression, and 8.2% reported having been diagnosed or treated for depression at some
time during their lives. 7.1% of participants reported a current diagnosis of an anxiety
disorder, and 7.1% reported having been diagnosed or treated for an anxiety disorder at
some time during their lives. All participants were required to be ages 18-60, to be able to
understand read and speak in English, and to have normal, or corrected to normal, vision
and hearing.

Task 1: Implicit Distancing

Stimuli

Stimuli consisted of 144 color images of objects, previously rated and
standardized for negative (e.g., spider) and neutral (e.g., battery) emotional valence in a
separate group of participants (see Shenhav, Barrett, & Bar, 2013 for stimulus selection
and normalization procedures).

Design

We used a blocked, 2(valence: neutral, negative) x 2 (distance: near, far),
counterbalanced, factorial design (Fig.1). Participants saw four blocks of images of
objects (two negative, two neutral). Before each block of images, they were given one of
two instructions to follow for all subsequent object images in the block: 1) decide
whether each object would be small enough to fit inside the palm of your hand (“near”
condition), or 2) decide whether each object would be small enough to fit inside a
standard shoebox (“far” condition). Participants viewed each image sequentially and each
image remained onscreen until they indicate a response by keypress (“yes”, “no”, “don’t
know”), or until 10 seconds elapsed. No participant saw the same image twice. Requiring participants to make size judgments about the images served to conceal the true purpose of the experiment, while providing meaningful reaction time (RT) data for each stimulus. Thus, after removing trials for which responses exceeded the 10-second time limit, RT data were averaged within blocks, to indicate the degree of emotional reactivity in each condition. At baseline, and after each block, participants were prompted to rate their current level of negative affect using the modified, sliding scale PANAS described above.

Figure 1. 
*Implicit task experimental design*
Task 2: Explicit Distancing

Stimuli

Stimuli consisted of 48 color photographs standardized for negative and neutral emotional valence and arousal, selected from the International Affective Picture System (IAPS) database (Lang, Bradley, & Cuthbert, 1999). Half of the selected images were negative (e.g., mutilated body; mean valence 2.2, mean arousal 6.2) and half were neutral (e.g., ironing board; mean valence 4.9, mean arousal 3.2).

Design

We used a counterbalanced, 2 (valence: neutral, negative) x 2 (distance: near, far) factorial design, based on the methods of Davis et al. (2011). The trial proceeded according to following sequence, also depicted in Fig. 2, Appendix A. First, participants were instructed to keep their gaze fixated on a crosshair in the center of the screen (1000ms). A negative or neutral image (50% negative) then appeared, during which time participants were instructed to view the image naturally (4000ms). An instruction was then superimposed on the image (1500ms), which either read, “NO CHANGE,” (50% of trials), or “AWAY.” The instruction screen then disappeared, at which time the picture remained on screen (1000 ms). If the “NO CHANGE” instruction was shown, a white screen with an empty rectangle (the size of the original image) then appeared, and participants were told to imagine the image they had just seen, within the bounds of the rectangle (4000ms). However, if the “AWAY” instruction was shown, the rectangle appeared and then gradually shrunk to the size of a postage stamp, during which time
participants were told to imagine the image gradually shrinking and receding into the distance. After each trial, participants were asked to rate their emotional reactions to the imagination exercise using the 9-point Self Assessment Manikin (SAM) for emotional arousal (Bradley & Lang, 1994).

Figure 2. 
Explicit task trial sequence.

Note. Emotional arousal was assessed using the Self Assessment Manikin.

Procedure

Upon arrival to the laboratory, participants were seated in a quiet room, where they filled-out a battery of computerized questionnaires, assessing demographic information, and various aspects of emotional functioning using the measures described above. Participants then completed the two experimental computer tasks, were compensated, and then debriefed.
Statistical Analysis Plan

Mean-level main effects and interactions were assessed using 2 (valence: neutral, negative) x 2 (distance: near, far) repeated measures ANOVAs. Individual differences in distancing capacity were assessed using difference scores. We calculated difference scores to represent salutary effects of distancing, by subtracting emotional reactivity (as measured by self-report and reaction time) in the near conditions (i.e., “hand” and “static” instructions in Tasks 1 and 2 respectively) from emotional reactivity in the far condition (i.e., “shoebox” and “away” instructions in Tasks 1 and 2 respectively). We elected to use difference scores rather than a regressor variable model (i.e., examining the relationship between individual differences and emotional reactivity in the far conditions controlling for reactivity in the near condition), due to our interest in predicting the change in reactivity rather than predicting the reliability of the difference between near and far conditions (Allison, 1990).

Negative difference scores reflected greater emotional reactivity in the near versus far conditions, and thus were taken to indicate better distancing capacity. Scores approaching zero indicated no differences between near and far conditions, and thus indicated poorer distancing capacity. Positive difference scores reflected greater reactivity in the far versus near conditions, and were thus termed “reverse-distancing.” Difference scores were then correlated with self-report measures of emotional functioning. Findings were interpreted using probability values (p < .05) as well as effect size indices (e.g., Cohen’s $d$, $f$, and partial eta squared [$\eta_p^2$]). An a priori power analysis (two-tailed, power = .80, $\alpha = .05$) revealed that a sample of at least 84 participants was
required to achieve a medium effect size. Given the obtained sample of 98, Study 1 had adequate power to find effect sizes as small as $r = .25$.

**Study 2: Clinical Sample**

Study 2 was identical to Study 1, except Study 2 participants were required to complete an additional screening measure online prior to registering for the study and a clinician administered assessment to determine study inclusion.

**Participants**

A total of 63 individuals were selected to complete the clinician-administered assessment (i.e., SCID interview), due to having CES-D depression screening measure scores above or below the specified cut-off points as described above. However only 36 adults (28 female, age range 18-30, mean age 19.69, SD = 2.25) met full inclusion criteria for the study. Inclusion criteria specified that participants must be between the ages of 18-60, be able to understand, read, and speak in English, and have normal, or corrected to normal, vision and hearing. A total of 13 participants met criteria for inclusion in the MDD group. Participants in this group were included if they had a current, primary DSM-IV diagnosis of MDD, with (N = 5) or without (N = 8) co-occurring GAD. No participants had concurrent diagnoses of bipolar or psychotic disorders, substance abuse or dependence, or active suicidality (assessed by the QIDS-SR_{16}). A total of 23 participants met criteria for inclusion in the healthy control group; they were age-matched “healthy” adults with no current Axis I diagnoses, except Specific Phobias, and no lifetime history of MDD or GAD.
Stimuli and Tasks

Stimuli, tasks, and measures were identical to those described in Study 1.

Procedure

Prior to coming to the laboratory, participants completed the (CES-D) via the Sign-up System for Psychology Studies (SONA). Participants with high (CES-D ≥ 16) and low (CES-D ≤ 3) scores were recruited by email or telephone. Upon arrival, participants completed the study tasks exactly according to sequence of procedures outlined in Study 1. All Study 2 participants underwent a SCID diagnostic interview at a second study appointment. The SCID was used to determine eligibility for inclusion in 1) MDD, or 2) Healthy Control groups.

Statistical Analysis Plan

As in Study 1, we calculated difference scores to represent salutary effects of distancing. Difference scores were calculated and interpreted exactly according to the procedures described in Study 1. We used paired samples t-tests to verify that effects of distancing on negative affect and reaction time would be greater for negative than neutral stimulus blocks. We used independent samples t-tests to examine differences between depressed and control participants in distancing ability (via difference scores), and one-sample t-test to examine whether difference scores within groups were significantly different from zero. An a priori power analysis (one-tailed, power = .80, α = .05) revealed that a sample of at least 51 participants per group was required to achieve a medium between-subjects effect size, and 27 participants were required both to achieve a medium
within-subject effect size and a medium one-sample effect size. Given the obtained sample size of 36, Study 2 was underpowered for between-subject (.41) and within-subject (.51) effects, however results are presented as a preliminary examination utilizing a clinical sample.
RESULTS

Study 1: Normative Sample

Task 1: Implicit Distancing

Mean-level effects

A 2(valence) x 2(distance) repeated measures ANOVA was used to test the interaction between valence and distance on negative affectivity at the sample mean level (i.e., before accounting for individual differences). There was no significant interaction of valence and distance on negative affect. In other words, the effect of distancing on negative affect was not greater in negative versus neutral stimuli (Fig. 3). However, confirming that negative stimulus blocks elicited greater negative affect than neutral blocks, we found a significant main effect of valence on negative affect. Specifically, negative objects were rated as more negative ($M = .10$, $SE = .01$) than neutral objects ($M = .06$, $SE = .01$), $F(1, 89) = 12.29$, $p = .001$, $\eta^2_p = .12$, Cohen’s $f = .37$. We did not find a main effect of distance on negative affect, suggesting that negative affect did not vary as a function of distance overall.

A 2(valence) x 2(distance) repeated measures ANOVA was also used to test the interaction between valence and distance on reaction time at the sample mean level (i.e., before accounting for individual differences). There was no significant interaction between valence and distance on reaction time (i.e., the effect of distancing on reaction time was not greater for negative versus neutral objects) (Fig. 4). However, we found a
significant main effect of valence on reaction time, which was consistent with the expectation that negative stimuli would be associated with longer response latencies due to greater emotional interference. Specifically, negative stimuli ($M = 1302, SE = 38$) elicited longer response latencies than neutral stimuli ($M = 1245, SE = 42$), $F(1, 89) = 5.06, p < .05, \eta^2 = .05, f = .23$. We also observed a marginally significant main effect of distance on reaction time; response latencies were longer in the near (i.e. “hand” instruction) condition ($M = 1298, SE = 40$) compared to the far (i.e., “shoebox” instruction) condition ($M = 1250, SE = 40$), $F(1, 89) = 3.91, p = .05, \eta^2 = .04, f = .20$. This finding suggests that overall, the size judgment task was facilitated in the far/shoebox experimental condition relative to the near/hand condition, and the magnitude of facilitation did not depend on stimulus valence.

Figure 3.

*Effect of valence on negative affect*

![Figure 3](image_url)

*Note.* Error bars represent 1 SE above and below the mean.
Individual differences

Means and standard deviations for all self-report measures are reported in Table 1. Zero-order correlations between all self-report measures are reported in Table 2.

Bivariate correlations were used to evaluate our primary hypothesis that higher levels of adaptive traits would be associated with greater salutary effects (i.e., distancing-related reductions in negative affect and reaction time as indicated by more negative difference scores). In neutral stimuli, we did not expect that individual differences would be associated with salutary effects (i.e., distancing-related changes in negative affect and reaction time). Correlation analyses revealed that only a select few of individual difference measures predicted benefits of implicit distancing (Table 3).

Depression and anxiety symptoms. As expected, depression was associated with distancing-related changes in negative affect (i.e., depression was positively correlated
with difference scores). Inspection of the scatter of data revealed that individuals with lower levels of depression showed the expected salutary effects of distancing in negative but not neutral stimuli (i.e., less negative affect in the far/shoebox relative to the near/hand condition). However, individuals with higher levels of depression did not demonstrate salutary effects. Indeed, higher levels of depression were associated with an unexpected “reverse-distancing” effect (i.e., more negative affect in the far relative to the near condition). Contrary to predictions, there was no relationship between depression symptoms and reaction time changes, and no relationship between generalized anxiety symptoms and negative affect or reaction time changes. Taken together, these results indicate that depression but not generalized anxiety symptoms moderated the effects of implicit distancing.

**Mindfulness.** As expected, trait mindfulness was associated with distancing-related changes in negative affect (i.e., mindfulness was negatively correlated with difference scores). Examination of the scatter of data revealed that higher levels of mindfulness were associated with salutary effects of distancing in negative but not neutral stimuli (i.e., lower levels of negative affect in the far/shoebox relative to the near/hand condition). However, lower levels of mindfulness were not associated with benefits of distancing; rather, low mindfulness was associated with a reverse-distancing effect, similar to that observed in individuals with high levels of depression (i.e., more negative affect in the far/shoebox relative to the near/hand condition). Further examination of individual facets of mindfulness, revealed that the negative association between
mindfulness and distancing-related changes in negative affect, was driven by the “acting with awareness” and “non-judging of internal experience” facets of mindfulness.

Accordingly, higher scores on the “acting with awareness” and “nonjudging” subscales were both associated with greater salutary effects of distancing in negative but not neutral stimuli (i.e., distancing-related reductions in negative affect). Furthermore, higher levels of “acting with awareness” were strongly associated with distancing-related reductions in reaction time for negative but not neutral stimuli (i.e., faster reaction times in the far/shoebox relative to the near/hand condition). Nonjudging of internal experience was not significantly associated with distancing-related changes in reaction time. These findings indicate that “acting with awareness” and “nonjudging of internal experiences” are the subscales of mindfulness that were most predictive of salutary distancing-related changes in emotional reactivity.

Unexpectedly, higher scores on the “observing” and “nonreactivity to internal experiences” subscales of mindfulness were associated with distancing-related increases in reaction time for negative but not neutral stimuli (i.e., faster reaction times in the far/shoebox relative to the near/hand condition; a “reverse-distancing” effect).

Decentering. Contrary to predictions, trait decentering was not associated with distancing-related changes in negative affect or reaction time in negative stimuli (i.e., decentering was uncorrelated with difference scores); however decentering was associated with distancing-related changes in negative affect in neutral stimuli. Specifically, in neutral stimuli, lower levels of decentering were associated with salutary effects (i.e., lower levels of negative affect in the far/shoebox relative to the near/hand
condition), whereas higher levels of decentering were associated with a reverse-distancing effect (i.e., more negative affect in the far/shoebox relative to the near/hand condition). Decentering was not associated with distancing-related changes in reaction time in neutral stimuli.

*Emotion regulation.* Contrary to expectations, there was no relationship between either subscale measure of trait emotion regulation (i.e., cognitive reappraisal or expressive suppression) and distancing-related changes in either negative affect or reaction time for neutral or negative objects.

*Rumination.* Consistent with predictions, rumination was marginally associated with distancing-related reductions in negative affect in negative stimuli (i.e., a positive correlation with difference scores). Lower levels of rumination were associated with salutary effects, whereas higher levels were associated with a reverse-distancing effect. Rumination was not associated with distancing-related changes in reaction time in negative stimuli, and rumination was not associated with distancing-related changes in neutral stimuli.
Table 1. 
*Measure descriptive statistics*

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*Note. N = 91 for all measures except decentering (N = 68). Depression was assessed using the QIDS-SR16, Generalized anxiety was assessed using the GAD-Q-IV, Mindfulness was assessed using the FFMQ, Reappraisal and Suppression were assessed using the ERQ, Rumination was assessed using the RRS and Decentering was assessed using the EQ.*
Table 2.
Zero-order correlations between measures

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Table 2. (Continued)

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*Note. N = 91 for all measures except decentering (N = 68). Depression was assessed using the QIDS-SR16, Generalized anxiety was assessed using the GAD-Q-IV, Mindfulness was assessed using the FFMQ, Reappraisal and Suppression were assessed using the ERQ, Rumination was assessed using the RRS and Decentering was assessed using the EQ.*
Table 3.
*Correlations between measures and implicit distancing*

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*Note. N = 90 for all measures except decentering (N = 67). † p < .10 * p < .05, ** p < .01, *** p < .001. RT denotes Reaction time. Depression was assessed using the QIDS-SR16, Generalized anxiety was assessed using the GAD-Q-IV, Mindfulness was assessed using the FFMQ, Emotion Regulation was assessed using the ERQ, Rumination was assessed using the RRS and Decentering was assessed using the EQ.*
Task 2: Explicit Distancing

Mean-level effects

A 2 (valence) x 2(distance) repeated measures ANOVA was used to test the interaction between valence and distance on negative affectivity at the sample mean level (i.e., before accounting for individual differences). There was no significant interaction between valence and distance on emotional arousal (i.e., the effect of distancing on arousal was not greater for negative versus neutral objects) (Fig. 5). However, there was a significant main effect of valence on self-reported negative emotional arousal, which confirmed that negative stimuli elicited stronger negative emotional reactions than neutral stimuli. Emotional arousal was greater following negative stimulus trials ($M = 5.67, SE = .20$) versus neutral trials ($M = 2.64, SE = .15$), $F(1, 90) = 206.97, p < .001$, $\eta^2_p = .70$, $f = 1.53$. We did not find a main effect of distance on emotional arousal, suggesting that arousal did not vary as a function of distance, overall.
Figure 5.
Effect of valence on emotional arousal

Note. Error bars represent 1 SE above and below the mean.
Individual differences

As with Task 1, bivariate correlations were used to test the hypothesis that higher levels of adaptive traits would predict greater distancing-related reductions in negative emotional arousal (i.e., more negative difference scores), for negative but not neutral stimuli. Correlation analyses revealed that only a select few of individual difference measures predicted benefits of implicit distancing (Table 2).

Depression and anxiety symptoms. Contrary to hypotheses, depression symptoms were not associated with distancing-related changes in arousal in negative or neutral stimuli (i.e., symptoms were uncorrelated with difference scores). In contrast with the results of implicit distancing (Task 1), this finding indicates that depression was not associated with abnormal effects in explicit distancing. Generalized anxiety symptoms were also not associated with distancing-related effects in negative stimuli, however anxiety symptoms were marginally associated with distancing-related increases in arousal in neutral stimuli. Specifically, higher anxiety was associated with a reverse distancing effect in neutral objects (i.e., higher emotional arousal in the “away” relative to the “static” condition), whereas lower anxiety was associated with salutary effects of distancing (i.e., distancing related reductions in emotional arousal).

Mindfulness. Also unexpected, was that mindfulness was not significantly associated with distancing-related changes in arousal in either negative or neutral stimuli.

Decentering. Consistent with hypotheses, decentering was associated with distancing-related changes in emotional arousal (i.e., decentering was negatively correlated with difference scores). Inspection of the scatter of data revealed that
individuals with higher levels of decentering showed the expected salutary effects of distancing in negative but not neutral stimuli (i.e., less emotional arousal in the far/away relative to the near/static condition). However, individuals with lower levels of decentering did not demonstrate salutary effects. Indeed, lower levels of decentering were associated with an unexpected reverse-distancing effect (i.e., more arousal in the far relative to the near condition).

*Emotion regulation.* As predicted, trait cognitive reappraisal was strongly associated with distancing-related changes in emotional arousal (i.e., reappraisal was negatively correlated with difference scores). Inspection of the scatter of data revealed that individuals with higher levels of reappraisal showed the expected salutary effects of distancing in negative but not neutral stimuli (i.e., less emotional arousal in the far/away relative to the near/static condition). However, individuals with lower levels of reappraisal did not demonstrate salutary effects. Indeed, lower levels of reappraisal were associated with an unexpected reverse-distancing effect (i.e., more arousal in the far relative to the near condition). Contrary to expectation, expressive suppression was not associated with distancing-related changes in arousal in negative or neutral objects.

*Rumination.* Unexpectedly, there was also no relationship between rumination and differences in negative emotional arousal for neutral or negative objects.

*Correlations between implicit and explicit distancing*

The effects of implicit and explicit psychological distancing from negative stimuli (i.e., negative affect and reaction time difference scores) were uncorrelated (i.e., Task 1 difference scores were uncorrelated with Task 2 difference scores). However, the effects
of implicit and explicit psychological distancing (as measured by negative affect
difference scores) from neutral stimuli were strongly, positively correlated, \( r(88) = .32, p = .002 \). The effects of implicit and explicit psychological distancing from neutral stimuli
(as measured by reaction time difference scores) were uncorrelated.
Table 4. 
**Correlations between measures and explicit distancing**

<table>
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<th>Measure</th>
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</table>

*Note. N = 91 for all measures except decentering (N = 68). † p < .10  * p < .05, ** p < .01, *** p < .001. Depression was assessed using the QIDS-SR16, Generalized anxiety was assessed using the GAD-Q-IV, Mindfulness was assessed using the FFMQ, Emotion Regulation was assessed using the ERQ, Rumination was assessed using the RRS and Decentering was assessed using the EQ.*
Study 2: Clinical Sample

According to the QIDS-SR_{16} measure of depression, individuals with MDD reported significantly higher levels of depression symptoms ($M = 9.85$, $SD = 3.02$, Range = 6 to 16) when compared with non-depressed, controls. ($M = 3.96$, $SD = 2.84$, Range = 1 to 10), $t(34) = 4.04$, $p < .001$ (Cohen’s $d = 1.39$).

Task 1: Implicit Distancing

*Manipulation check.* Paired samples t-tests were used to verify that negative stimuli elicited greater negative emotional reactions than neutral stimuli. Individuals with MDD reported significantly more negative affect in response to negative stimuli ($M = .16$, $SD = .15$) than neutral stimuli ($M = .08$, $SD = .06$), $t(12) = 2.36$, $p = .04$. However, non-depressed individuals did not demonstrate significant differences in negative affectivity in response to negative stimuli ($M = .07$, $SD = .11$) versus neutral stimuli ($M = .06$, $SD = .07$). Reaction times did not vary as a function of valence in either group. Results suggest that the negative emotion manipulation was not successful in non-depressed participants. Furthermore, negative stimuli did not produce longer response latencies in either group, suggesting that emotional valence did not interfere with task performance. Thus effects of distancing, particularly in non-depressed participants, are likely to be underestimated.

Independent samples t-tests were used to test the hypothesis that individuals with MDD would demonstrate lesser salutary effects of increasing distance from distressing stimuli (i.e., less negative difference scores) when compared with non-depressed
individuals. Groups were not expected to differ in terms of distancing-related salutary effects in neutral objects. One-sample t-tests were used to determine whether difference scores were significantly different from zero (i.e., whether the magnitude of salutary effects was significant).

**Negative stimuli.** Consistent with hypotheses and the results of Study 1, negative affect difference scores were significantly greater in depressed ($M = .03, SD = .05$), than non-depressed participants ($M = .00, SD = .05$) for negative stimuli, $t(34) = -2.15, p = .04$ (Cohen’s $d = .74$) (Fig. 6). In depressed participants negative affect difference scores were significantly greater than zero for negative stimuli, $t(12) = -2.34, p = .04, d = 1.35$, but within control participants, difference scores did not differ from zero for negative stimuli, $t(22) = -.23, p = .82, d = .10$. In sum, depressed participants demonstrated a “reverse-distancing” effect with regard to negative affect, which was consistent with the results of Study 1. Contrary to predictions however, control participants did not demonstrate salutary effects of implicit distancing; this pattern of results may stem from a lack of overall reactivity to negative stimuli.

Also consistent with hypotheses, reaction time difference scores were marginally significantly greater in depressed ($M = 164, SD = 335$) than non-depressed participants ($M = -99, SD = 429$), for negative stimuli, $t(34) = 1.90, p = .07, d = .65$ (Fig. 7). In depressed participants, reaction time difference scores were marginally significantly greater than zero $t(12) = -1.77, p = .10, d = 1.02$, whereas reaction time difference scores did not differ from zero in control participants in negative stimuli. In sum, consistent with the effect observed in individuals with high levels of self-reported depression in Study 1,
participants with MDD demonstrated a significant “reverse-distancing” effect with regard to reaction time. Whereas, inconsistent with expectations, and with the results of study 1, “healthy” individuals did not show any salutary effects of distancing with regard to reaction time. Again, this pattern of results may stem from a lack of overall reactivity to negative stimuli.

Neutral stimuli. Surprisingly, negative affect difference scores were significantly greater in non-depressed participants ($M = .01, SD = .04$) than depressed participants ($M = -.02, SD = .04$), $t(34) = 2.30, p = .03, d = .79$, for neutral stimuli (Fig. 6). In depressed participants, negative affect difference scores were marginally significantly less than zero, $t(12) = -1.80, p = .10, d = 1.04$, but in non-depressed participants, difference scores were not different from zero. In other words, depressed individuals demonstrated a marginal salutary distancing effect for neutral stimuli in terms of negative affect, whereas controls did not.

Reaction time difference scores were not different between MDD and non-depressed participants for neutral stimuli, and reaction time scores did not differ from zero in either group (Fig. 7).
Figure 6.
*Effects of valence and group on negative affect*

Note. Error bars represent 1 SE above and below the mean.

Figure 7.
*Effects of valence and group on reaction time*

Note. Error bars represent 1 SE above and below the mean.
Task 2: Explicit Distancing

*Manipulation check.* Paired samples t-tests were used to verify that negative stimuli elicited more negative emotional arousal when compared with neutral stimuli. Individuals with MDD reported significantly more emotional arousal in response to negative stimuli ($M = 5.49$, $SD = 1.77$) than neutral stimuli ($M = 2.69$, $SD = 1.56$), $t(12) = 7.13$, $p < .001$. Non-depressed individuals also demonstrated significant differences in emotional arousal in negative stimuli ($M = 5.92$, $SD = 1.81$) than neutral stimuli ($M = 2.63$, $SD = 1.60$), $t(22) = 7.47$, $p < .001$.

As with Task 1, independent samples t-tests were used to test the hypothesis that when compared with non-depressed individuals, individuals with MDD would demonstrate lesser salutary effects of increasing distance from distressing stimuli (i.e., less negative difference scores). Groups were not expected to differ in terms of distancing-related salutary effects in neutral objects. One-sample t-tests were used to determine whether difference scores were significantly different from zero (i.e., whether the magnitude of salutary effects was significant).

Contrary to predictions, we did not find any significant differences between or within control and depressed participants in the magnitude of salutary effects of explicit distancing either for neutral or negative objects (Fig. 8). The magnitude of salutary effects of explicit distancing also did not differ from zero for either control or depressed participants, in neutral or negative objects. Results suggest that neither depressed nor control participants, experienced salutary effects of explicit distancing.
Figure 8.
*Effects of valence and group on emotional arousal*

*Note.* Error bars represent 1 SE above and below the mean.
DISCUSSION

Recent theory and research suggests that the ability to adopt a psychologically distanced, or decentered perspective on internal experiences is an important characteristic of mentally healthy individuals (Fresco, Moore, et al., 2007). Furthermore, enhancing the capacity to decenter in individuals with MDD, who tend to rely on maladaptive emotion regulation strategies, may be particularly important toward reducing the impact of the disorder (Teasdale et al., 2002). Despite potentially important implications for psychological health and well-being, few studies have examined the processes and mechanisms of decentering.

The current study represented an initial attempt to elucidate the mechanisms of decentering from within a psychological distancing framework. In general, we attempted to identify the conditions under which distancing would be associated with salutary effects. In particular, we tested novel hypotheses that the previously observed salutary effects of explicit psychological distancing, would also occur on an implicit level; furthermore, lower levels of maladaptive emotional functioning and regulatory capacities (i.e., depression, anxiety, rumination, expressive suppression) and higher levels of adaptive capacities (i.e., cognitive reappraisal and mindfulness) would predict the magnitude of salutary effects of implicit and explicit distancing. As hypothesized, findings revealed that not all individuals were equally likely to benefit from
psychological distancing manipulations, and only particular emotional functioning and regulatory characteristics of individuals were associated with benefits of distancing.

*The effects of adaptive characteristics*

In Study 1, individuals with higher levels of adaptive characteristics (i.e., higher levels of mindfulness) were more likely to show the expected pattern of implicit distancing-related salutary effects. In particular, “acting with awareness” and nonjudging of internal experiences,” were the two facets of mindfulness, positively correlated with implicit distancing capacity. Accordingly, these two facets of mindfulness were also shown to predict depression symptoms, anxiety, and stress-related symptomology in a community sample (Cash & Whittingham, 2010). The “acting with awareness” subscale assesses the tendency to “attend to one’s activities of the moment, and can be contrasted with behaving mechanically, while attention is focused elsewhere (i.e., automatic pilot)” (Baer, Smith, Lykins, Button, Krietemeyer, Sauer et al., 2008). Thus, it may be that individuals who were highly attuned to the demands of the task were most likely to benefit from the implicit distancing manipulation. Furthermore, the nonjudging of internal experience subscale assesses the tendency to “[take] a nonevaluative stance toward thoughts and feelings” (Baer et al., 2006), and was posited to be an important element of decentering (Fresco, Moore, et al., 2007). Consequently, we were not surprised that nonjudging predicted distancing abilities. Taken together, we suspect that nonjudging of internal experience and acting with awareness might be mechanisms that buffer against the attachment to- or bias toward negative emotional material, and thus
facilitate implicit psychological distancing; however future studies are needed to directly test this hypothesis.

We were surprised to find that trait decentering was not associated with implicit distancing-related benefits. It might be that the EQ measure of decentering is intended to assess an explicit process whereby individuals deliberately attempt to gain perspective on distressing thoughts and feelings (Fresco, Moore, et al., 2007), and does not capture implicit capacities. Indeed, decentering was associated with salutary effects in the explicit distancing task, which seems to corroborate an “explicit-process” conceptualization of EQ-decentering. Furthermore, the relationship between EQ-decentering and explicit distancing is consistent with our theory that psychological distancing represents a component process of decentering, and it suggests that the tendency to adopt a decentered and non-judgmental stance toward internal experiences (e.g., thoughts and feelings) is linked to the capacity to benefit from explicit psychological distancing.

Similarly, higher levels of cognitive reappraisal (i.e., the explicit process of intentionally reinterpreting the meaning of a stimulus) strongly predicted benefits of explicit distancing. In other words, individuals who tend to use cognitive reappraisal to reduce the impact of emotional stressors were more likely to benefit from the explicit distancing manipulation than those who do not often use reappraisal. Accordingly, some have recently proposed that the salutary effects of explicit, effortful psychological distancing result from enabling the event to be viewed or evaluated from within a wider frame of reference, which in turn, increases the likelihood of reappraisal of the meaning or significance of the stimulus (Kross et al., 2005; Teasdale et al., 2002). Viewing
internal or external events from a distance may bias observers to see the “forest rather than the trees”, and consider more global aspects or alternative explanations for an experience (Trope & Liberman, 2010). Indeed, self-distanced analysis of distressing autobiographical memories was associated with reduced recall of emotional aspects of recalled autobiographical events and increased likelihood of reconstrual (i.e., cognitive reappraisal) of the events (Kross et al., 2008).

Taken together, the findings of Study 1 are consistent with theory and research suggesting that the capacity to create psychological distance in response to stress is a characteristic of healthy individuals (e.g., Fresco, Segal, et al., 2007; Safran et al., 1990; Teasdale et al., 2002). However, non-depressed individuals in Study 2 did not show any evidence of distancing-related salutary effects in either implicit or explicit distancing. We interpreted the absence of salutary effects in this group could be due to a failure of negative stimuli to elicit negative emotional reactions in these individuals, as well as a lack of statistical power given the small sample size. A stronger emotional manipulation might improve our ability to detect salutary effects of distancing in healthy individuals.

Effects of maladaptive characteristics

Consistent with expectations, individuals with higher levels of maladaptive characteristics did not show salutary benefits of implicit or explicit distancing. Unexpectedly however, higher levels of maladaptive characteristics (i.e., depression, rumination) and lower levels of adaptive characteristics (i.e., mindfulness) were associated with a “reverse-distancing” effect in implicit distancing, whereby emotional reactivity increased with increasing distance. The nature of this reverse-distancing effect
will need to be elucidated in future studies; however, the finding that individuals with high levels of depression symptoms showed an abnormal pattern of results in implicit distancing performance, is consistent with research suggesting that depression is associated with deficits in implicit emotion regulation (Etkin et al., 2010; Etkin & Schatzberg, 2011). Furthermore, that depressive rumination showed a similar pattern of results, is consistent with the knowledge that rumination is a typical response style of depressed individuals, and has been associated with failures to disengage from negative material (Nolen-Hoeksema et al., 1991). Surprisingly, anxiety symptoms did not predict implicit or explicit distancing-related effects, suggesting that anxiety symptoms do not interfere with distancing. This finding was particularly unexpected in light of previous research showing that, like depression, generalized anxiety was associated with deficits in implicit emotion regulation (Etkin et al., 2011).

Interestingly, neither depression symptoms nor rumination predicted effects of explicit distancing. These findings might indicate that depression is a better predictor of “deficits” in implicit—rather than explicit—psychological distancing. Furthermore, this interpretation is consistent with explicit self-distancing findings, indicating that depressed individuals were equally capable of engaging in explicit distancing as non-depressed individuals (Kross et al., 2009). However, future studies are needed to test this hypothesis.

Implicit Versus Explicit Distancing

Overall, our results seem to suggest a pattern of specificity whereby measures of emotion regulation that assessed implicit, or automatic processes were associated with
salutary effects of implicit distancing, whereas measures that assessed explicit, or effortful processes were associated with explicit distancing. Specifically, higher levels of mindful acting with awareness and mindful non-judging of internal experience were associated with salutary effects of implicit distancing; whereas, cognitive reappraisal and decentering abilities predicted salutary effects of increasing distance explicitly. Furthermore, implicit and explicit distancing capacities were uncorrelated within individuals. This result suggests that the salutary effects of our implicit and explicit distancing tasks tap into different underlying emotional functioning and regulatory capacities.

An open question pertains to the mechanisms of the salutary effects of distancing. We have shown here that certain theoretically motivated individual difference characteristics covaried with implicit and explicit distancing; however the mechanisms subserving the salutary effects within those individuals are still relatively unclear. For example, the emotional benefits of distancing might be driven by secondary salutary processes, such as increasing the likelihood of reappraisal (Kross et al., 2008), reducing self-focused processing (Mor & Winquist, 2002), increasing abstract thinking (Fujita, Henderson, Eng, Trope, & Liberman, 2006), or simply by reducing the salience or vividness of emotional experiences (De Cesarei & Codispoti, 2008). Moreover, our finding that implicit and explicit distancing were associated with different emotion regulatory capacities, suggests that mechanisms of distancing are likely to differ as a function of implicitness or explicitness. Indeed, while the salutary effects of explicit distancing might depend on reappraisal processes, it is unlikely that the salutary effects of
implicit distancing in the current study depended on increasing reappraisal. Indeed, our implicit distancing task consisted of short trial durations and a concurrent cognitive task, which likely would have precluded effortful verbal-elaboration.

**Limitations**

The current study has several limitations. A primary limitation was our use of self-report measures of negative affect and arousal. In general, self-report measures of emotional processes are extremely limited, given that introspective reports concerning experiences are of an implicit nature often lack validity (Nisbett & Wilson, 1977). Thus, it will be important for future work to employ more direct psychophysiological measures of negative affect and arousal.

A second caveat of the current study is that, for purposes of experimental control, we manipulated psychological distance from external stimuli (i.e., visual images), rather than distancing from internal stimuli (e.g., thoughts, and feelings). We suspect that internal vs. external distancing may hinge on some of the same mechanisms (i.e., they might represent two sides of the same coin); however, further studies, which compare and contrast internal and external distancing abilities within the same individuals, are needed to elucidate this hypothesis.

Third, we did not assess participant abilities to make accurate size judgments in the implicit distancing task. Thus, we cannot know whether distancing-related changes in reaction time were associated with changes in accuracy (i.e., a speed, accuracy trade-off). Without an assessment of accuracy, we also do not know whether high levels of maladaptive traits were associated with relatively lower engagement in the task (i.e., less
effort). Collecting normative data on size-judgments in a separate group of participants would allow us to assess accuracy retrospectively, to rule out these possibilities. This issue could be further clarified in future studies by matching depressed and non-depressed participants on executive control abilities (e.g., utilizing a working memory task).

A final limitation pertains to a lack of statistical power. Specifically, with regard to our implicit task, experimental stimuli (i.e., images of negatively valenced objects) were relatively weak in terms of their capacity to elicit strong negative emotional reactions. Future studies might benefit from using more evocative stimuli, and perhaps idiographic, or sadness-eliciting stimuli in depressed individuals, who have historically shown larger attentional biases for mood-congruent stimuli (Peckham, McHugh, & Otto, 2010). Furthermore, the small sample size in Study 2 might have resulted in type II error. Indeed, a power analysis revealed that we should have recruited 27 individuals to achieve medium effect sizes within-subjects, and 51 individuals per group to achieve medium effects between subjects. Thus, a larger sample may enhance significance and reliability of effects in Study 2.

Future Directions

There are several potentially interesting additional avenues for future study of psychological distancing. For example, elucidating relationships of implicit and explicit distancing to other experimentally measured implicit and explicit emotion regulation capacities (e.g., cognitive reappraisal, suppression, distraction, emotional conflict adaptation, affect labeling), would help to better contextualize distancing in terms of
other regulatory processes. Similarly, examining neural correlates of task-based
distancing would allow us to examine whether distancing is associated with activation of
cortico-limbic inhibitory neural mechanisms subserving other types of emotion
regulation. Finally, examining the diagnostic specific of distancing effects (e.g., whether
deficits in decentering are specific to depression relative to other mood and anxiety
disorders), as well as the relationship of distancing to treatment outcomes, might further
elucidate the role of distancing in mental health.
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