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Rumination in Everyday Life: The Influence of Distancing, Immersion, and Distraction

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Abstract

Rumination has been consistently associated with the development and maintenance of a variety of psychological disorders. While recent research has investigated a number of strategies to counter rumination and its negative effects, few have investigated their efficacy outside of a clinical or laboratory context. The current study used a daily diary methodology to compare the efficacy of three such strategies in the everyday lives of a highly ruminative sample. Over the course of 10 days, participants (*N* = 154) were asked to apply one of three perspectives (distanced, immersed, or distraction) to their thoughts and emotions about the most stressful event of the day and then to write a short narrative about the event. Over the 10-day period, immersion was associated with an average increase in negative emotion from before to after the narrative, whereas distancing was associated with little reactivity, and distraction was associated with a decrease in negative emotion. Participants in the distanced condition showed less ruminative, unproductive processing and used fewer negative emotion words in the narratives than those in the immersed condition. These differences were maintained over the 10-day study period. In targeted analyses of the days with the highest level of ruminative processing and/or event-related stress for each individual, the distanced and immersed groups reported similar levels of negative emotion reactivity and word use, but the distanced group showed less ruminative processing in the narratives. An interaction emerged suggesting that ruminative processing was only associated with an increase in negative emotion in the immersed group and not in the distanced group. The findings are discussed in the context of decreasing risk for depression and related disorders by targeting emotion regulation strategies on a daily level.

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Keywords: Rumination, distancing, immersed, distraction, emotion regulation, daily-diary

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Introduction

Rumination is the process of “repetitively and passively focusing on symptoms of distress and on the possible causes and consequences of these symptoms” (pg. 400, Nolen- Hoeksema, Wisco, & Lyubomirsky, 2008). It is a key predictor of the onset and maintenance of major depressive disorder (MDD), as well as anxiety, binge-eating, and substance abuse disorders (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Ehring & Watkins, 2008; Nolen- Hoeksema et al., 2008). A ruminative response style is associated with a number of negative psychological consequences, such as high levels of negative mood, low social support, and poor problem solving (Lyubomirsky, Caldwell, & Nolen-Hoeksema, 1998; Moberly & Watkins, 2008; Nolen-Hoeksema et al., 2008). In addition, rumination has been

demonstrated to be more strongly associated with symptoms of psychopathology than most other styles of responding to distress (Aldao & Nolen-Hoeksema 2010; Aldao, Nolen-Hoeksema, & Schweizer, 2010).

Rumination has been proposed to be a transdiagnostic risk factor for the development of a number of forms of psychopathology (Nolen-Hoeksema et al., 2008; Nolen-Hoeksema & Watkins, 2011), and this and other types of unproductive processing are central targets of psychotherapy (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004; Segal, Williams, & Teasdale, 2002; Watkins et al., 2011). Exploration of this proximal, within-person risk factor in response to daily life events can yield important information for psychopathology and treatment research (Nolen-Hoeksema & Watkins, 2011). Daily-process research provides a unique way to investigate how risk processes unfold in "real-time" rather than in a laboratory or in a clinical context, when psychopathology has already emerged (Bolger, Rafaeli, & Davis, 2003). The current study uses a daily diary methodology (Bolger & Laurenceau, 2013) to compare the effectiveness of three emotion regulation strategies when recalling the most stressful event of the day, a context that might be relevant to the process of stress generation and the development of psychopathology symptoms.

Rumination

Rumination is not only characteristic of those currently suffering from MDD, but also of those who have remitted from depression and those at risk for developing the disorder. This stability across depression states suggests that rumination can be an ingrained way of responding to negative mood states (Just & Alloy, 1997; Nolen-Hoeksema, 1991). Watkins and Nolen-Hoeksema (2014) further hypothesize that episodes of repetitive unproductive thought processes, such as rumination, can become conditioned over time and circumstances such that they become entrenched and self-perpetuating mental habits.

Multiple studies have shown that those with a tendency to ruminate also exhibit overall deficits in the inhibition of negative material. Koster and colleagues propose an "Impaired Disengagement Hypothesis," which suggests that the "central engine" of rumination is difficulty disengaging attention from negative information that relates to the self (Koster, De Lissnyder, Derakshan, & De Raedt, 2011). Rumination is associated with problems inhibiting ineffective strategies and switching to more helpful strategies when performing cognitive tasks (Davis & Nolen-Hoeksema, 2000; Whitmer & Banich, 2007). Overall, ruminators have difficulty inhibiting negative emotional information, which may explain the intrusive and perseverative nature of ruminative thought (e.g. Joormann, 2004, 2006, 2010; Joormann & Gotlib, 2008).

Robinson and Alloy (2003) distinguish stress-reactive rumination (passively and repetitively focusing on one's own negative thoughts and emotions *after a stressful event*) from a more general depressive rumination style (Nolen-Hoeksema & Morrow, 1991). In their study of non-depressed undergraduates, Robinson and Alloy found that the interaction between stress-reactive rumination and negative cognitive styles was a stronger prospective predictor of the onset, number, and duration of depressive episodes than the interaction between general depressive rumination and negative cognitive styles. These findings suggest that designs that examine rumination in the context of daily life events might be particularly useful.

Emotion Regulation Strategies that Counteract Rumination

Distraction

Many of the early experimental examinations of rumination compared this response style to distraction from negative thoughts and feelings (e.g. Lyubomirsky et al., 1998, Lyubomirsky & Nolen-Hoeksema, 1995; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). These studies consistently reported that distraction was associated with fewer negative effects than rumination, including lower negative mood, better problem solving, and less overgeneral autobiographical memory. In the short-term, distraction may provide relief from overwhelming emotions and thought patterns, but if used as the primary strategy for emotion regulation, it may lead to suppression of thoughts and feelings and inhibit productive cognitive and emotional processing (Kross & Ayduk, 2008). In addition, although many dysphoric ruminators know that positive distractions can be helpful, they tend to be unlikely (Wenzlaff, Wegner, & Roper, 1988) or unwilling (Lyubomirsky & Nolen-Hoeksema, 1995) to use this strategy to regulate their emotions. These findings suggest a need for additional emotion regulation strategies to regulate the tendency to ruminate.

Distancing and Decentering

Another technique found to facilitate productive processing of emotional material is "self-distanced analysis" (Kross, Ayduk, & Mischel, 2005). Multiple laboratory studies have demonstrated that analyzing a negative, emotionally-laden event from a self-distanced, third-person perspective is associated with less negative emotion and more adaptive processing of the event than recalling the event from an immersed, first-person perspective (Crawley, 2010; Kross & Ayduk, 2008; Kross et al., 2005; Wisco & Nolen-Hoeksema, 2011). Other studies have reported similar attenuations in negative emotion when participants were asked to distance themselves from negatively-valenced social images (Koenigsberg et al., 2009; Koenigsberg et al., 2010). In addition, spontaneous self-distancing outside of the laboratory in everyday life is associated with negative affect of lower intensity and shorter duration (Ayduk & Kross, 2010; Verduyn, Van Mechelen, Kross, Chezzi, & Van Bever, 2012). Ayduk and Kross (2010) report that self-distanced analysis when recalling an emotional experience was associated with lower levels of emotional reactivity after the task and also with lower levels of intrusive ideation and emotional reactivity to that same memory six weeks later. Importantly, Kross and Ayduk (2008) found that the immediate regulatory effects of self-distancing were equivalent to those of distraction, but only the effects of distancing were maintained over time. Thus, the benefits of distraction might be short-lived.

Kross and colleagues have examined potential mechanisms of the salutary effects of self- distancing by instructing participants to write about their thoughts and feelings in a stream-of- consciousness fashion (Kross & Ayduk, 2008; Kross et al., 2005). These studies revealed that the reduction in negative mood brought about by a distanced perspective was mediated by a higher proportion of "reconstruing" statements (statements of insight or closure) relative to "recounting" statements (statements that describe the specific chain of events, behaviors, or emotions experienced). Similarly, other studies have shown that when instructed to take a third- person perspective, people tend to report higher rates of self-understanding (Wilson & Ross, 2003) and more quickly find closure on past experiences (Crawley, 2010). Together, these findings suggest that thinking about the causes and consequences of one's feelings can be adaptive, if done from a distanced perspective.

Studies on a number of treatments that employ methods similar to self-distancing corroborate these experimental results. For example, distancing somewhat from one's thoughts and feelings, or "decentering," is a central tenet of a number of 'third-wave' forms of cognitive behavioral treatment (e.g. Hayes, Strosahl, & Wilson, 1999; Linehan, 1993; Segal, Williams, & Teasdale, 2002). Research examining the psychological processes in these and similar treatments have found decentering and "meta-awareness" to be central mechanisms of therapeutic change (e.g. Bernstein et al., 2015; Carmody, Baer, Lykins, & Olendzki, 2009; Hargus, Crane, Barnhofer, & Williams, 2010).

The Current Study

The current study aimed to compare the everyday effectiveness of three different emotion regulation strategies, two of which have been found in previous research to be helpful in preventing or reducing rumination.[1] A non-clinical, but highly ruminative sample was included so that these strategies could be tested in participants at risk for developing depression. A daily- diary methodology was used to examine the usefulness of immersion versus distancing and distraction over 10 days in participants' everyday lives. We predicted that distraction and distancing would be associated with less negative emotional reactivity following the recall of a stressful daily event than immersion. Based on previous findings by Kross and colleagues (Kross & Ayduk, 2008; Kross et al., 2005), we also expected distancing to be associated with lower levels of unproductive, ruminative processing than immersion.

[1] Another method with promising effects on rumination is "concreteness training" (Jacoby, Brewin, & Watkins, 2008; Watkins & Moulds, 2005; Watkins et al., 2011, 2012; Watkins, Teasdale, & Williams, 2003). In the current study, we examined three emotion-regulation strategies that participants can learn to use with a simple instruction set. Concreteness might be tested best as a regulation strategy after a training period.

Method

Participants

Participants were undergraduate students at a public university in the Mid-Atlantic region of the United States, who completed the experiment to fulfill their research participation requirement. Participants were required to be native English speakers. The sample was mostly female (75.2%) and primarily Caucasian (78.6%) but also included Non-Hispanic African- American (4.5%), Hispanic (3.2%), and Asian (2.6%) participants, and those who endorsed "other or unknown" (5.2%). Another 9 participants (5.8%) chose not to provide their ethnicity.

The mean age of participants was 18.47 years (*SD* = 0.69, range = 18 to 21). This was a largely nondepressed sample, with a mean depression score on the Beck Depression Inventory II (BDI- II; Beck, Steer, & Brown, 1996) of 6.00 (*SD* = 7.00).

Preliminary Measures and Procedures

Ruminative thought style.

All potential participants completed pretest measures, and those who scored within the top quartile (score of 95 or higher) on the Ruminative Thought Style Questionnaire (RTS; Brinker & Dozois, 2009) were invited to participate in this study (*N* = 157). The RTS is designed to measure a repetitive, recurrent, and uncontrollable thought style in a manner that is unbiased by the effects of current mood or depressive symptoms. Internal consistency for the RTS was high in the current sample (α = 0.89).

Informational meeting and initial survey.

First, participants were randomly assigned to one of three conditions: distanced, immersed, and distraction. Participants were then invited to attend an informational meeting, which was held separately for each condition. At these meetings, the research staff informed participants that they were being asked to participate in a study examining the usefulness of three different strategies for analyzing thoughts and feelings following daily stressful events. Research staff then described the study procedures for each group, obtained participants' informed consent, and instructed participants on how to complete the online measures. Immediately following these meetings, research staff emailed all participants a link to a one-time, online initial questionnaire that they asked participants to complete by a specified time. This questionnaire included questions on demographic information, as well as the Beck Depression Inventory II (BDI-II, Beck, Steer, & Brown, 1996).

Daily Measures and Procedures

After completing the initial informational meeting and online survey, participants completed identical online surveys each evening for 10 consecutive days. Participants completed daily surveys at the time of their choice between the hours of 7 pm and 1am. They were randomly assigned to one of three conditions: distanced, immersed, or distraction.

Daily negative events and most stressful event.

Within each survey, participants were given a checklist of 19 common daily stressors adapted from two previous college student diary studies (Dasch, Cohen, Sahl, & Gunthert, 2008; LoSavio et al., 2011). Participants indicated whether or not each event occurred that day and then identified which of the negative events from the checklist was "the worst, most stressful event of the day." If the most stressful event did not fit into one of the categories provided, they were asked to provide a brief description of it.

Participants were then asked two questions about this event, which were worded as follows: "How stressful was this event in comparison to other stressful events you have experienced in the past?" and "How unpleasant was this event?" Participants answered these questions using Likert-type scales that ranged from 1 *(among the least stressful* or *slightly unpleasant*, respectively) to 5 (*among the most stressful* or *extremely unpleasant*).

Affect: Positive and Negative Affect Schedule (Crawford & Henry, 2004; PANAS; Watson, Clark, & Tellegen, 1988).

Participants completed the PANAS immediately before and then after the narrative task. The PANAS assesses current mood by asking participants to rate the extent to which they are currently feeling 20 different emotions "*right now*" on a Likert-type scale from 1 (*not at all*) to 5 (*extremely).* Ten items are used to create a measure of negative affect. Internal consistency of the PANAS Negative Affect scale was high across all measurement points (α = .865 - .921).

Memory recall task.

After completing the self-report questionnaires, participants in the distanced and immersed condition were cued to recall the event they indicated as "the most stressful" earlier in the survey. They were then asked to recall this event through a guided imagery task used in previous research (Kross & Ayduk, 2008; Kross et al., 2005), except that instructions were provided in text rather than oral form, given the web-based design. Participants were assigned to one of two guided imagery scripts (distanced, immersed) based on their experimental condition. These scripts were divided into three separate survey pages, each of which was timed to be displayed for a minimum number of seconds before participants were able to move on to the next page (although they could stay longer if they wished).

The first page of the task (displayed for a minimum of 10 seconds) instructed participants to adopt a specific perspective when recalling the target event: either immersed ("through your own eyes") or distanced ("from a distance"). The second page (displayed for a minimum of 20 seconds) instructed participants to replay the experience in their imagination from the perspective they were told to adopt. The third page (displayed for a minimum of 60 seconds) asked them to analyze their thoughts and feelings related to this experience. In total, participants spent a minimum of 90 seconds completing the task, although they could choose to take longer.

The distraction condition consisted of a series of six neutral statements (e.g., "Florida produces many oranges") that were piloted in previous studies (Kross & Ayduk, 2008). These statements were presented one page at a time in the survey. The participants in this condition were not asked to focus on the event that they identified as the most stressful, but were instead asked to visualize each neutral statement as it appeared. Statements were taken from a pool of 26 total statements, and participants were given a different combination of six of these statements each day of the study. Each statement was timed to be displayed for a minimum of 15 seconds before participants could move to the next statement, resulting in a minimum task length of 90 seconds, to match the length of the other two conditions.

Event narratives and mood.

Similar to past research (Kross et al., 2005; Kross & Ayduk, 2008), participants were asked to report on their current emotional experience (PANAS) and then to write a short narrative (at least 500 characters) "stream-of-consciousness style," describing the thoughts that flowed through their mind as they completed the guided imagery task. Immediately after completing the narrative for a given day, participants were asked to complete questions that assessed the effectiveness of the experimental manipulation.

Manipulation check.

To assess the extent to which participants adopted an immersed versus a distanced perspective during the experiment, two questions were asked: "During the recall task, to what extent did you experience the event through your own eyes, as if it were happening all over again?" and "During the recall task, to what extent were an observer of your stressful experience?" Participants were asked to rate these questions on a 7-point, Likert-type scale that ranged from 1 (*not at all)* to 7 (*completely).*

Technique practice.

At the end of each daily survey, participants were encouraged to use their assigned technique (distancing, immersion, or distraction) over the course of the following day after stressful events occurred. At the beginning of the survey on

the following day participants were asked how often they used their assigned technique during the previous day (0 = *not at all* to 7 = *very frequently*). This was conceptualized as a measure of participants' engagement in the study.

Narrative Coding

CHANGE coding system.

The CHANGE (Hayes, Feldman, & Goldfried, 2007) is an observational coding system developed to assess inhibitors and facilitators of psychotherapeutic outcome and was used to code the content of participant narratives. Coders were four undergraduate research assistants blind to study condition and hypotheses. They were trained to use the CHANGE until they reached a criterion agreement level of 80%. Following this training period, one coder rated each narrative, and 25% of the narratives were coded by all four coders for criterion checks. The category of interest in this study was *unproductive processing*, which is defined as the extent to which the person approaches and explores a problem, but gets stuck repetitively thinking about it or analyzing it. This can include rumination, worry, and unproductive venting. It was coded on a scale from 0 to 3 (0 = *not present or very low*, 1 = *low*, 2 = *medium*, 3 = *high*). Inter-rater agreement was high (ICC = 0.82). An example of a narrative with a high level of unproductive processing is:

> Fighting with him today put me in a bad mood. I feel stressed, and I hate that feeling. I keep thinking to myself, why me? Do other people go through this too? How do they deal with it? If they can handle it, then why can't I? I tried to think positive by saying to myself, "It will all be okay, and it will work out," but it didn't help. I wish this feeling would go away – it's becoming hard to concentrate on other things.

Linguistic Inquiry and Word Count (LIWC) program.

LIWC is text analysis program developed by Pennebaker, Francis, and Booth (2007). LIWC was used to analyze participant narratives by checking their linguistic content against an internal dictionary (LIWC English Dictionary, 2007). The dictionary consists of a number of different linguistic categories, one of which was of interest in this study: percentage of negative emotion words (e.g., hurt, sad, angry). LIWC was also used to determine the word count of each daily narrative and the average narrative word count across groups.

Data Analytic Plan

Data were analyzed using hierarchical linear modeling (HLM 7; Raudenbush et al., 2011) and ordinary least squares (OLS) regression. To examine group differences, dummy variables were created for each condition (distraction = 1 vs other conditions = 0; distancing = 1 vs other conditions = 0; immersion = 1 vs other conditions = 0). For each analysis, one condition acted as the reference group.

The primary outcome analyses were performed using 2-level HLM.[2] In each analysis, technique practice was group-mean centered and included as a control variable at level 1. The person mean of technique practice was included at level 2 (both intercept and slope) to control for between-person variations in daily practice of their assigned technique (Zhang, Zyphur, & Preacher, 2009). Study day was grand-mean centered and included as a control variable at level 1. Intercepts were estimated to examine mean levels of each daily variable, whereas slopes represented the change in the outcome variables of interest over time. For each outcome, two separate HLM models were estimated – one

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[2] A sample of the equations modeled for the primary outcome analyses are as follows (technique practice is group- mean centered on level 1, study day is grand-mean centered on level 1, and immersion is the reference group):
Level 1 (daily level):
Outcome variable$_{ti}$ = β_{0i} + β_{1i}*(study day$_{ti}$) + β_{2i}*(technique practice$_{ti}$) + e_{ti}
Level 2 (person-level):
Intercept: β_{0i} = γ_{00} + γ_{01}*(technique practice person mean$_i$) + γ_{02}*(distanced$_i$) + γ_{03}*(distract$_i$) + u_{0i} Slope(study day): β_{1i} = γ_{10} (technique practice person mean$_i$) + γ_{11}*(distanced$_i$) + γ_{12}*(distract$_i$) + u_{1i} Slope(technique practice): β_{2i} = γ_{20} + u_{2i}

in which the immersed condition acted as the reference group, and another in which the distanced condition was the reference group, so that all possible group contrasts could be examined. OLS regression was used to examine differences between study groups on a "peak" day, or the study day on which each participant's unproductive processing and/or event-related stress was highest (see Unproductive Processing: Peak Day Analyses in Results section).

Table 1: Descriptive Statistics of Study Variables across Experimental Groups

	Experimental Condition		
	Immersed	**Distanced**	**Distraction**
	(*N* = 50)Mean (*SD*)	**(*N* = 52) Mean (*SD*)**	**(*N* = 52) Mean (*SD*)**
Baseline Variables [a]			
Ruminative Thoughts Scale	112.66 (11.40)	108.31 (9.67)	112.20 (11.83)
Beck Depression Inventory II	6.14 (6.78)	5.62 (7.48)	6.80 (7.09)
Means of Study Variables			
Self-Reported Technique Practice (1-7)	2.61 (1.43)	2.41 (1.34)	2.17 (1.34)
Perceived Stressfulness of Event (1-5)	2.84 (1.20)	2.83 (1.11)	2.75 (1.15)
Pre-Task Negative Emotion (10-50)	16.12 (6.50)	16.00 (6.52)	17.37 (7.34)
Post-Task Negative Emotion (10-50)	16.91 (6.98)	16.13 (6.65)	16.27 (6.75)
Pre to Post-Task Change in Negative Emotion	0.80 (4.18)	0.32 (3.16)	-1.10 (4.11)
Percentage of Negative Emotion Words	4.55 (2.36)	3.83 (2.26)	1.64 (1.78)
Unproductive Processing (0-3)	0.89 (1.02)	0.63 (0.86)	--
Peak Day Variables			
Perceived Stressfulness of Event (1-5)	3.64 (0.98)	3.56 (1.14)	4.17 (0.73)
Pre-Task Negative Emotion (10-50)	18.36 (7.54)	18.38 (7.23)	18.27 (7.60)
Post-Task Negative Emotion (10-50)	20.18 (7.75)	18.81 (6.87)	20.23 (8.55)
Pre to Post-Task Change in Negative Emotion	1.82 (3.71)	0.42 (3.87)	-1.96 (5.25)
Percentage of Negative Emotion Words	5.10 (2.50)	4.65 (2.23)	1.86 (1.64)
Unproductive Processing (0-3)	2.08 (0.79)	1.65 (.94)	--

Note. Mean Study Variables represent the participants' mean over the course of the 10-day study period, whereas Peak Day Variables represent the mean on the day that they exhibited their highest level of unproductive processing and/or event-related stress. Pre-Task and Post-Task Negative Emotion were measured using the PANAS negative affect scale. Pre to Post-Task Change in Negative Emotion was calculated by subtracting pre-task negative emotion from post- task negative emotion.

[a] Preliminary analyses revealed that there were no significant differences between groups on baseline variables.

Results

Participants completed a mean of 8.96 (*SD* = 1.24) of the ten daily surveys.

Three participants were excluded because they completed fewer than 50% of the daily surveys. Therefore, 154 of the 157 recruited participants were included in the final analyses. Means and standard deviations for study variables are presented in Table 1.

Manipulation Check and Preliminary Analyses

Perspective.

To determine whether the distanced and immersed groups could be differentiated by the perspective they adopted during the recall task, responses to the two manipulation check questions (see Methods) were entered as outcomes in two separate HLM models. Consistent with the instruction sets, participants in the distanced group reported lower scores on "experiencing the event through their own eyes" on average over the course of the 10-day period than did the immersed group ($\gamma_{distanced}$ = -0.76, *SE* = 0.22, *t* = -3.42, *p* < 0.001) and higher scores on "feeling like an observer of the event" ($\gamma_{distanced}$ = 0.58, *SE* = 0.24, *t* = 2.45, *p* = 0.016). These results suggest that the self-immersion and distancing manipulations were successful.

Technique practice.

Groups differed significantly on this variable such that those in the distraction group used their assigned technique less in their daily lives than those in the immersed group used their assigned technique, $\gamma_{distraction}$ = -0.45, *SE* = 0.21, *t* = -2.192, *p* = .030. The distanced group did not report using their assigned technique more than those in the immersed group ($\gamma_{distanced}$ = 0.19, *SE* = 0.21, *t* = 0.90, *p* = .367) or the distraction group ($\gamma_{distraction}$ = -0.26, *SE* = 0.20, *t* = -1.31, *p* = .191) used their assigned techniques.

Most stressful event of the day.

Daily events that participants chose as the "most stressful" were rated, on average, as moderately stressful compared to past stressful events that they had experienced (*M* = 2.81, *SD* = 1.85, *Range* = 1-5). In addition, 90.0% of the sample rated at least one of their 10 "most stressful event[s] of the day" as either a 4 or 5 on the scale of stressfulness. Events were divided into four primary categories: interpersonal (e.g., arguing with a friend or significant other), achievement (e.g., getting a bad grade on a test), personal injury/illness/accident (e.g., breaking one's leg), or minor hassle (e.g., getting stuck in traffic).

Overall, 43.7% of the "most stressful" events were categorized in the achievement category, 34% in the interpersonal category, 16.2% in the minor hassle category, and 6.1% in the person injury/illness/accident category. Chi square analyses revealed that conditions did not differ significantly on the types of stressors reported X^2 = 8.40, *df* = 6, *p* = .210.

Change in Pre- to Post-Task Negative Emotion

The difference between negative emotion on the PANAS negative affect scale before and after writing about daily stressful events (post-task minus pre-task) was examined over the course of the study (averaging across study days) *within* each experimental group. Specifically, three models were estimated (using the level-1 predictors listed in Footnote 2), with each condition acting as the reference group in one model. The level-2 intercept (which represented the mean difference between post- and pre-task negative emotion implied by the model) was examined to determine whether changes in negative emotion were significantly different from zero. These analyses indicated that, on average, participants in the immersed group reported an increase in negative emotion from pre to post task, γ = 0.84, *SE* = 0.30, *t* = 2.84, *p* = .005, whereas participants in the distanced group were less reactive and reported no significant pre- to post-task change, γ = 0.15, *SE* = 0.25, *t* = 0.61, *p* = .542. Those in the distraction group reported an average decrease in negative emotion, γ = -1.14, *SE* = 0.25, *t* = -4.59, *p* < .001. Between- group analyses revealed significant differences between the three study conditions. The immersed group reported more of an increase in negative emotion than the distanced group, and the distraction group reported more of a decrease in negative emotion than either of the other groups (See Table 2).

The slope of pre- to post-task negative emotion over the course of the 10 study days was then examined to test whether there were significant time course effects of the manipulations.

Participants' average pre- to post-task change in negative emotion remained consistent (no significant change) across the 10-day study period in all groups (immersion group: γ = -0.05, *SE* = 0.07, *t* = -0.69, *p* = .491; distanced group: γ = 0.01, *SE* = 0.06, *t* = 0.20, *p* = .843; distraction group: γ = 0.11, *SE* = 0.07, *t* = 1.65, *p* = .100).

Table 2: Emotion Comparisons by Condition: 10-Day Sample

Measure	Condition	γ (*SE*)	*t*-ratio	*df*	*p*
Change in Negative Emotion (PANAS post - pre)					
	Intercept (Immersed)	0.84 (0.30)	2.84	150	.005
	Distanced	-0.69 (0.34)	-2.02	150	.046
	Distraction	-1.98 (0.40)	-4.91	150	<.001
	Intercept (Distanced)	0.15 (0.17)	0.90	150	.371
	Distraction	-1.29 (0.31)	-4.16	150	<.001
Percentage of Negative Emotion Words					
	Intercept (Immersed)	4.57 (0.20)	22.75	150	<.001
	Distanced	-0.74 (0.26)	-2.80	150	.006
	Distraction	-2.94 (0.26)	-11.26	150	<.001
	Intercept (Distanced)	3.83 (0.17)	22.21	150	<.001
	Distraction	-2.21 (0.24)	-9.11	150	<.001

Note. Outcomes were estimated using Hierarchical Linear Modeling (HLM). Coefficients (γ) for distanced and distraction groups represent the difference of each respective group (its model- implied mean) from the intercept (the model implied mean for the immersed or distanced group). Two models were estimated (one in which the immersed condition acted as the reference group, and one in which the distanced condition was the reference group) for each analysis so that all possible group comparisons could be tested. Change in negative emotion was computed by subtracting PANAS negative affect scale pre-task from the PANAS negative affect scale post- task. PANAS = Positive and Negative Affect Scale.

Negative Emotion Words

The percentage of negative emotion words per narrative (as calculated by the LIWC program, Pennebaker et al., 2007) was used as an additional measure of emotion. The mean total number of words per narrative across all participants was 119.87 (*SD* = 28.47). The groups did not differ in total number of words (distanced compared to immersed: $\gamma_{distanced}$ = 0.43, *SE* = 3.88, *t* = 0.11, *p* = .912; distraction compared to immersed $\gamma_{distraction}$ = -2.81, *SE* = 4.16, *t* = -0.68, *p* = .500; distanced compared to distraction: $\gamma_{distanced}$ = 3.24, *SE* = 4.02, *t* = 0.81, *p* = .421), however the distanced and distraction groups had a lower percentage of negative emotion words in their narratives than the immersed group (see Table 2). The distraction group control condition wrote about neutral scenarios, so as expected, the percentage of negative emotion words in this group was lower than in the distanced group. Analyses examining the slope of negative emotion word use over the course of the 10 study days revealed that there were no significant changes in this variable over time in any of the groups (immersion group: γ = 0.05, *SE* = 0.04, *t* = 1.03, *p* = .303; distanced group: γ = 0.01, *SE* = 0.04, *t* = 0.03, *p* = .980; distraction group: γ = 0.02, *SE* = 0.03, *t* = 0.83, *p* = .411). Group contrasts also revealed no significant differences in change over the course of the 10-day study. Thus, the distanced and distraction groups used fewer negative words than the immersed group and continued to do so across the study period. [3]

[3] We also modeled our primary outcome analyses using hierarchical multivariate linear modeling (HMLM) with first order auto-regressive error covariance structure to account for repeated measurement within persons. The coefficients and significance levels of the model intercepts estimated with this method were not different from those estimated through standard HLM. In addition, model slopes could not be estimated across groups (i.e., change over time) in HMLM because the levels of variance were too low across study days. This suggested (as we found in standard HLM) that study groups did not significantly differ in their level of change over time. For the sake of using a consistent method across the analyses of intercepts and slopes, the model estimates from standard HLM are reported.

Unproductive Processing

Ratings of unproductive processing revealed that 61.76% of participants in the distanced and immersed conditions had moderate (2.00) or high (3.00) levels of unproductive processing on at least one of their ten study days. When averaged across study days, the mean level of unproductive processing was 0.75 (*SD* = 0.91, score range = 0-3, CHANGE scale range = 0-3). To examine differences in unproductive processing in the narratives, this variable was entered as an outcome in a separate HLM model. The distraction group was not compared to the other conditions, as the distraction narratives were not related to a stressor and therefore were not coded. Participants in the distanced group were rated on average as having significantly lower levels of unproductive processing than those in the immersed group, $\gamma_{\text{distancing}}$ = -0.22, *SE* = 0.11, *t* = -2.11, *p* = .038.[4] Time course analyses revealed that unproductive processing remained consistent (no significant change) over the 10-day study period in the immersed, γ = -0.03, *SE* = 0.02, *t* = -1.59, *p* = .116, and distanced groups, γ = -0.03, *SE* = 0.02, *t* = -1.45, *p* = .149.

Interrelationships between Primary Outcome Variables

HLM analyses were performed to examine the within-person intercorrelations of the following variables: change in negative emotion, percentage of negative emotion words, and unproductive processing (i.e. the average daily relationship between these variables within each person)[5]. These analyses indicated that unproductive processing and negative emotion words were positively associated with each other on a daily level, γ = 0.42, *SE* = 0.10, *t* = 4.13, *p* < .001. Unexpectedly, neither unproductive processing nor negative emotion words were significantly associated with change in negative emotion on a daily level (unproductive processing: γ = 0.06, *SE* = 0.18, *t* = 0.35, *p* = .728; negative emotion words: γ = 0.04, *SE* = 0.16, *t* = 0.23, *p* = .820).

Unproductive Processing: Peak Day Analyses

Levels of unproductive processing varied across the 10-day period such that there were days on which unproductive processing scores were high and other days when it was low or did not occur. This variability might obscure associations between unproductive processing and change in negative emotion. To increase precision, we explored group differences in unproductive processing, negative emotion words, and pre- to post-task negative emotion and their interrelationships by selecting for each individual the day on which that person had the highest rating of unproductive processing ("peak day"). For the distraction group (whose narratives were not coded for unproductive processing) and for participants whose highest ratings occurred on multiple days, we chose the day that had the highest rating of perceived event stressfulness. If perceived event stressfulness did not discriminate a specific peak day, a day was chosen at random from the days with highest levels of unproductive processing (or from the day with the highest level of event stressfulness, in the case of the distraction group). Post- hoc analyses were conducted on these data using paired sample t-tests and OLS regression analyses.

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[4] This model was also run with pre-task negative emotion (PANAS) added as a control variable on level 1 to examine whether differences in unproductive processing were explained by pre-existing differences in negative emotion. The addition of this variable did not change the results, and therefore the original model was retained.

[5] A sample of the equations modeled to examine intercorrelations between primary outcome variables (technique practice and unproductive processing are group-mean centered on level 1, and the group means have been added as control variables on level 2 in order to examine the within-person relationship between study variables).

Level 1 (daily level):

Change in negative emotion$_{ti}$ = β_{0i} + β_{1i}*(unproductive processing$_{ti}$) + β_{2i}*(technique practice$_{ti}$) + e_{ti}

Level 2 (person-level):

Intercept: β_{0i} = γ_{00} + γ_{01}*(unproductive processing person mean) + γ_{02}*(technique practice person mean$_i$) + u_{0i}

Slope (unproductive processing): β_{1i} = γ_{10} + γ_{11}*(unproductive processing person mean$_i$) + γ_{12}*(technique practice person mean$_i$)+ u_{1i}

Slope (technique practice): β_{2i} = γ_{20} + u_{2i}

Group differences.

Consistent with the 10-day sample analyses, paired sample t-tests comparing post- and pre-task levels of negative emotion (PANAS) on the peak day revealed that the immersed group showed an average increase in negative emotion, $t(49) = 3.45$, $p = .001$, whereas the distanced group showed no significant change, $t(51) = 0.78$, $p = .434$, and the distraction group showed a significant decrease, $t(51) = -2.69$, $p = .010$. OLS regression models were estimated to examine group differences in the amount of change in pre- to post-task negative emotion experienced on the peak day. To compare groups, change in pre- to post-task negative emotion was regressed on dummy codes (see Data Analytic Plan). Consistent with the 10-day sample, these analyses revealed that the difference between change in negative emotion in the distraction and the immersed group was significant, as was the difference between the distraction and the distanced group (see Table 3). Similarly, the distraction group used a lower percentage of negative emotion words than both the other groups. In contrast to the 10-day sample findings, the distanced and immersed groups were not significantly different from one another on either measure of emotion (see Table 3). However, the participants in the distanced condition exhibited lower levels of unproductive processing in their narratives than those in the immersed condition ($B_{OLS} = -0.45$, $SE = 0.19$, $t = -2.38$, $p = .020$).

Table 3: Emotion Comparisons by Condition: Peak Day Sample

Measure	Condition	B_{OLS} (*SE*)	β_{OLS}	*t*-ratio	*p*	*df*	R^2	*F*	*p*
Change in Negative Emotion (PANAS post - pre)									
	Constant (Immersed)	1.87 (0.61)		3.08	.002	3, 149	.15	8.62	<.001
	Distanced	-1.41 (0.85)	-0.15	-1.65	.101				
	Distraction	-3.86 (0.85)	-0.44	-4.55	.000				
	Constant (Distanced)	0.47 (0.60)		0.78	.439				
	Distraction	-2.46 (0.85)	-0.25	-2.91	.004				
Percentage of Negative Emotion Words									
	Constant (Immersed)	5.09 (0.31)		16.69	<.001	3, 149	.32	23.16	<.001
	Distanced	-0.40 (0.43)	-0.07	-0.93	.353				
	Distraction	-3.23 (0.43)	-0.59	-7.56	<.001				
	Constant (Distanced)	4.69 (0.30)		15.53	<.001				
	Distraction	-2.83 (0.43)	-0.52	-6.66	<.001				

Note. Outcomes were estimated using ordinary least squares (OLS) regression. Coefficients for distanced and distraction groups represent the difference of each respective group (its model- implied mean) from the constant (the model implied mean for the immersed or distanced group). Two OLS models were estimated (one in which the immersed condition acted as the reference group, and one in which the distanced condition was the reference group) for each analysis so that all possible group comparisons could be tested. Change in negative emotion was computed by subtracting PANAS negative affect scale pre-task from the PANAS negative affect scale post- task. PANAS = Positive and Negative Affect Scale.

Interrelationships between peak day study variables.

As in the larger sample, neither unproductive processing nor negative emotion word use was associated with change in negative emotion when groups were combined (unproductive processing as predictor of change in negative emotion: B_{OLS} = 0.02, *SE* = 0.03 *t* = 0.86, *p* = .394; negative emotion words as predictor of change in negative emotions: B_{OLS} = -0.02, *SE* = 0.07, *t* = -0.21, *p* = .838). In contrast to the full sample, unproductive processing and negative emotion word use were not significantly associated, (unproductive processing as a predictor of negative emotion word use: B_{OLS} = 0.03, *SE* = 0.04 *t* = 0.72, *p* = .471).

Interaction analyses.

Interaction analyses were performed to examine whether the relationship between unproductive processing and change in negative emotion differed by condition.[6] These regression analyses revealed that condition significantly interacted with unproductive processing to predict change in negative emotion before and after the narrative task

[6] We also examined whether condition interacted with percentage of negative emotion words to predict pre- to post- task change in negative emotion, and whether condition interacted with unproductive processing to predict negative emotion word use. Neither of these interactions was statistically significant, and therefore they were not included.

B_{OLS} = -1.89, *SE* = 0.88, *t* = -2.15, *p* = .034. This interaction effect, along with control variables (study day and technique practice) and main effects, accounted for a significant proportion of variance in pre- to post-task negative emotion, R^2 = .11 , *F*(5,98) = 2.41, *p* = .042. Simple slope analyses (Aiken & West, 1991; Preacher et al., 2006) used to probe this effect indicated that there was a significant positive relationship between unproductive processing and change in negative emotion in the immersed group, simple slope = 1.47, *SE* = 0.70, t = 2.09, *p* = .039, such that as participants' level of unproductive processing increased, so did their negative emotion reactivity to the study task. There was no significant relationship between unproductive processing and change in negative emotion in the distanced group, simple slope = -0.46, *SE* = 0.56, t = -0.82, *p* = .41. See Figure 1 for graphical representation of this interaction.

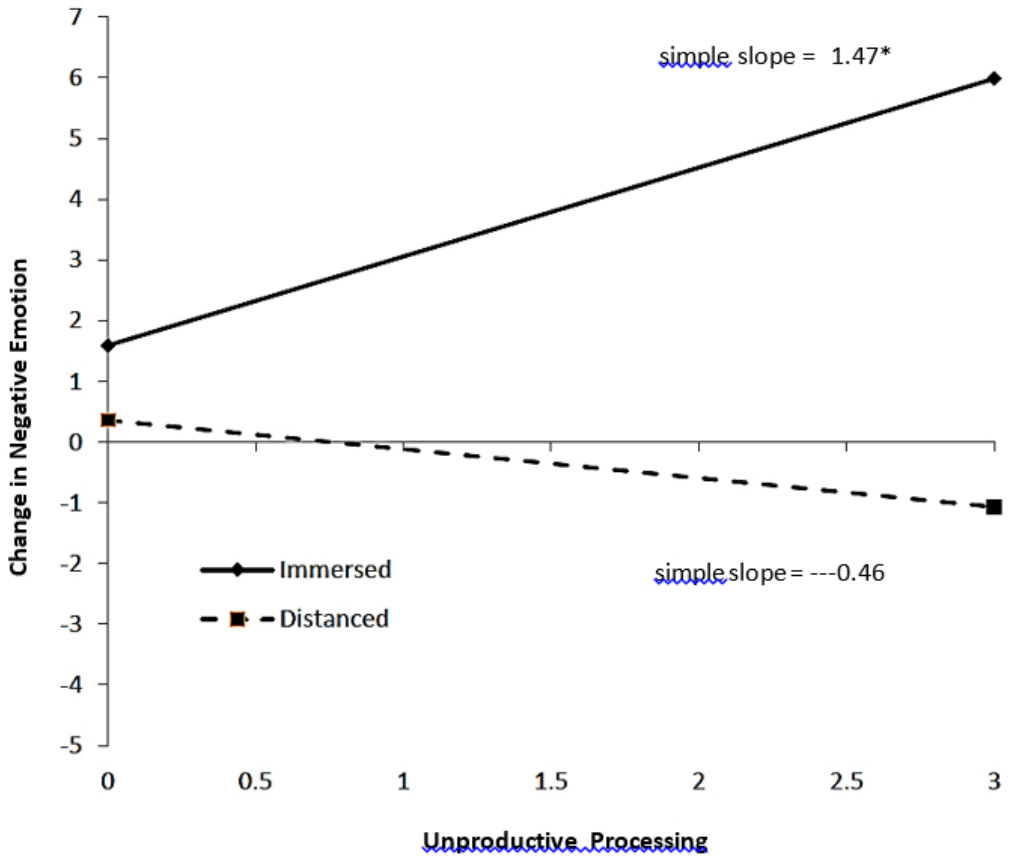


*Figure 1: The association (or simple slope) between unproductive processing (UP) and change in negative emotion on "peak days" (day on which each participant experienced the highest level of unproductive processing and/or event-related distress) by experimental group (immersed vs. distanced). Change in negative emotion was computed by subtracting PANAS negative affect scale pre-task from the PANAS negative affect scale post-task. PANAS = Positive and Negative Affect Scale. The values next to each line represent the simple slopes (i.e. the associations between UP and change in negative emotion) in the immersed and distanced groups. * p < .05, simple slope = simple slope coefficient.*

Discussion

The current study combined experimental and daily diary methodologies to examine the effect of instructing participants to use three different emotion regulation strategies when thinking about stressful events in their daily life. In a college-student sample with high levels of trait rumination, participants were asked to analyze stressful daily events from a self-immersed or self-distanced perspective or to distract themselves from thinking about the event. On average, immersion was associated with an increase in negative emotion after recalling the most stressful event of the day, whereas distancing was not associated with significant change, and distraction was associated with a

decrease in negative emotion. These differences were maintained over the 10-day study period. Those given immersion instructions also expressed more unproductive, ruminative processing than those instructed to distract, and the immersed group used a higher percentage of negative emotion words in daily narratives than both of the other conditions.

Unproductive processing and negative emotion words in the daily narratives were significantly and positively associated, but change in negative emotion across the study task was not associated with either unproductive processing or negative emotion word usage.

Post-hoc analyses of “peak days” on which participants had the highest levels of unproductive processing and/or event-related stress revealed similar within-group changes in negative emotion, as well as similar group differences between the distraction group and the two other groups on all measures. In contrast to the 10-day sample, the immersed and distanced groups did not differ on either measure of emotion (PANAS or percentage of emotion words in the narrative), but the distanced group showed lower levels of unproductive processing.

Interaction analyses using the peak day sample revealed that in the immersed group, higher levels of unproductive processing were associated with greater increases in negative emotion following the study task, whereas there was no such association in the distanced group.

Overall, the study findings are consistent with those from past experimental studies that suggest that distraction is a potent short-term strategy to reduce negative emotion (see Nolen- Hoeksema et al., 2008 for a review). However, participants in the distraction group reported practicing this strategy less frequently than those in the immersed group practiced their assigned strategy. Although immersion is potentially less helpful for regulating distress than distraction, it is more similar to the normative style of processing for this sample of high ruminators and perhaps more readily adopted. In addition, high trait ruminators might be less able and/or willing to use distraction in real life than in a lab-based context. Indeed, past studies have found that dysphoric ruminators recognize that positive or neutral distractors will help reduce their negative mood, but they are unlikely (Wenzlaff et al., 1988) or unwilling (Lyubomirsky & Nolen- Hoeksema, 1993) to use these distractors to regulate their emotions. Those who tend to ruminate report that they believe they are gaining productive insight from their rumination (Lyubomirsky & Nolen-Hoeksema, 1993; Papageorgiou & Wells, 2001; Watkins & Moulds, 2005), so they may be reluctant to give up this strategy for one that involves purposefully turning attention away from the issues at hand. In addition, although distraction can be a useful strategy for interrupting the tendency to ruminate, overreliance on this method of emotion regulation could lead to unproductive avoidance of problems and psychopathology (Markowitz & Purdon, 2008; Muris, Merckelbach, Horselenberg, Sijsenaar, & Leeuw, 1997; Najmi & Wegner, 2008). These findings suggest the need for other emotion regulation strategies for those who tend to ruminate, such as more concrete and experiential (rather than conceptual-evaluative) processing (Watkins, 2004, 2008) or reflective pondering (rather than depressive brooding; Treynor, Gonzalez, & Nolen-Hoeksema, 2003). The costs and benefits of rumination also could be made more explicit to ruminators, using techniques such as motivational interviewing (Miller & Rollnick, 2013) and related interventions.

Replicating the findings from a number of previous studies (Ayduk & Kross, 2008; Kross et al., 2005; Kross & Ayduk, 2008; Wisco & Nolen-Hoeksema, 2011), a distanced perspective was associated with lower average levels of negative emotion reactivity in response to analyzing a stressful event than an immersed perspective. Distancing was also associated with less unproductive processing than immersion. The effects of self-distancing on negative mood have been demonstrated in the laboratory, and distancing is also a useful technique in psychotherapy and mindfulness-based stress reduction programs (Baer, 2003; Arch, Wolitzky-Taylor, Eifert & Craske, 2012; Kuyken et al., 2010). The current study is one of few to examine the effects of distancing in an at-risk sample in their daily lives. The findings suggest that distancing may be a way to analyze stressful emotional material without engaging in repetitive, intrusive, and unhelpful analysis of problems or experiencing significant increases in negative mood, which therefore might allow more space and openness for reflection. In line with this, Kross and colleagues (2005) (and Kross & Ayduk, 2008) have shown that the effect of self-distancing on negative mood is mediated by adaptive reflection. In addition, rumination narrows attentional scope (Whitmer & Gotlib, 2013), whereas distancing might promote a wider, more open perspective -- a component of adaptive reflection and processing. These possible benefits of distancing are speculative but can be examined empirically.

At first glance, the findings from this study appear to contradict the body of literature suggesting that a concrete, experiential mode of processing difficult thoughts and feelings is associated with less emotion reactivity than an abstract, evaluative mode of processing, which is more typical of dysphoric rumination (e.g. Watkins, Moberly & Moulds, 2008; Watkins & Moulds, 2005; Watkins & Teasdale, 2001; Watkins, 2004). However, the current study instructed participants to adopt an abstract, evaluative mode of processing in *both* the immersed and distanced conditions by having them ask "why" they experienced their thoughts and feelings, only varying the perspective taken (first vs. third person). It may be that concreteness and distancing represent two pathways to reducing the harmful effects of ruminative processing.

Concrete, experiential processing encourages one to think about *what* happened, rather than *why* something happening, thus reducing the likelihood of abstract, evaluative thinking and perhaps overgeneral and self-judgmental construals (Watkins et al., 2008). Alone, distancing may allow abstract and evaluative thinking, but it may reduce the likelihood that negative patterns or schemas are activated. Mindfulness meditation involves aspects of both concrete/experiential processing and distancing, and perhaps these two processes are most beneficial if combined. Future studies could examine this hypothesis and the specific mechanisms of concreteness and distancing.

Performing analyses on the entire 10-day daily diary period allowed for examination of the target emotion regulation strategies during a "slice" of life in a sample with high levels of trait rumination. While this method is useful for gathering data that approximates everyday use of these strategies, there was also variability in the level of stress and rumination a given individual experienced across the 10 days. To address this limitation, we performed post-hoc analyses of days on which unproductive processing and/or event-related stress ratings were the highest (peak day) for each individual, which allowed us to isolate the days on which rumination might have been activated. Although the immersed and distanced groups did not differ in the amount of negative emotion reported or the percentage of negative emotion words used to describe the stressful event, the distanced group engaged in less ruminative, unproductive processing when describing this event. Further, more unproductive processing in that description was associated with more negative emotion reactivity in the immersed group, but *not* in the distanced group. Thus, both groups tended to experience negative emotion when writing about the stressful event, but this seemed to activate less unproductive, ruminative processing in the distanced group than in the immersed group. In addition, when ruminative processing *was* activated in the distanced group it was associated with less negative emotional reactivity than in the immersed group. This finding is reminiscent of past investigations suggesting that cognitive and mindfulness-based interventions [e.g. Cognitive Therapy (CT) and Mindfulness-Based Cognitive Therapy (MBCT)] weaken the coupling between maladaptive thinking and depressive symptomatology by teaching participants to distance or decenter from habitual maladaptive thinking patterns (Beevers & Miller, 2005; Hölzel et al., 2011; Kuyken et al., 2008; Teasdale, Segal & Williams, 1995)

Limitations and Future Directions

We examined distraction, distancing, and immersion in a sample of college students with high rumination scores, most of whom did not report elevated depression symptoms (Mean BDI- II Score = 6.00; *SD* = 7.00). This sampling approach clarifies the role of rumination apart from the common confound of depressive symptoms. The use of the RTS (Brinker & Dozois, 2009) as the measure of rumination also helps in this regard, as the measure was designed to isolate the general process of repetitive, unproductive thought without linking it to specific symptoms. The CHANGE (Hayes et al., 2007) coding category, unproductive processing, similarly focuses on a basic way of engaging distressing thoughts and emotions that is not specific to depression. Thus, we might be capturing a fundamental thought process with broad applicability, but it is important to note that the young, primarily female, college sample examined in this study might limit the generalizability of the findings. In addition, while two separate analyses (10-day and peak day) suggested that unproductive processing was lower in the distanced group than the immersed group, the peak day analyses were performed post-hoc on a portion of the same data and should not be considered additional evidence of the effect of distancing.

It is also important to note that group differences, while statistically significant, were small effects. It is not clear whether these effects would be clinically or practically meaningful, although the findings are consistent with those on rumination and distancing in clinical samples. One reason for the small effects in this nonclinical sample might be that the manipulations were of lower intensity than therapeutic interventions or structured prevention programs.

Participants read instructions rather than listen to them (as done in other studies), and they were asked to do so at home for short periods of time without the help or guidance of an interventionist.

Nonetheless, there were significant effects of condition that suggest that these emotion regulation strategies are powerful enough to influence some emotional and cognitive processes. These findings underscore the potential of these strategies in computer-based and smartphone applications for preventing pathological processes.

Kross and Ayduk (2008) report that distraction is not as effective for regulating emotion as distancing is in the long run, but the relatively short time frame of the current study and lack of long-term follow-up did not allow for a test of this hypothesis. Because distraction involves turning attention away from distress, this strategy does not allow for direct analysis or processing of a stressful event at the time it is used. However, occasional distraction can provide a temporary respite or "break" from unproductive rumination, which can allow for later productive processing of negative emotional material (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008). In addition, although immersion was associated with more unproductive processing than distancing in the current study, we did not assess whether distancing was associated with more adaptive processing. It may be that greater levels of positive reappraisal or other adaptive cognitive processes were responsible for some of the differential regulatory effects of these two conditions.

A related limitation is the lack of a control group that was free to think about the daily stressor in whatever manner they chose. This instruction set has been used in numerous past studies examining cognitive and emotional responses to reviewing negative memories (e.g. Kross et al., 2005; Kross & Ayduk, 2008). Importantly, the induction of imagery in the immersed and distanced conditions may lead to a different mode of processing than is typical during naturally-occurring rumination, which has been linked to greater verbal-linguistic mental activity than imagery-based activity (Behar, Zuellig, & Borkovec, 2005; Goldwin, Behar, & Sibrava, 2013; McLaughlin, Borkovec, & Sibrava, 2007). However, primary outcome measures were taken during or following narrative writing to increase focus on the verbal-linguistic modality in all groups. In addition, the distraction condition did not have the extended focus on the event that the distancing and immersed groups had, and this might have contributed to differences between groups. Future studies could examine different variants of these procedures to determine if visual imagery significantly effects levels of ruminative processing and emotional reactivity.

In conclusion, this study demonstrates how longitudinal and targeted cross-sectional analyses can be combined to examine real-life processes that might relate to the onset and relapse of psychopathology. Results suggest that distancing may be a way of processing stressful daily events that is associated with fewer negative consequences than immersion, the perspective most often adopted by those who tend to ruminate. Future research efforts could focus on elucidating the differential effects of distancing and distraction, their associations with productive processing and problem-solving of life events, and how daily use of these emotion regulation strategies contributes to long-term psychological health.

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