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Brief Report

Boundary conditions and buffering effects: Does depressive symptomology moderate the effectiveness of self-distancing for facilitating adaptive emotional analysis?

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ABSTRACT

Recent findings indicate that a critical factor determining whether people's attempts to adaptively analyze negative experiences succeed or fail is the type of self-perspective (self-immersed vs. self-distanced) they adopt while analyzing negative feelings. The present research examined whether these findings generalize to individuals displaying high levels of depression symptoms who are particularly vulnerable to rumination. Findings revealed that the effectiveness of self-distancing for attenuating emotional reactivity increased linearly with depression symptoms. Moreover, mediation analysis revealed that participants tendency to *recount* vs. *reconstrue* their experience accounted for the regulatory effects of self-distancing on emotional reactivity regardless of depression symptoms.

1. Introduction

Increasing people's ability to reconstrue negative emotional experiences in ways that promote cognitive change is a central goal of various forms of cognitive therapy (e.g., Beck, Rush, Shaw, & Emery, 1979; Ellis, 1962; Kelly, 1955). Despite the critical importance of this process, decades of research indicate that it often escapes clinically depressed and dysphoric individuals when it is most needed – when negative feelings are intense and people are motivated to understand their feelings in order to improve them. Rather than facilitating adaptive self-reflection, focusing on one's feelings under such circumstances often gives rise to vicious cycles of rumination in which people focus repeatedly and passively on negative feelings in ways that serve to maintain and exacerbate depressive episodes (e.g., Nolen-Hoeksema, 1991; Teasdale, 1988).

Although classic conceptions of rumination suggest that any attempt by dysphoric and clinically depressed individuals to analyze negative emotions should overwhelm them with negative affect (Nolen-Hoeksema, 1991; for review, see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), an emerging line of research indicates that the relationship between emotional analysis and rumination is more nuanced by demonstrating the psychological conditions under which "asking why" may protect against rather than trigger rumination (Ayduk & Kross, 2008, 2009; Kross, 2009; Kross & Ayduk, 2008; Kross, Ayduk, & Mischel, 2005). Findings from this research program indicate that directing individuals to analyze feelings surrounding negative autobiographical experiences from a *self-distanced* perspective (i.e., self as observer, [distanced-analysis from hereon]) leads individuals to focus relatively less on *recounting* the emotionally evocative details of their experience (i.e., what happened) and relatively more on *reconstruing* it in ways that promote insight and closure compared to individuals who analyze their feelings from a self-immersed perspective (i.e., through one's own eyes [immersed-analysis from hereon]).[1] This shift in the content of peoples' thoughts about their past experiences (less recounting and more reconstruing), in turn, leads to lower levels of emotional reactivity (Kross & Ayduk, 2008; Kross et al., 2005; also see Kross, Davidson, Weber, & Ochsner, 2009). Over time, distanced-analysis has been shown to buffer people against prolonged cardiovascular reactivity (Ayduk & Kross, 2008) rumination, and future negative affect (Ayduk & Kross, 2009; Kross & Ayduk, 2008).

The negative affect and rumination buffering effects of distanced-analysis have been observed relative to a variety of theoretically relevant comparison conditions (immersed-analysis;

[1] Distanced-analysis conceptually overlaps with "mindfulness" and "decentering" techniques in that all three processes lead people to observe their thoughts and feelings as "mental events" that are separate (i.e., distanced) from the self. Distanced-Analysis differs from these processes, however, because it leads individuals to *actively analyze,* rather than simply be aware of, their thoughts and feelings from this distanced perspective. Distanced-analysis is also different from dissociation. Although the latter process also involves a distancing component, dissociation involves severing the connection between the individual and his/her thoughts, memories, feelings, actions, and identity whereas distanced-analysis does not.

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distraction) using an array of explicit, implicit, and physiological measures in both single-session and longitudinal designs (for review, see Kross, 2009). Collectively, these findings demonstrate that the benefits associated with distanced-analysis are neither a function of experimenter demand nor of cognitive avoidance (for discussion, see Ayduk & Kross, 2009; Kross & Ayduk, 2008). More generally, they provide evidence indicating that self-distancing aids people in their attempts to adaptively analyze negative experiences. A key issue that has not been addressed by this line of research, however, is whether the emotion-regulatory effects of distanced-analysis generalize to individuals who are particularly vulnerable to rumination and therefore stand to gain the most from implementing this technique.

We examined this issue in the present study by pooling data from five published studies conducted in college student samples that examined the effect of distanced-analysis on emotional reactivity and thought content which also included unanalyzed Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) data. The BDI is one of the most widely used measures for detecting the intensity of depression symptoms in both normal and clinical populations (Beck, Steer, & Garbin, 1988) and has been extensively used in prior research to examine the relationship between depressive symptoms and rumination. We used this measure in the present study to directly connect the present work to prior research on rumination, and to provide a first step towards examining the clinical generalizability of research on distanced-analysis.

2. Method

2.1. Samples

To date, the effect of manipulating self-perspective on emotional reactivity has been examined in five samples in which BDI data were also collected (total N with BDI data = 477,[2] M_{age} = 21.74, 53% female). Characteristics of each sample are summarized in Table 1.

2.2. Procedure and materials

2.2.1. Overview

All studies used the same instructions to manipulate self-perspective but differed in their design (single-session vs. longitudinal) and the specific measures they assessed. The measures collected most frequently in these studies were emotional reactivity (5/5 studies) and thought content (4/5 studies). We focus our analyses on these variables because they provide a sample large enough to reasonably represent individuals who scored relatively high on the BDI thus providing sufficient power to make confident inferences about the effectiveness of distanced-analysis among individuals who are particularly vulnerable to rumination.

2.2.2. Self-perspective manipulations

After hearing a brief cover story, participants in all studies were cued via a computer program to recall a specific negative autobiographical experience. In two studies participants were asked to recall an anger-related interpersonal experience; in three studies participants were asked to recall a depression-related experience. Subsequently, participants were randomly assigned to adopt either a *self-immersed* (i.e., replay the experience happening through your own eyes) or *self-distanced* (i.e., take a step back and watch the experience happening to your distant self) perspective and then analyze their feelings from the perspective they adopted.

[2] Across five experiments, twelve participants were missing either BDI or emotional reactivity data and were thus not included in the current analyses.

2.2.2.1. Emotional reactivity.

Participants in each study rated their level of emotional reactivity in response to analyzing their negative experiences after the emotional analysis period. The questions used to gauge emotional reactivity varied across studies (see Table 1). All scores were standardized within sample prior to data analyses.

2.2.2.2. Thought content.

In four of the five studies participants described in writing the stream of thoughts that flowed through their mind during the emotional analysis phase of the experiment. In each sample, two independent judges blind to condition rated these essays on the extent to which they displayed *recounting* and *reconstruing* (0 = not at all, 1 = somewhat, 2 = very much). "Recounting" was operationalized as the degree to which the participants described in their essays the specific chain of events and emotions they experienced. Reconstruing was operationalized as the degree to which participants (a) described a realization about or change in the way the participant understood the causes underlying the event or their feelings and (b) indicated that they were taking into account past and current experiences to make sense of their feelings and experience. Interjudge reliabilities across the four samples was good (r's between .74 and .79). Recounting and reconstruing scores were standardized within sample prior to data analyses (see Table 1).

2.2.3. Depression symptoms

In each study, participants completed either the 21-item or 13-item version of the BDI. The major content differences between the two measures are that the shorter version includes fewer items that reflect secondary symptoms of depression that can have multiple causes or are redundant. Both versions assess levels of depression symptoms with items that are rated on a scale from 0 to 3, with higher scores reflecting more depression symptoms, and correlate highly with each other (Beck & Beck, 1972). Pooling data from each sample, the mean BDI score for the 21-item was 8.18 (SD = 6.49; range: 0–39; n = 279) and 5.42 (SD = 4.48; range: 0–22; n = 198) for the 13-item measure. Using standard cutoff scores (for 21-item measure, see Beck et al., 1988; for 13-item measure, see Beck & Beck, 1972) for categorizing participants into depression symptom groups, collapsing across all samples yielded a wide range of scores, with approximately 61% (n = 291) of participants reporting none to minimal symptoms, 24% (n = 113) reporting mild to moderate symptoms, and 15% reporting moderate to severe symptoms (n = 73) that were equally distributed across conditions ($\chi^2(2) = .87$, $p = .65$). Reliability for both the 21-item ($\alpha = .85$) and 13-item ($\alpha = .81$) measures was good. BDI scores were standardized within sample prior to data analyses.[3]

2.3. Results

2.3.1. Overview of data analyses

We first examined the effect of condition (immersed-analysis = 0 vs. distanced-analysis = 1), depression symptoms, and the interaction between these variables on each dependent variable using depression symptoms as a continuous variable in multiple regression. This approach was adopted to maximize statistical power, as continuous measures are more sensitive for detecting effects than categorical variables (Cohen, Cohen, West, & Aiken, 2003). If a significant interaction effect was observed, simple slope analyses were subsequently performed at multiple points along the regression line to understand its meaning (see Fig. 1, Panel

[3] In Kross and Ayduk (2008) Study 2 combined samples that went through the Time 2 assessment either one day or one week after the initial experimental manipulations. Due to a computer malfunction no BDI data was available for participants in the 1-week sample. Therefore, data from these participants were not included in any of the analyses reported in this manuscript.

A). In addition, although statistical analyses were not run using depression symptoms as a categorical variable reflecting symptom severity (i.e., none to minimal vs. mild to moderate vs. moderate to severe), we illustrate the findings separately for each of these symptom groups in Fig. 1, Panel B to allow for clinical inference.

Preliminary analyses revealed a main effect of gender on emotional reactivity and recounting indicating that women displayed higher levels on these variables compared to men. However, neither gender nor sample interacted significantly with condition or depression symptoms in predicting any of the dependent variables, and controlling for the main effects of these variables did not alter the significance of any of the results. Therefore, these variables will not be discussed further.

2.3.2. Emotional reactivity

Regression analyses revealed significant main effects of condition ($\beta = -.41$, $t = -4.83$, $p < .001$) and depression symptoms ($\beta = .44$, $t = 6.60$, $p < .001$) on emotional reactivity. These main effects were qualified, however, by a significant condition × depression symptoms interaction ($\beta = -.31$, $t = -3.50$, $p < .001$; Fig. 1, Panel A). Simple slope analyses indicated that the effectiveness of distanced-analysis for reducing emotional reactivity increased linearly with depression symptoms. Specifically, whereas participants in each group with depression symptom scores 1 SD below the mean did not differ significantly from each other ($\beta = -.10$, $t = -.82$, $p = .41$), statistically significantly differences between the two groups emerged and increased monotonically as depression symptoms increased. Thus distanced-analysis participants with depression symptom scores that were .50 SD below the mean ($\beta = -.26$, $t = -2.69$, $p < .01$), .50 SD above the mean ($\beta = -.57$, $t = -5.98$, $p < .001$), and 1 SD above the mean ($\beta = -.73$, $t = -5.98$, $p < .001$) displayed significantly lower levels of emotional reactivity than their immersed-analysis counterparts. Fig. 1, Panel B illustrates the relationship between emotional reactivity and condition separately for different depression symptom groups.

2.3.3. Thought content

The effect of condition was significant for both recounting ($\beta = -.35$, $t = -3.56$, $p < .001$) and reconstruing ($\beta = .35$, $t = 3.53$, $p < .001$) with participants in the distanced-analysis group displaying significantly lower levels of recounting and significantly higher levels of reconstruing. Neither the effect of depression symptoms (recounting: $\beta = .01$, $t = .06$, $p = .95$; reconstruing: $\beta = -.10$, $t = -1.27$, $p = .21$) nor the interaction between depression symptoms and condition were significant for either thought content index (recounting: $\beta = .09$, $t = .82$, $p = .41$; reconstruing: $\beta = -.03$, $t = -.27$, $p = .79$).

2.3.4. Thought content as a mediator of the condition → emotional reactivity link

Prior research indicates that the degree to which participants engage in recounting vs. reconstruing while thinking about past experiences (recounting minus reconstruing difference score) mediates the effects of the self-perspective manipulation on emotional reactivity (see Kross & Ayduk, 2008 for a discussion of this analytic approach). Following Baron and Kenny (1986), we examined whether this causal pathway remained significant when controlling for depression symptoms on all participants who had both emotional reactivity and thought content scores. Because depression scores and condition did not interact in predicting either thought content index, we performed these analyses including depression symptoms as a covariate.

As indicated above, type of self-perspective was significantly related to both emotional reactivity ($\beta = -.38$, $t = -4.01$, $p < .001$) and the predominance of recounting over reconstruing ($\beta = -.44$, $t = -4.52$, $p < .001$). In the third step necessary to establish media-

Table 1
Summary of sample and study characteristics of previous research on self-distancing.

Study	Type of negative experience recalled	*N*	Mean age (years)	Women (%)	Emotional reactivity	Recounting	Reconstruing	Self-report emotional reactivity instrument
Kross et al. (2005), Study 1	Anger	75	21.12	50.7	1.87 (0.97)	–	–	Participants completed the angry affect subscale of the positive and negative affect schedule (PANAS; 1 = not at all, 5 = extremely)
Kross et al. (2005), Study 2	Anger	122	21.41	53.3	4.18 (1.55)	0.63 (0.42)	0.29 (0.41)	Participants rated the (a) extent and (b) intensity with which they re-experienced during the experiment the negative emotions they felt during the recalled conflict on a 1 (not at all, not intense at all) to 7 (a lot, very intense) scale. These items were collapsed to form an index of emotional reactivity
Ayduk and Kross (2008)	Anger	82	20.59	56.1	3.55 (1.41)	1.29 (.65)	.48 (.68)	Same as Kross et al. (2005), Study 2
Kross and Ayduk (2008), Study 1	Depression	91	23.78	57.1	4.13 (1.56)	1.12 (0.48)	0.30 (0.48)	Participants (a) completed the valence subscale of the self-assessment manikin, which asks them to rate how they felt "RIGHT NOW," after the experiment (1 = very pleasant, 9 = very unpleasant) and (b) rated how "sad" and "depressed" they felt (1 = not at all, 5 = extremely). Ratings on these measures were standardized and collapsed to form a single index of depressed affect
Kross and Ayduk (2008), Study 2	Depression	107	21.72	56.1	4.24 (1.57)	1.00 (0.52)	0.31 (0.49)	Same as Kross and Ayduk, Study 1

Note: *N* refers to the number of the participants from each study for which both BDI and emotional reactivity data was available.

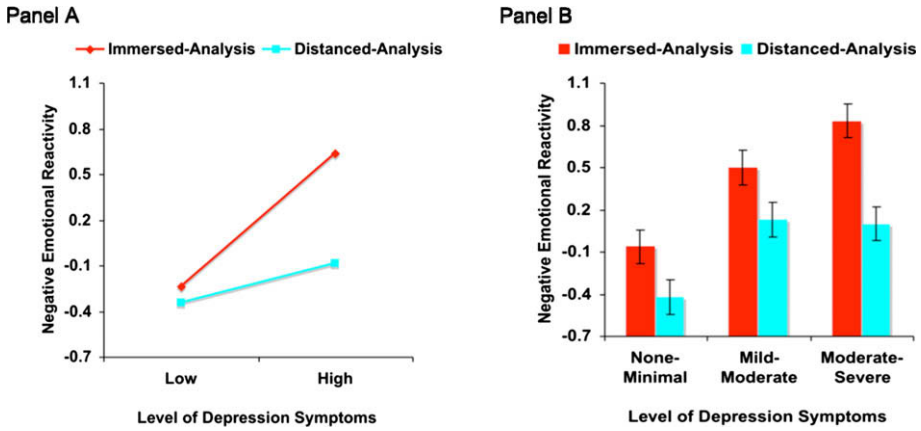

Fig. 1. Graph illustrating the relationship between condition (immersed-analysis vs. distanced-analysis), level of depression symptoms and *Z*-score transformed negative emotional reactivity. Panel A illustrates the relationship between these variables using BDI as a continuous variable. Panel B illustrates the relationship using depression symptoms as a categorical variable reflecting degree of symptom severity (i.e., none to minimal vs. mild to moderate vs. moderate to severe).

tion, predominance of recounting over reconstruing was significantly associated with emotional reactivity ($\beta = .19$, $t = 3.99$, $p < .001$) and controlling for this indirect link, the relationship between self-perspective and emotional reactivity was significantly attenuated ($\beta = -.29$, $t = -3.10$, $p < .005$; Sobel's $z = -2.98$, $p < .005$) indicating that predominance of recounting over reconstruing partially mediated the association between self-perspective and emotional reactivity.[4]

2.4. Discussion

Several recent studies have examined the role that self-distancing plays in facilitating adaptive emotional analysis. The present research examined whether these findings generalize to individuals displaying high levels of depression symptoms who are especially vulnerable to rumination. The results revealed two main findings.

First, consistent with prior research on rumination (Nolen-Hoeksema et al., 2008), depression symptoms were positively correlated with emotional reactivity for participants in the immersed-analysis group. However, this positive association was significantly attenuated for distanced-analysis participants to the point that distanced-analysis participants reporting high levels of depression symptoms displayed the same relatively low levels of emotional reactivity as low depression symptom participants in the immersed-analysis group.

Second, the same causal pathway[5] mediated the effect of the self-perspective manipulations on emotional reactivity regardless of level of depression symptoms. Specifically, distanced-analysis led all people to focus relatively less on *recounting* their past experience and relatively more on *reconstruing* it. This shift in the content of people's thoughts about their experiences, in turn, predicted the level of emotional reactivity they displayed.

When considering these results together, it is noteworthy that depression symptoms were significantly related to emotional reactivity, but not thought content. This finding indicates that the self-perspective manipulations led both high and low depression symptom participants to focus on their experience the same way, but that high depression symptom individuals experienced more intense levels of negative affect as a result. This result is consistent with cognitive models of depression (Abramson & Alloy, 2006; Beck et al., 1979; Teasdale, 1988), which suggest that depression is characterized by the tendency to magnify emotional responses.

It is also noteworthy that no effect of condition was observed on emotional reactivity for individuals who displayed especially low symptoms of depression (i.e., BDI scores <1 SD below the mean). Failure to observe an effect among these participants was not surprising given prior research which consistently finds no effect of rumination inductions on mood in non-dysphoric individuals (Nolen-Hoeksema et al., 2008).

2.4.1. Conclusions

The present findings demonstrate that it is not the case that any attempt to focus abstractly on why one is feeling upset undermines adaptive emotional analysis. Instead, these findings indicate that it is possible, even for individuals who are particularly vulnerable to rumination, to analyze their feelings without becoming overwhelmed by negative affect if they adopt a self-distanced perspective. However, BDI scores clearly do not provide a surrogate for clinical diagnoses of depression (Coyne, 1994). It is thus not possible to determine whether distanced-analysis will have the same salutary effects for clinically depressed individuals based on these findings. This limitation not withstanding, the present findings suggest that taking the next step to examine how these self-perspective manipulations operate in such clinical populations is a worthwhile and potentially fruitful endeavor.

Acknowledgments

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[4] When separate mediation analyses were performed on each group that displayed a significant effect of condition on emotional reactivity (i.e., participants with BDI scores that were .50 SDs below the mean, .50 SDs above the mean, and 1 SD above the mean), thought content significantly mediated the relationship between condition and emotional reactivity in each case.

[5] It is important to note that the studies described in this research were designed to test a specific hypothesis regarding the causal chain of events – self-perspective → thought content → emotional reactivity. Although this causal pathway is consistent with the rationale guiding this research (Kross & Ayduk, 2008; Kross et al., 2005; also see Strack, Schwarz, & Gschneidinger, 1985; Trope & Liberman, 2003), it is possible (and likely) that emotional reactivity may feed back to further influence thought content. Future research should address this issue by assessing thought content and affect repeatedly over time. It is also important to recognize that that the question used to gauge thought content in these studies required people to reflect back on the stream of thoughts that flowed through their mind during the emotional analysis phase of the experiments, and is thus susceptible to retrospective bias. Future research should employ additional types of thought content measures (e.g. think aloud tasks) to provide a more fine grained analysis of this variable.

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