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Expressive Writing Can Impede Emotional Recovery Following Marital Separation

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Abstract

Marital separation and divorce are common life events that increases risk for poor health outcomes, yet few intervention studies explore how to mitigate this increased risk. This study implemented an expressive writing (EW; see Pennebaker, 1997) intervention for adults who experienced a recent marital separation. Ninety participants (32 men) were randomly assigned to and completed one of three experimental writing tasks: traditional EW, a novel (narrative-based) type of EW or control writing. Up to nine months after this writing, participants judged to be actively engaged in a search for meaning concerning their separation reported significantly worse emotional outcomes when assigned to either EW condition relative to control writing. Within the control condition, those participants actively engaged in a search for meaning reported the lowest levels of separation-related disturbance. We discuss these results in terms of the factors that may limit and promote psychological recovery following marital separation.

Keywords

divorce; marital separation; expressive writing; rumination; meaning-making; moderation; stress; coping

Marital separation and divorce are among life's most stressful experiences, and these events confer risk for poor mental (Amato, 2010) and physical health (Sbarra, Law, & Portley, 2011) outcomes. Co-twin control studies—one of the strongest designs for identifying potentially causal effects in correlational data— suggest that the experience of relationship loss is associated with increased rates of depression among twins exposed to divorce or bereavement (Osler, McGue, Lund, & Christensen, 2008). Other research demonstrates that humiliating social losses (e.g., learning that your partner has cheated on you with a co-worker) are highly associated with the onset of a major depressive episode (Kendler, Hettema, Butera, Gardner, & Prescott, 2003). Beyond clinical dysfunction, marital separation and divorce are major disruptions that force us to revise our social networks and redefine how we think about ourselves (Sbarra & Hazan, 2008). Identifying who is at

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greatest risk for poor outcomes and building experimental interventions to mitigate this increased risk are important public health endeavors.

Although divorce is a relatively common life event and roughly 2 million adults are newly exposed to marital separation each year, few interventions exist that are designed to promote positive outcomes in the wake of this painful experience. In one of the only randomized controlled trials focused on adult outcomes, Rye and colleagues (Rye, Folck, Heim, Olszewski, & Traina, 2004; Rye et al., 2005) found that an 8-session secular forgiveness group for divorced adults led to greater decreases in depressed mood in comparison to a no-intervention condition. Stolberg and Garrison (1985) reported that a 12-week parent support and skill-building group marginally improved adults' divorce adjustment relative to a no-treatment control condition. Although randomized controlled trial data demonstrate that we can improve child outcomes following divorce by focusing on parenting skills (Wolchik et al., 2002; Wolchik et al., 2000), these data do not typically speak to adult mental health outcomes. Thus, few experimental investigations have explored how to promote wellness or forestall risk among separated and divorcing adults.

One experimental design with a strong record for improving adjustment to stressful life events is expressive writing (EW). In the late 1980s, Pennebaker and colleagues (Pennebaker, 1990; Pennebaker & Francis, 1996; Pennebaker, Kiecolt-Glaser, & Glaser, 1988) developed an EW intervention task during which individuals disclosed "their deepest thoughts and feelings" about a stressful or traumatic event life while writing continuously for 20 minutes on each of 4 consecutive days (see Slatcher & Pennebaker, 2005). Variants of the traditional expressive writing (TEW) paradigm promote coping following a range of stressful events (Frattaroli, 2006; Frisina, Borod, & Lepore, 2004; Harris, 2006; Joshua M. Smyth, 1998), including non-marital romantic breakups (Lepore & Greenberg, 2002). On whole, meta-analytic data suggest that the TEW paradigm exerts a small but reliable positive effect on both psychological wellbeing and physiological functioning (Frattaroli, 2006). Still unknown, however, is exactly how, why, and for whom TEW leads to positive outcomes (Lepore & Smyth, 2002).

In a review of the possible explanatory variables underpinning the TEW paradigm, Sloan and Marx (2004) argued that taking pen to hand to write about stressful events may enhance cognitive adaptation to these experiences— i.e., the sense that the world is meaningful and comprehensible, and that shattered assumptions about our inherent invulnerability can be restored in time (see Janoff-Bulman, 1992). Despite the promise of this theoretical explanation, Frattaroli's (2006) meta-analysis noted that only one empirical study was adequately powered to test the utility of the cognitive adaptation theory for explaining *why* TEW works. Novel extensions to the traditional TEW paradigm are needed to determine if enhancing cognitive adaptation does, in fact, drive positive outcomes.

The current study implemented a novel addition to the TEW paradigm (NEW) using a component intervention design. We evaluated outcomes following two experimental writing conditions (as well as a control writing condition) with the primary goal of comparing TEW to a TEW plus a narrative coherence extension condition (NEW) to determine if

encouraging participants to focus on creating a coherent story about their separation experience yields psychological benefits beyond the effects of TEW alone.

The NEW condition is derived from prior EW studies (Park & Blumberg, 2002; Smyth, True, & Souto, 2001; Ullrich & Lutgendorf, 2002) and cognitive adaptation theory (Helgeson, 1999), which holds that successful adjustment to stressful experiences hinges on individuals' abilities to maintain or develop a positive outlook, gain a sense of personal control or mastery, and restore self-regard. In addition, research on narratives following loss and other stressful life events indicates that people who are able to construct organized and coherent accounts of painful events benefit because their thoughts and feelings can be more completely integrated (Capps & Bonanno, 2000; Pennebaker & Seagal, 1999; Stein, Folkman, Trabasso, & Richards, 1997). The development of narrative coherence may underpin meaning-making and benefit-finding strategies that are presumed critical in "resolving" or recovering from social disruptions (Davis, Nolen-Hoeksema, & Larson, 1998; Lepore, Ragan, & Jones, 2000; Neimeyer, 2000; Park, 2010), and meaning-making protects against health-relevant biological stress responses (see Bower, Kemeny, Taylor, & Fahey, 1998).

Expressive Writing Mediators and Moderators

In addition to examining the main effects of the two EW conditions, we explored whether (1) characteristics of written diaries (as measured by participants' word use in their essays) mediated experimental effects, and (2) whether psychological rumination and meaning-making at the inception of the study moderated the experimental effects. Pennebaker, Mayne, and Francis (1997) demonstrated that increases in cognitive mechanism words—specifically, insight and causal words— over the course of the EW paradigm were associated with positive outcomes. Other work has shown that words reflecting cognitive processing partially mediate the effect of EW on positive growth from trauma (Boals, 2012; Knowles, Wearing, & Campos, 2011; Ullrich & Lutgendorf, 2002). Given the association between increases in cognitive mechanism/processing words and positive outcomes, we include this construct as a potential mediator. In addition, we consider the role of three other word use categories: negative emotion words, positive emotion words, and first-person singular (e.g., me, myself, and I) words. Pennebaker et al. (2007) found that moderate levels of negative emotion words and high levels of positive emotion words are correlated with positive EW results. Prior studies on marital separation and divorce have shown that people who speak about their separation in a highly-personalized manner (using many first-person singular words) also exhibit poorer psychological outcomes and greater physiological stress responses when asked to think about the end of their marriage (Borelli & Sbarra, 2011; Lee, Sbarra, Mason, & Law, 2011). These findings are consistent with the general literature indicating that first-person singular words likely tap self-focused attention and are associated with depressive symptoms in a range of different samples (e.g., Rude, Gortner, & Pennebaker, 2004; Stirman & Pennebaker, 2001).

With respect to potential moderators, rumination is a self-reflective style that involves a perseverative focus on the origins and consequences of one's distress (Nolen-Hoeksema, 1991; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). The tendency to ruminate is a

relatively stable individual difference that is associated with risk for (and the episodic duration of) a wide range of psychopathologies (Nolen-Hoeksoma et al., 2008s). People who report ruminating a good deal may be ideal candidates for EW interventions because a central element of the construct is a passive focus on one's distress: EW may spur high ruminators to engage in more adaptive self-reflection and to initiate behaviors that ameliorate emotional distress. Sloan, Marx, Epstein, and Dobbs (2008) found just this result: People who reported a ruminative style characterized by a high degree of brooding —the tendency to focus on abstract aspects of one's distress (e.g., *Why me?*)—reported the greatest decrease in depressive symptoms over 2 months when assigned to an EW condition (see also, Gortner, Rude, & Pennebaker, 2006; for an exception, see Zakowski, Herzer, Barrett, Milligan, & Beckman, 2011). Given these findings and the centrality of rumination in a broad range of poor emotional outcomes, we sought to replicate the Rumination X EW effect and to determine if there exists added benefit in asking highly ruminative people to create a coherent narrative about their separation experiences.

Because rumination is considered a relatively stable individual difference variable (i.e., trait-like), we also explored the potential moderating role of people's search for meaning while coping with their separation experience. Meaning-making is a core human motivation (Baumeister, 1991), and stressful events like marital separation and divorce have high potential to disturb one's sense of the world as a safe and just place (Janoff-Bulman, 1992; Weiss, 1975). The process of meaning-making involves re-establishing these world views by reviewing past events and coming to see them in a different way (Park, 2010). It is believed that the process of meaning-making sets the stage for the development of a coherent narrative about a stressful event (Boals, Banks, Hathaway, & Schuettler, 2011). Boals et al. (2011) integrated diverse research on meaning-making to develop a holistic coding system to assess the active search for meaning in spoken or written narratives, and we use this approach in the present study. Defined this way, an active search for meaning includes a high degree of psychological rumination, but also involves attempts at gaining a new understanding of one's experiences— a re-evaluation of one's situation, beliefs, and goals, as well as attempts to reduce discrepancies in these concepts.

Given that the search for meaning is thought to be a more state-like process than generalized psychological rumination, we sought to determine if people high in the search for meaning (after accounting for self-reported psychological rumination), demonstrated unique benefits when assigned to the NEW condition. Findings of this nature would suggest that people who are actively trying to make sense of a difficult separation or divorce experience may benefit the most when asked to concentrate on forming the story of their separation.

The Present Study

We conducted the current study to test three primary hypotheses. First, we expected separated and divorced adults in both EW conditions to report better emotional outcomes relative to those in the control writing condition. Second, we expected separated and divorced adults in the narrative EW (NEW) condition to report outcomes that exceeded any benefits conferred by the traditional EW (TEW) intervention. Third, we expected highly ruminative people and those who were judged to be actively searching for meaning in their

separation experience to benefit the most from EW. Furthermore, we explored the possibility these effects would be stronger in the NEW condition than the TEW condition. Finally, we explored the role of four word-use categories (cognitive mechanism, positive emotion, negative emotion, and first-person singular words) as potential mediators of the main and/or the interaction effects.

Method

Participants

Following the Consolidated Standards of Reporting Trials (CONSORT), Figure 1 summarizes participant flow into this experimental study (Begg et al., 1996). As shown, 297 people who reported a recent romantic separation were assessed for eligibility in this study (several exclusionary criteria pertain to a psychophysiological component of the study that discussed in this report, see Sbarra, Law, Lee, & Mason, 2009), 178 were eligible, 109 participants were successfully randomized to one of the three experimental conditions, 96 participants completed the experimental tasks and were assessed two weeks later, 90 participants provided data at the 3-month follow-up assessment, and 73 participants provided data at the 7.5 month follow-up. There was no differential attrition from the experimental groups at the 3-month follow-up, $X^2(2)=.21$, $p = .90$. For participants who completed the 3-month assessment, differential attrition by experimental group was observed for the 8-month follow-up, $X^2(2)=6.09$, $p = .047$. Specifically, participants in the TEW condition were significantly more likely than chance to be retained at the final assessment, whereas participants assigned to the NEW condition were significantly more likely to be lost to follow-up at the final assessment.

The 3-month sample contained 90 (32 men, 58 women) recently separated community-dwelling adults with a mean age of 40.4 years (*SD* = 10 years). The average reported length of marital relationship was 13.5 years (*SD* = 103.10 months). Participants reported physically separating from their partner an average of 3.8 months prior to the initial laboratory visit (*SD* = 2.1 months). Thirty-one percent of the sample was legally divorced, 20% were legally separated, and 46% were physically separated but had not taken legal action (the remainder of the sample did not provide this information).[1] The final, 8-month follow-up sample included 29 men and 42 women.

Procedures

Participants completed three laboratory visits over the course of nine months. The initial laboratory visit (T1) included a series of self-report questionnaires, a stream-of-consciousness (SOC) recording, and the first of three EW sessions. The SOC recording was used to code meaning-making. In this task, participants were seated alone in a room with a digital voice recorder. They were first asked to recall a detailed image of their former partner for 30 seconds; following this visualization period, participants were instructed to

[1]In Arizona, there is no separating waiting period to file for divorce. The court will not decree a legal dissolution of marriage until 60 days after a couple files for divorce, but a couple does not need to be physically separated prior to filing for divorce. Thus, it is possible for one-third of our sample to be legally divorced even though the average participant separated from his or her spouse three months prior to the start of the study.

speak in a stream-of-consciousness fashion for four minutes about their thoughts and feelings concerning their ex-partner and/or their separation experience. The recordings were timed, and participants were asked to speak continuously across the four-minute period. The transcripts of these SOC recordings were coded for meaning-making (see below). This SOC paradigm is a valid probe for assessing adults' psychological responses to marital separation (see Lee, Sbarra, Mason, Law, 2011; Mason, Sbarra, Mehl, 2010; Sbarra, Smith, & Mehl, 2012).

At the conclusion of the initial laboratory visit, participants were randomly assigned to one of three expressive writing (EW) conditions based on Pennebaker's original paradigm (Pennebaker, 1997): traditional expressive writing (TEW), narrative expressive writing (NEW), and control writing. Participants completed their first of three writing days in the laboratory and the two final days of writing at home. All writing was done by hand in a diary provided by the experimenters. The written diaries were collected during a home visit assessment that occurred 2 weeks after the initial laboratory visit.

The TEW condition instructed participants to write freely and continuously for 20 minutes about their strongest and deepest emotions surrounding their marital separation experience; this condition encouraged a of stream-of-consciousness form of writing. The instructions were as follows:

> "For the next three days, we would like you to write about your divorce/separation experience. You'll begin here today. In your writing, we want you to really let go and explore your very deepest emotions and thoughts. You can write about the same aspect of the experience on all three days or about different parts of the experience each day. Whatever the exact topic about the separation/divorce you choose to write about, it is critical that you really delve into your deepest emotions and thoughts. Ideally, we would also like you to write about the significant details of your experience that that you have not discussed in great detail with others. Remember that you have three days to write, so you can explore different aspects of your emotions over each day, if you'd like."

Participants assigned to the NEW condition were given the same general instructions as to the duration and topic of their writing, but were also instructed to create a coherent and organized narrative recounting their separation or divorce experience. In the NEW condition, each writing day was organized around a different narrative theme (Day 1 instructions were to tell the story of the end of their relationship; Day 2 instructions were to narrate the separation experience; Day 3 instructions were to project into the future to describe an ending for their "divorce story"). The introductory instructions were as follows:

> "For the next three days, we would like you to write about your divorce/separation experience. You'll begin here today. In your writing, we want you to focus on telling the story of your divorce/separation experience. Many people have found that articulating the story of their separation experience can be very helpful. Therefore, you might try to describe your marriage, separation, and divorce experiences in terms of an actual plot-- you can use characters to describe action; structure a beginning, middle, and end to the story; and/or, describe a future

> resolution to any painful feelings you might have. Since you're writing over three days, you might consider using today to write about your marriage and the time up until your separation, then use tomorrow to write the chapter of your separation experience itself, and, then, on your last day of writing, project the story into the future-- how does the story move forward from here, and how does this larger chapter of your life come to a close?
>
> The most important part of your writing is that you work toward creating a coherent story and narrative, with yourself as the story-teller; you can tell the story from the first- or third-person point of view, whichever feels more comfortable. Just do your best to create a structured story that makes sense and is meaningful to you. If you'd like, you can focus the story on your triumph over this turning point in your life and what you've learned from it, but, in general, the most important aspect is creating a meaningful story."

The subtle encouragement for participants to create a story characterized by "triumph over this turning point" is consistent with a key element of cognitive adaptation theory, which holds that successful adjustment to stressful events are realized by developing a positive outlook and maintaining a sense of perceived control (Helgeson, 1999). Therefore, the NEW condition sought to enhance cognitive adaptation while at the same time promoting narrative coherence.

Participants assigned to control writing were instructed to spend twenty minutes writing continuously and without emotion about how they spend their time. The instructions for the first writing day were as follows:

> "What we would like you to write about over the next three days is how you use your time. Each day, we will give you different writing assignments on the way you spend your time. In your writing, we want you to be as objective as possible. We are not interested in your emotions or opinions. Rather we want you to try to be completely objective. Feel free to be as detailed as possible. In today's writing, we want you to describe what you did yesterday from the time you got up until the time you went to bed. For example, you might start when your alarm went off and you got out of bed. You could include the things you ate, where you went, which buildings or objects you passed by as you walked from place to place. The most important thing in your writing, however, is for you to describe your days as accurately and as objectively as possible without any emotion."

Following the diary collections, participants were assessed again three months after their initial laboratory visit (T2), and, finally, at either a 6-month or 9-month assessment (T3). (The selection of alternative assessment scheduled for the final visit was part of planned missingness design that is described elsewhere, see Sbarra et al., 2012.) On average, 229 days passed (*SD* = 47 days) between the initial laboratory visit and the final, T3 assessment; for convenience, we refer to this as the 8-month follow-up assessment throughout the paper.

Measures

Outcome variables—Three self-report scales served as the primary outcomes. The *Impact of Events Scale-Revised* (IES-R; Weiss & Marmar, 1997) is a 22-item scale asking people to report the impact of a recent negative life event. The IES-R includes items such as, "*I thought about it when I didn't mean to*," and "*I had trouble concentrating*." Higher scores reflect greater emotional intrusion, somatic hyperarousal, and avoidance behaviors with respect to participants' recent separation experience. Internal consistencies of the IES-R in this sample were high (αs = .89 and .93, for the initial and follow-up assessment, respectively). The IES-R covaries with other measures of separation-related psychological adjustment and is a valid measure for assessing subjective emotional responses over time following the end of marriage (Mason, Sbarra, & Mehl, 2010; Sbarra, Smith, & Mehl, 2012).

The *Beck Depression Inventory* (BDI; Beck, Steer, & Carbin, 1988) is a widely used 21-item inventory assessing mood disturbances consistent with a depressive state. Higher scores on this scale reflect greater mood disturbance. Internal consistencies of the BDI in this sample were high (αs = .90 and .87, for the initial and follow-up assessment, respectively).

The *Loss of Self/Rediscovery Scale* (LOSROS; Lewandowski & Bizzoco, 2007) assesses loss of self and rediscovery of self after a romantic dissolution, and in the current study we use the composite of these two instruments as a measure of self-concept disorganization following marital separation. Loss-of-self items measure "feelings of loss in the context of the self-concept," and rediscovery-of-self items measure "the extent to which participants felt they had become reacquainted with aspects of the self" (Lewakdowski & Bizzocco, 2007, p. 44). We combined the two 6-item scales into a 12-item LOSROS questionnaire. Items were assessed on a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*a great deal*). Example items include, "*I have lost my sense of self*," and "*I do not feel like myself anymore*." Items tapping rediscovery of the self were reverse-scored prior to computing the combined LOSROS scale. Higher scores reflect greater self-concept disturbance, which is conceptually similar to term self-concept confusion (the opposite of self-concept clarity, see Slotter & Gardner, 2011). Prior research demonstrates that improvement in self-concept disturbance is a leading indicator of improvement in psychological wellbeing following a romantic breakup (Mason, Law, Bryan, Portley, & Sbarra 2011). Internal consistencies of the LOSROS scale in the present sample were strong (α= .93 and .90 for the initial and 3-month follow-up assessment, respectively).

Ruminative responses—The *Ruminative Responses Scale* (RRS; Nolen-Hoeksema, 1991) is a widely used 22-item self-report measure that assesses how individuals typically respond to depressed moods. Participants completed the RRS at the initial laboratory visit, and this measurement represented our moderation variable. Example items include, "*I think 'What am I doing do deserve this?*'," and, "*I analyze my personality to try to understand why I am depressed*." In the present study, we first used the full 22-item composite, with higher scores reflecting a greater tendency to engage in perseverative and inflexible thinking about the nature and origins of one's depressed mood. The internal consistency for the full RRS was high (α= .92). We also explored the role of two RRS subscale scores, brooding

and reflective pondering, which characterize the tendencies to gloomily compare one's current situation to an unachieved outcome and to reflect over one's experiences in an effort to solve difficult problems, respectively (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Both subscales demonstrated adequate internal consistencies (αs > .80).

Judge-rated Meaning-making—Meaning making was measured using a holistic scoring system described in Boals et al. (2011). Two independent coders rated SOC transcript for the extent to which each participant was engaged in the meaning-making process. The transcripts were scored on a 5-point scale ranging from 1 (no search for meaning/meaning-making complete) to 5 (active meaning-making process). The scale assessed levels of rumination, psychological closure, coherence, present versus past tense, and statements of understanding. These criteria were based on the conceptualization of the meaning making process described in Park (2010). Thus, people who were judged to be high in meaning-making spoke about their divorce in a manner reflecting an active search for meaning and understanding, rumination, and a lack of psychological closure. Both coders were trained undergraduates who were unaware of the study hypotheses. The intraclass correlation between the two coders was .70 at the initial assessment (when the SOC was conducted). Discrepant scores were then discussed by the two coders until a consensus score was reached.

Diary word use—We evaluated word use in the written diaries from each experimental condition as potential mediating variables linking the EW effects to the self-reported outcomes and also examined changes in each word use category from writing Day 1 to writing Day 3 (see Pennebaker et al., 1997). The written text from each writing day was transcribed and submitted to the Linguistic Inquiry and Word Count 2001 system (Pennebaker, Francis, & Booth, 2001). The LIWC system compares each word of a text to an internal dictionary comprised of 74 standardized linguistic (e.g., personal pronouns) and psychological (e.g., positive and negative emotion words) categories and then outputs word use (in a given category) as a percentage of total words in a given text that fall into that category. In the present report, we focus on positive emotion words, which include words reflecting positive feelings (e.g., happy, good, love, joy) and optimism (e.g., certainty, pride, and win); negative emotion words, which include words reflecting negative anxiety (e.g., nervous), anger (e.g., hate), and sadness (e.g., sad); cognitive mechanism words, which include words reflecting insight, causation, and understanding (e.g., know, realize, believe); and, first-person singular words (e.g., me, myself, I). For each word use category, we computed a mean score across all three writing days.

Manipulation check items—After completing the experimental writing, participants completed 5 appraisal items (rated on a 7-point Likert scale) that were collected at the two-week follow-up. Three items evaluated the extent to which the NEW condition induced a narration focus relative to the other two conditions. The narration items included, "*My separation/divorce 'makes sense' to me, and I have a good understanding of why it occurred*," "*There seems to be a clear story to my separation/divorce*," and, "*Overall, the writing task helped me fit my separation/divorce experience into the overall story of my life*." We combined these items into a single narration composite (α= .70). Two items

evaluated emotional disclosure. These items included, "*Overall, I expressed a great deal of emotion about my divorce in the writing task*," and, "*I explored my feelings a great deal during the writing task.*" We combined these items to form an emotional disclosure composite (α= .90).

Results

Randomization and Manipulation Checks

To ensure successful randomization, we compared the experimental conditions on the self-reported psychological adjustment and rumination variables at the first visit, as well as participants' age, sex, length of relationship, time since the separation, and who initiated the separation. There were no significant differences across the experimental conditions for any of these variables. In addition, there were no significant differences across experimental condition on the SOC-derived meaning-making variable, $F(2,104)= .11$, $p = .89$.

To examine the success of the NEW manipulation, we compared EW conditions on the self-reported writing appraisal (narration and emotional disclosure) composites. Significant group differences were observed for both the narration, $F(2,75)= 5.23$, $p = .007$, and the emotional disclosure, $F(2,75)= 23.41$, $p < .001$, composites. For the narration composite, post-hoc analyses indicated that participants in the NEW condition ($M = 5.25$, $SD = 1.10$) reported a more coherent sense of the story of their separation than did participants in the control condition ($M = 4.01$, $SD = 1.14$). The difference between the NEW and TEW ($M = 4.51$, $SD = 1.61$) conditions, however, was not significant, nor was the difference between the TEW and control condition. For the emotional disclosure composite, participants in both the NEW ($M = 5.05$, $SD = 1.48$) and TEW ($M = 5.26$, $SD = 1.41$) conditions were not significantly different from each other but participants in both groups reported significantly more emotional expression in their writings than participants in the control condition ($M = 2.89$, $SD = 1.70$). These analyses indicate that the narration manipulation in the NEW condition was unsuccessful from the standpoint of statistical significance testing, although it produced a moderate effect size ($d = .54$) for the narration composite between the TEW and NEW groups.

Descriptive Statistics

Zero-order correlations and descriptive statistics for the three outcome variables (at each of the three study visits), the rumination and meaning-making variables (the moderator candidates), and the four LIWC variables (the meditator candidates) are presented in Table 1. Paired-sample *t*-tests revealed significant mean decreases in the BDI, $t(89) = -6.19$, $p < .01$, IES-R, $t(89) = -9.12$, $p < .01$, and LOSROS, $t(89) = -4.35$, $p < .01$, variables for the whole sample across the the first three month follow-up period, indicating improved adjustment between T1 and T2. From T2 to T3, only the BDI evidenced a trend toward further decreases, $t(70) = -1.79$, $p = .08$. Thus, for the most part, significant improvement in psychological adjustment was observed over the first 3 months of the study.

Main Effect Analyses

We used orthogonal planned contrasts to examine the potential EW effects within a multiple regression framework (see Judd, 2000). The first contrast compared EW (combined TEW and NEW) to control writing; the second contrast compared the NEW and TEW conditions to each other. As shown in Table 2 (Models 1–3), relative to the control condition, the two EW conditions yielded negative effects for the IES-R and BDI variables at T2, and no significant difference was observed for the LOSROS scale. After accounting for initial scores in each domain, participants who were assigned to *either* traditional or narrative writing scored higher on the IES-R and BDI at T2 than participants assigned to the control condition. (Because all participants evidenced decreases in outcome scores, the group effect reflects a smaller decrease among participants in the EW conditions relative to the control condition). Table 2 (Models 5–7) also displays the main effect analyses for the 8-month (T3) follow-up. For the more distal outcomes, none of the EW main effects remained significant, but the effect on BDI scores persisted (in the same direction as the T2 effects) at the level of a statistical trend.

The second planned contrast explored the possibility of group differences between the two EW conditions. No significant differences were observed between the two EW conditions for any of the three outcome variables at either of the two follow-up assessments. Because we expected participants in the NEW condition to evidence improved adjustment relative to participants in the TEW condition, we conducted a series of exploratory analyses using the EW narration composite. After accounting for psychological distress at T1, the narration composite was not significantly associated with any of the T2 or T3 outcomes. However, zero-order correlations revealed that the narration composite was significantly negatively correlated with BDI ($r = -.41$), IES-R ($r = -.38$), and LOSROS ($r = -.57$) scores at T1, which occurred prior to randomization into EW conditions. Although we expected narration to be an outcome of EW (especially the NEW condition), these analyses indicate that people who reported a high degree of psychological distress at intake also reported having a less coherent narrative about their separation experience independent of their experimental group assignment.

Moderation Analyses

We next explored the possibility that the significant EW main effect operated differently as a function of psychological rumination by examining the EW X Rumination interaction (after accounting for both main effects; Whisman & McClelland, 2005). The EW X Rumination interaction significantly predicted both IES-R and BDI (but not LOSROS) scores at both T2 and T3 after accounting for IES-R and BDI scores at T1 and each of the main effects. The same pattern of effects held for both variables; therefore, we examined the specificity of this effect for the IES-R after accounting for participants initial scores on the BDI and the IES-R. As shown in Table 2 (Models 4 and 8), the EW X Rumination interaction remained a significant predictor of IES-R scores at both outcome assessments.

Figure 2 displays the simple slope deconstructions at each occasion. As shown in panel A, highly ruminative participants (RRS scores 1 SD above the mean) reported significantly greater IES-R scores (greater emotional disturbance) when assigned to the EW conditions

relative to the control writing condition, b = .59, SE = .17, $t(84)$= 3.36, p = .001. Participants reporting less rumination (RRS scores 1 SD below the mean) did not differ across any of the three study conditions, b = −.005, SE = .16, $t(84)$= −.03, p = .97.

Using the Johnson-Neyman technique to derive the region of significance for the conditional effect (Hayes & Matthes, 2009), we determined the conditional effect of the RRS was significant down to a centered RRS value of SD = −.15, indicating that participants scoring slightly below the RRS mean also exhibited the significant differences between the EW and control conditions. When the EW X Rumination interaction was entered into the model, the EW main effect persisted; people in both the TEW and NEW conditions reporting roughly average to high rumination scores reported poorer outcomes (in comparison to those in the control writing condition) and this appears to drive the EW main effect. We confirmed this statistically by treating EW condition as the moderator (with RRS scores as the focal predictor). Within the control writing condition, outcomes did not differ across levels of rumination, b = −.10, SE = .19, $t(27)$= −.53, p = .59. Within the EW conditions, however, IES-R scores differed significantly across levels of rumination, b = .43, SE = .15, $t(52)$= 2.76, p = .007.

As shown in Figure 2 (panel B), the 8-month outcomes were slightly different than the 3-month outcomes. Consistent with the T2 outcomes, highly ruminative participants (RRS scores 1 SD above the mean) continued to report significantly greater IES-R scores (greater emotional disturbance) when assigned to the EW conditions relative to the control writing condition, b = .64, SE = .20, $t(74)$= 3.16, p = .002. Participants reporting less rumination (RRS scores 1 SD below the mean) did not differ across any of the three study conditions, b = −.064, SE = .19, $t(74)$= −.39, p = .69. From T2 to T3, the within-condition effects reversed. At T3, within the control writing condition, highly ruminative people reported significantly less emotional distress than less ruminative participants, b = −.51, SE = .22, $t(23)$= −2.23, p = .03. Within the EW conditions, however, IES-R scores did not different significantly across levels of rumination, b = .11, SE = .17, $t(45)$= .66, p = .51.

We next conducted a series of analyses to explore potential outcome differences as a function of the RRS subscales. At the 3-month follow-up (T2), neither of the subscales predicted the IES-R scores. At the 8-month follow-up (T3), the EW X Brooding interaction predicted IES-R scores after accounting for the main effects of each variable, as well as IES-R and BDI scores at T1, b = .45, SE = .20, $t(74)$= 2.15, p = .03. The simple slope deconstruction was identical to that observed for the full RRS composite: Participants who reported high levels of brooding reported significantly more emotional disturbance 8 months later when they were assigned to EW relative to control writing, and, within control writing, participants who reported high levels of brooding reported significantly lower levels of psychological disturbances. The EW X Reflective Pondering interaction was not significant at the T3 assessment; therefore, it appears that the distal interaction effect between expressive writing and rumination is explained largely by highly levels of brooding.

Finally, to examine the role of judge-rated meaning-making (above-and-beyond the role of self-reported psychological rumination) in predicting these outcomes, we conducted a series of analyses evaluating the EW X Meaning-making interaction. At T2, after accounting for

the main effects as well as the IES and BDI scores at T1, the EW X Meaning-making interaction evidenced a statistical trend, $b = .16$, $SE = .09$, $t(83) = 1.77$, $p = .08$. This effect remained essentially unchanged after accounting for the full RRS composite at T1, and the simple slope decompositions evidenced the same pattern of significance as that reported for the data in Figure 2a. At T3, after accounting for the main effects as well as the IES, BDI, *and* brooding subscale scores at T1, the EW X Meaning-making interaction was significant, $b = .23$, $SE = .10$, $t(73) = 2.20$, $p = .03$. The significance/non-significance of simple slope decomposition was identical to that reported for the data in Figure 2b. Thus, for the 8-month outcomes, people who were judged to be high in meaning-making fared worst when assigned to either EW condition relative to control writing; when assigned to control writing, participants judged high in meaning-making reported significantly less separation-related distress than those judged to be low in meaning-making. Importantly, the long-term EW X Meaning-making interaction held after accounting for brooding at T1; because rumination is a component of meaning-making, this suggest that aspects of the meaning-making process other than brooding render people vulnerable to the potential adverse effects of EW.

Mediation Analyses

In the last set of analyses we examined the LIWC-derived word-use categories as potential mediators of the above main and moderated effects. Independent sample *t*-tests indicated that the EW conditions, relative to the control condition, resulted in the writing samples of people in the EW conditioning containing significantly more negative emotion words, $t(87) = 8.47$, $p < .001$, more positive emotion words, $t(87) = 6.41$, $p < .001$, more cognitive mechanism words, $t(87) = 10.67$, $p < .001$, and more first-person singular words, $t(87) = 3.22$, $p = .002$. (There were no significant differences between groups in changes in word use across the diary days.) Despite the fact that mean differences in each word use category were caused by the experimental conditions, none of the word use variables eliminated the EW X Rumination interaction at T2. Greater use of negative emotion words was associated with a trend toward *lower* IES-R scores at the 3-month follow-up, $b = -.11$, $SE = .06$, $t(82) = -1.62$, $p = .09$, but none of the other word use variables exerted a unique effect on the IES-R outcome. The same effects held at T3: none of the mean word use variables (or, changes in word use across the writing days) eliminated the EW X Meaning-making interaction, but greater mean negative emotion words during the diary was uniquely associated with lower IES-R scores at the 8-month follow-up.

Discussion

Up to 9 months after 20 minutes of writing over 3 consecutive days, recently-separated adults who reported high levels of psychological rumination and were judged to be actively engaged in the search for meaning reported significantly worse emotional outcomes when assigned to either EW condition relative to control writing. Within the control condition at the 8-month assessment, highly ruminative people and those actively engaged in a search for meaning reported significantly lower levels of separation-related emotional disturbance than people who reported low rumination and who were not actively searching for meaning. None of the potential word use mediators explained the main or interaction effects, although

greater use of negative emotion words during the writing was associated with less distress at the 8-month follow-up.

To the extent that these results generalize across other settings (e.g., therapists' homework assignments to engage in emotional writing— Smyth, Nazarian, & Arigo, 2008; or, personal diary entries in everyday life), the findings have important implications for people coping with the end of marriage. It does not appear advisable (for low ruminators) and may even be iatrogenic (for average to high ruminators and those actively searching for meaning) to write deeply about one's emotional experiences in the immediate wake of a marital separation. Actively engaging in a search for meaning is common after a personal stressful event, but a large percentage of individuals never actually find meaning (Silver, Boon, & Stones, 1983). A prolonged search that fails to find any significant meaning is associated with worse outcomes (Updegraff, Silver, & Holman, 2008). Thus one possibility is that for individuals highly engaged in a search for meaning at the start of the study, expressive writing can exacerbate this search and if no significant meaning is found, the writing intervention leads to worse outcomes. Surprisingly, among separated adults who describe themselves as highly ruminative and who were judged to be actively searching for meaning in their separation experience, control writing may provide psychological benefits.

Although EW has a strong empirical foundation for promoting positive adjustment to stressful life events (Frattaroli, 2006), null (e.g., Stroebe, Stroebe, Schut, Zech, & Bout, 2002; Walker, Nail, Croyle, 1999) and adverse effects exist in the literature, especially in samples that are experiencing an acutely stressful or traumatic event. For example, in a small study of patients with diagnosed posttraumatic stress disorder (PTSD), emotional writing led to increases in emotional avoidance (a key component of the PTSD symptom picture) relative to control writing (Gidron, Peri, Connolly, & Shalev, 1996). Smyth et al. (2001) observed a smaller decrease in avoidant thoughts among college students asked to write about their most traumatic life experience in a narrative manner in comparison to students who engaged in fragmented emotional writing or control writing. In a sample of gynecological cancer patients, Zakowski et al. (2010) found that participants reporting greater trait Neuroticism exhibited higher levels of emotional distress six months later when assigned to expressive writing relative to control writing.

The central question emerging from this study is why EW appears inert for most recently separated adults and potentially iatrogenic for some people. We believe the significance of the EW X Meaning-making interaction provides important insights into answering this question, and perhaps the most parsimonious explanation is that engaging in expressive writing when a negative experience is unfolding, raw, and still quite upsetting can intensify rather than ameliorate this distress. This line of reasoning is consistent with the general conclusions regarding literature on psychological debriefing (McNally, Bryant, Ehlers, 2003), of which Critical Incident Stress Debriefing (CISD; Mitchell, 1983) is the most popular model. The purpose of CISD is to reduce risk for disordered outcomes following exposure to traumatic events, and an important element of the CISD treatment package is a technique known as diffusing, in which people explore their emotional responses to the event and describe the event in detail shortly after it occurred. McNally et al. (2003) reviewed the extant literature on CISD and concluded that it failed to prevent the

development of Posttraumatic Stress Disorder (PTSD), and that some studies demonstrated that it increased risk for PTSD. McNally et al. (2003) wrote, "Thus, contrary to a widely held belief, pushing people to talk about their feelings and thoughts very soon after a trauma may not be beneficial. Perhaps systematic exposure to the trauma memories should be reserved for people who fail to recover on their own" (p. 66).

Marital separation and divorce are not traumas per se, but the same logic can be applied to understanding the current findings. When people are actively searching for meaning, or when they have a trait-like tendency to brood deeply about their experiences, EW appears ill-advised. When discussing their positive findings for EW among high brooders, Sloan et al. (2008) commented, "…expressive writing sessions may allow brooders to confront their negative thoughts and feelings, use more constructive problem-solving skills, and restructure maladaptive cognitions regarding their stressful experiences, all of which served to ward off further increases in stress…" (p. 305). In the current study, it is quite possible that the opposite is true. When separated adults are grieving the end of their marriage and are deeply engaged in thinking about what went wrong and why, EW may narrow their focus back on themselves, thus exacerbating rather than relieving their distress. Given this logic, we would expect that a shorter time since the separation and being physically separated (but not yet divorced) would also increase risk for poor outcomes when people are assigned to EW. We conducted these analyses and did not find evidence for an interaction effect with EW and either of these variables. These null-findings highlight a potentially important point: greater time since separation does not equate to less of a search for meaning or ongoing distress. Thus, people's psychological reactions to the event rather than more objective criteria about the separation determine risk for poor outcomes from EW.

Another important question raised by these findings is whether EW impedes or whether control writing enhances self-reported adjustment among people in the throes of meaning-making. Behavioral activation is a well-established treatment for major depression (Dimidjian et al., 2006), and it is possible that the control writing instructions activate divorcing adults in a way that helps them re-engage in their daily lives without focusing on the emotional pain of their loss. This logic may explain why people high in brooding and meaning-making report the least distress at the 8-month follow-up when assigned to control writing. In cases where people are writing about a current or past trauma, EW may be of benefit by exposing them to thoughts and feelings they might otherwise avoid (see Sloan & Marx, 2004). In situations that are defined primarily by how people deal with feelings of regret, shame, loss, and self-identity disruption, concentrating on what one will do with his or her time may provide the precise antidote necessary to gain psychological distance from painful emotional thoughts. This perspective is consistent with findings in the bereavement literature demonstrating that people who avoid (rather than deeply process) loss-related thoughts cope well over time (Bonanno, Keltner, Holen, & Horowitz, 1995). Moreover, research on complicated grief suggests that treatments asking people to develop a restoration focus when coping with loss (i.e., by thinking about how to restore their life satisfaction while also attending to the emotional aspects of their grief) show better outcomes than a standard psychotherapy for mood disorders (Shear, Frank, Houck, & Reynolds, 2005). Minimally, this data suggests that adaptive coping following a social loss should involve a high degree of restoration-focused attention (Stroebe & Schut, 1999).

Perhaps the most surprising null finding is that TEW and NEW did not differ significantly in terms of participants' self-reported sense of narrative coherence, which suggests that the NEW condition did not exert its intended effects. Although participants were explicitly instructed to write in a narrative manner and form the story of their separation in the NEW condition, it may be the case that participants in TEW created as coherent narratives without explicit instructions to do so. Indeed, humans are intrinsically motivated to seek meaning and purpose of personal experiences through narrative components (Baumeister & Newman, 1994). We have shown, however, that self-reported narrative coherence does predict emotional outcomes, but instead appears to be an individual difference variable that is associated with participants' emotional distress at entry into the study. Alternatively, it is possible that the NEW condition did not provide people enough of a dose of narrative instructions. Given these competing explanations, it appears premature to dismiss a narrative coherence explanation for why expressive writing has positive effects; nonetheless, the present results call into question whether additional narrative instructions are needed in the standard TEW design.

The findings of this study should be considered in light of a few limitations. First, as implied above, without a no-writing comparison it is difficult to determine if the experimental effects were are attributable to the EW or the control writing. Only a no-writing comparison could provide the answer to this question. Second, the analyses reported here rely exclusively on self-report, and it is well known that the EW paradigm produces benefits in other areas of functioning, including objective health indices and physiological responding (Frattaroli, 2006). Thus, although we have reported that EW may impede the recovery of subjective outcomes following divorce, it may be the case that EW promotes positive outcomes in other domains of functioning. Third, due to the limited number of men in this sample, we were unable to test questions about differential effects of EW for men and women. Given established sex differences in risk for poor outcomes following marital separation (e.g., Sbarra et al., 2011), moderation analyses by gender would be of great interest. Fourth, the narration manipulation did not appear strong enough to result in significant differences between the NEW and TEW groups as measured by the narration appraisal composite (completed 11 days after the writing). Thus, the extent to which this study was successful in manipulating narrative writing (beyond TEW instructions alone) remains uncertain. Finally, caution should be used in generalizing these results to all types of EW. Although it is possible that expressive journal writing at home or in conjunction with psychotherapy may impede recovery following divorce, the contexts in which these findings hold remains to be determined.

Conclusion

This is the first study of expressive writing (EW) among adults who have recently separated from their spouse, and the results were surprising given the demonstrated overall effectiveness of the EW paradigm: People who self-reported a greater tendency toward psychological rumination and were judged to be in the process of creating meaning from their separation reported more ongoing separation-related distress up to nine months later when assigned to write about their separation in either an emotion or narrative manner than when assigned to control writing. Furthermore, at the final follow-up, people assigned to

control writing who initially reported themselves high in rumination or were judged to be actively searching for meaning reported significantly better emotional outcomes than participants who were low on either of these dimensions.

Future studies should focus on identifying the variables that explain these findings (none of proposed mediators eliminated observed interaction effects) and whether it is the case that EW writing impedes or control writing— focused on actively structuring one's time— enhances emotional recovery following marital separation. The findings reported represent a classic attribute by treatment interaction (Shoham & Rohrbaugh, 1995), and future research can integrate these findings into adaptive clinical trial designs. In this case, people high in rumination or judged meaning-making are assigned to control writing, not expressive writing. If these participants do not demonstrate symptom improvement within a well-defined follow-up period (e.g., one month), then they can be re-assigned to expressive writing or some other condition. Thus, although there are a number of ways in which the findings from this study can be refined and explored, we suggest that this work be done in the context of clinical trials that assign recently separated adults to control or expressive writing in light of our results and the potentially adverse effects of expressive writing for some people. Finally, if it is the case that control writing serves to improve outcomes (more than expressive writing limits outcomes), this opens the entirely new possibility of building more effective control writing and looking to potential mediators that might derive from this condition (e.g., behavioral activation, distraction, distancing language).

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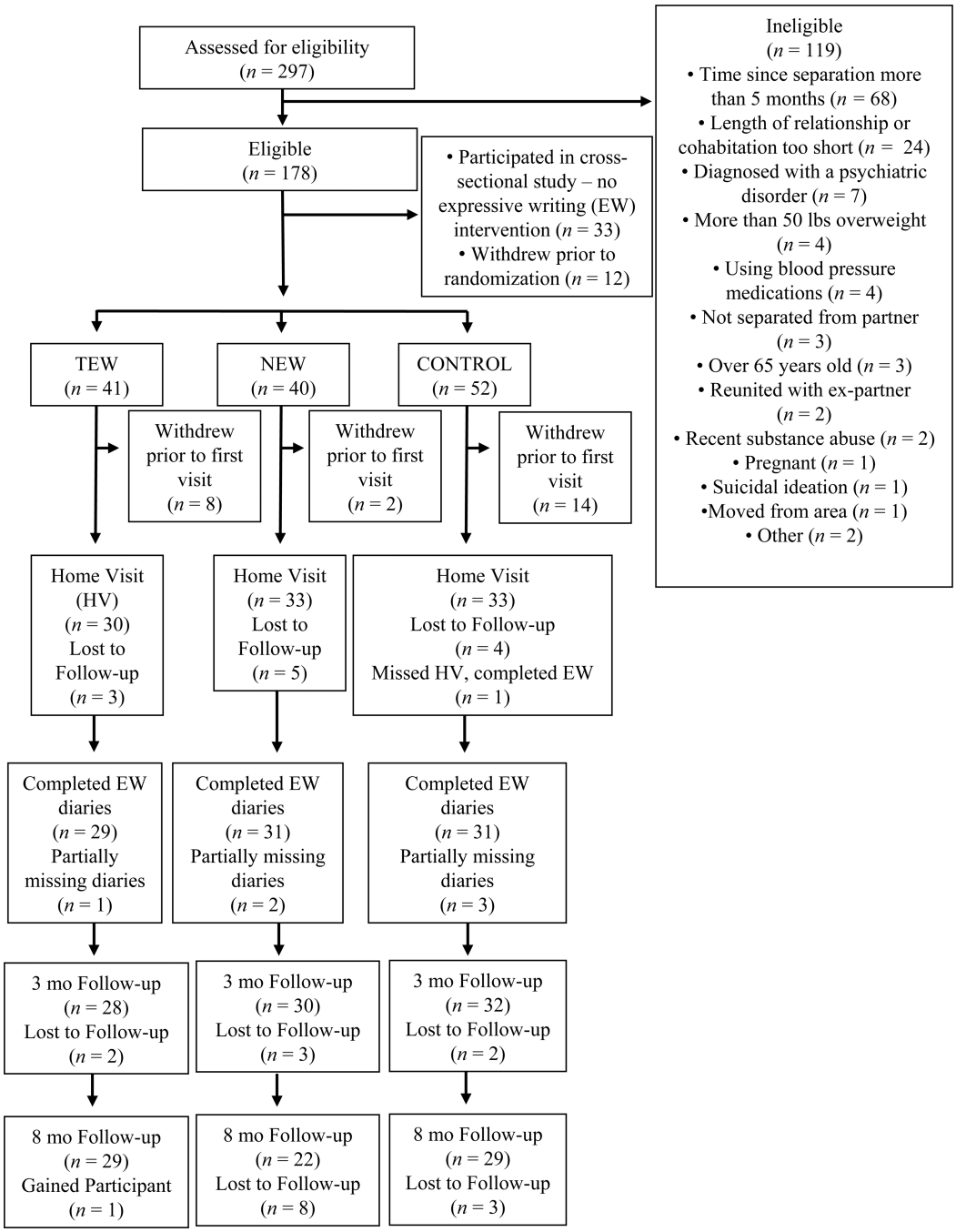


Figure 1.

Flow chart summarizing participant assignment into the experimental conditions and attrition over time.

BDI Results
EW 9.70562
Control 6.46832

BDI Results
EW 0.85439
Control 0.55838

RRS	EW	Outcome
-.9035	.3333	.4907
-.7785	.3333	.5439
-.6535	.3333	.5970
-.5285	.3333	.6501
-.4035	.3333	.7032
-.2785	.3333	.7563
-.1535	.3333	.8094
-.0285	.3333	.8626
.0965	.3333	.9157
.2215	.3333	.9688
.3465	.3333	1.0219
.4715	.3333	1.0750
.5965	.3333	1.1281
.7215	.3333	1.1812
.8465	.3333	1.2344
.9715	.3333	1.2875
1.0965	.3333	1.3406
1.2215	.3333	1.3937
1.3465	.3333	1.4468
1.4715	.3333	1.4999
1.5965	.3333	1.5531
-.9035	-.6666	.6662
-.7785	-.6666	.6528
-.6535	-.6666	.6394
-.5285	-.6666	.6260
-.4035	-.6666	.6125
-.2785	-.6666	.5991
-.1535	-.6666	.5857
-.0285	-.6666	.5723
.0965	-.6666	.5588
.2215	-.6666	.5454

	Low RRS	High RRS
Control	0.628107716	0.516832284
Expressiv	0.649615937	1.100214063

Mean RRS
0.57247
0.874915

	Low RRS	High RRS
Control	0.74	0.16
Expressiv	0.71	0.82

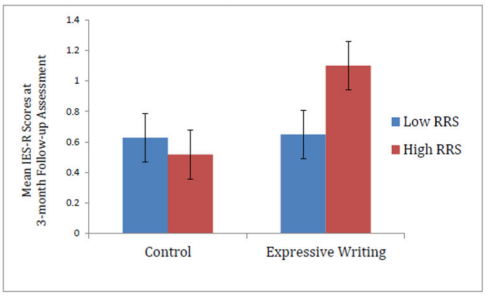
Results for Hypothesis 1: BDI

TEW 9.331
NEW 7.661

Results for Hypothesis 2: IES

TEW 0.8601
NEW 0.8601
CONTROL 0.5601

	V1	3mo
TEW	1.49	0.8601
NEW	1.49	0.8601
CONTROL	1.49	0.5601



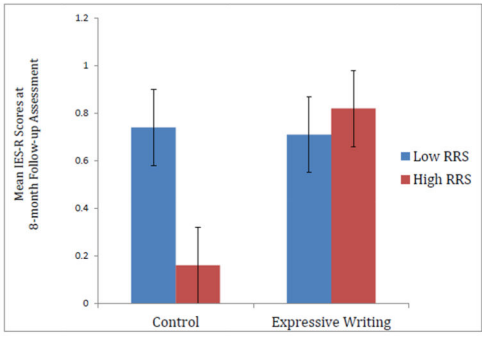


Figure 2.

Mean IES-R scores at the 3-month (Panel A) and 8-month (Panel B) follow-up assessment by condition (EW = Expressive Writing) and participants with high and low (+/− 1 *SD*) scores on the Ruminative Response Scale at the initial study visit. Error bars reflect the standard error of the mean.

Table 1

Zero-order correlations and descriptive statistics for all variables.

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. BDI, T1	X														
2. BDI, T2	.61**	X													
3. BDI, T3	.52**	.83**	X												
4. IES-R, T1	.67**	.51**	.42**	X											
5. IES-R, T2	.45**	.65**	.70**	.50**	X										
6. IES-R, T3	.50**	.64**	.76**	.49**	.76**	X									
7. LOSROS, T1	.65**	.43**	.34**	.47**	.31**	.38*	X								
8. LOSROS, T2	.43**	.52**	.42**	.30**	.34**	.37**	.66**	X							
9. LOSROS, T3	.39**	.54**	.57**	.32**	.35**	.52**	.63**	.71**	X						
10. RRS, T1	.60**	.47**	.34**	.56**	.48**	.34**	.35**	.30**	.27*	X					
11. Meaning-making	.47**	.39**	.17	.46**	.31**	.21	.34**	.21*	.14	.40**	X				
12. PE	−.04	.10	.07	−.04	.10	.14	−.06	.05	.04	.04	.07	X			
13. NE	.06	.15	.007	.15	.15	−.03	.04	.08	.07	.25*	.08	.30**	X		
14. Cog Mech	.05	.17	.08	.008	.24*	.10	.06	.11	.004	.19	.02	.45**	.68**	X	
15. F–P Singular	.09	−.005	.10	−.03	.04	.11	−.04	−.10	−.06	.16	−.09	.22*	.24**	.25*	X
M	14.04	8.30	6.85	1.50	.78	.68	3.12	2.57	2.45	2.03	2.61	2.37	1.77	6.84	8.11
SD	9.80	8.47	8.72	.83	.66	.72	1.48	1.20	1.25	.53	1.29	1.13	1.21	2.58	2.59

* $p < .05$;

** $p < .01$

Note. T1 = First-visit measurement, sum; T2 = Second-visit measurement, sum; BDI= Beck Depression Inventory; IES-R = Impact of Event Scale-Revised, combined hyperarousal-intrusion subscales; LOSROSROS = Loss of Self, Rediscovery of Self scale, mean; RRS = Ruminative Responses Scale, mean; The following LIWC categories represent the M across 3 occasions: PE = Positive emotion words; NE = Negative emotion words; Cog Mech = Cognitive mechanism words; F–P Singular = First-person singular words. See Method for word category descriptions.

Table 2

Results of Hierarchical Regression Analyses Predicting 3-month and 8-month Outcomes

	IES-R (Model 1)					BDI (Model 2)					LOSROS (Model 3)					IES-R (Model 4)				
Predictor	***B***	***b***	***SE***	***t***	***p***	***B***	***b***	***SE***	***t***	***p***	***B***	***SE***	***t***	***p***	***B***	***b***	***SE***	***t***	***p***
3-month Outcomes (T2)																				
Constant		.18	.12	1.51	.13		1.14	1.19	.93	.35		.89	.21	4.08	< .001		.48	.16	2.92	.004
IES-R-T1	.50	.39	.07	5.66	< .001		--	--	--	--		--	--	--	--	.25	.20	.10	2.00	.05
BDI-T1		--	--	--	--	.62	.53	.07	7.41	< .001		--	--	--	--	.17	.01	.01	1.28	.20
LOSROS-T1		--	--	--	--		--	--	--	--	.67	.54	.06	8.84	< .001		--	--	--	--
EW	.22	.30	.12	2.45	.02	.19	3.27	1.45	2.26	.03	.08	.20	.20	1.03	.36	.22	.30	.12	2.27	.01
Rumination		--	--	--	--		--	--	--	--		--	--	--	--	.21	.24	.13	1.80	.07
EW X Rumination		--	--	--	--		--	--	--	--		--	--	--	--	.22	.53	.22	2.47	.02
R^2 Model	.30					.41					.45					.39				
8-month Outcomes (T3)																				
	IES-R (Model 5)					BDI (Model 6)					LOSROS (Model 7)					IES-R (Model 8)				
Constant		.09	.13	.71	.48		.73	1.39	.52	.60		.82	.24	3.33	< .001		.71	.06	10.68	< .001
IES-R-T1	.48	.41	.08	5.09	< .001		--	--	--	--		--	--	--	--	.25	.21	.11	1.81	.07
BDI-T1		--	--	--	--	.54	.46	.08	5.51	< .001		--	--	--	--	.42	.03	.01	2.91	< .001
LOSROS-T1		--	--	--	--		--	--	--	--	.65	.56	.07	7.36	< .001			--	--	--
EW	.17	.25	.14	1.72	.09	.12	2.07	1.73	1.19	.24	.07	.17	.23	.744	.45	.21	.30	.13	2.17	.03
Rumination		--	--	--	--		--	--	--	--		--	--	--	--	−.08	−.09	.16	−.60	.54
EW X Rumination		--	--	--	--		--	--	--	--		--	--	--	--	.25	.63	.25	2.54	.01
R^2 Model	.26					.26					.40					.33				

Note. IES-R = Impact of Event Scale-Revised, combined hyperarousal-intrusion subscales; BDI= Beck Depression Inventory; LOSROSROS = Loss of Self, Rediscovery of Self scale T1 = Initial study visit. EW = Expressive Writing. For the EW contrast reported here, both the TEW and NEW groups were coded .33, and the Control group was coded −.66. R^2 Model = Total variance explained in the follow-up outcome with all variables included in the model.