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****RESEARCH ARTICLE****

Optimizing the Perceived Benefits and Health Outcomes
of Writing about Traumatic Life Events

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Abstract

Expressive writing, which involves disclosing one's deepest thoughts and feelings about a stressful life event using a first-person perspective, has been linked to gains in health and well-being, though effect sizes range widely. Assuming a third-person perspective is a natural and effective way of coping with highly distressing events. Therefore, the current study examined whether a distanced, third-person approach to expressive writing might be more beneficial than a traditional, first-person intervention for high baseline levels of event-linked intrusive thinking. Randomly assigned participants wrote expressively about traumatic life events using a first- or third-person-singular perspective. Linguistic analyses showed that assuming a first-person perspective is linked to higher levels of in-text cognitive engagement whereas a third-person perspective is linked to lower cognitive engagement. However, in a context of higher levels of intrusive thinking, third-person expressive writing, relative to a traditional first-person approach, yielded (1) greater perceived benefits and positive, long-lasting effects as well as (2) fewer days of activity restriction due to illness. While more research is needed, these results suggest that third-person expressive writing may be an especially fitting technique for recovering from traumatic or highly stressful life events.

Optimizing the Perceived Benefits and Health Outcomes of Writing about Traumatic Life Events

For more than two decades, expressive writing has helped individuals confront and process emotional upheavals such as deaths in the family, chronic illness, sexual and physical abuse, failed relationships, college adjustment, and job loss (Lepore & Smyth, 2002; Smyth & Pennebaker, 2008). Expressive writing is a structured intervention in which one is asked to disclose one's deepest thoughts and feelings surrounding a stressful life event. Traditionally, the writer is instructed to narrate the event from a first-person perspective in which the event is disclosed from his or her own vantage point (Pennebaker, 1997). Although first-person expressive writing has been linked to diverse gains in health and well-being, effect sizes range from null to small to moderate (e.g., Andersson & Conley, 2008; Frattaroli, 2006; Pennebaker & Beall, 1986; Pennebaker, Mayne, & Francis, 1997).

These mixed results suggest that assuming a direct first-person perspective is not always optimal and that other perspectives may provide useful distance (Kross, 2009). A third-person perspective is necessary in order to cope effectively with stressful or traumatic life events (Kross, Ayduk, & Mischel, 2005; Libby, Eibach, & Gilovich, 2005; Pham & Taylor, 1999; Taylor, 1983). Distancing involves processing and storing an event from an observer's perspective, which is akin to analyzing one's own life from a third-person perspective (Nigro & Neisser, 1983). Cohn, Mehl and Pennebaker (2004) found that online bloggers spontaneously used more distanced forms of language (including fewer first-person pronouns) following the September 11th attacks, which is consistent with the argument that psychological distancing is a natural response to emotional upheavals.

Indeed, research has found that excessive self-focus may undermine well-being and also that flexibility of perspective is linked to positive health outcomes when writing about stressful events. Elevated usage of the first-person singular correlates with depression (Rude, Gortner, & Pennebaker, 2004) as well as suicide among poets (Stirman & Pennebaker, 2007). More generally, self-focused attention is linked to the perpetuation of negative affect (Mor & Winquist, 2002). A latent semantic analysis (LSA) of several expressive writing studies found that flexibility in pronoun usage, rather than similarity of pronoun usage across writing sessions, predicts positive writing outcomes (Campbell & Pennebaker, 2003). Within studies, similarity of pronoun usage correlated moderately with increased physician visits.

Although the LSA technique is unable to identify specific patterns of pronoun usage linked to positive health outcomes, these results suggest that pronoun flexibility, such as disclosing a stressful event from one's perspective and then from someone else's, may lead to gains in health. In fact, expressive writing instructions sometimes mention the possibility of discussing significant personal relationships while writing (Pennebaker, 1997, p. 162), perhaps guiding some writers towards incorporating others' perspectives and, with this, towards gains in health. If first-person expressive writing does not consistently lead to event recall from other perspectives, this could help explain its variable success at producing positive health outcomes.

Indeed, other research has specifically shown that assuming an observer's perspective when recalling angering or depressing events produces superior health outcomes (Ayduk & Kross, 2008; Kross, 2009; Kross & Ayduk, 2008; Kross et al., 2005). That is, a self-distanced perspective, in which one recounts an event as if observing oneself from a distance, produces better health outcomes than a self-immersed perspective, which emphasizes reliving one's own experience in terms of subjective feelings and emotions, as is typically done during expressive

writing when focusing on one's "very deepest emotions and thoughts" (Pennebaker, 1997, p. 162). Although a self-distanced perspective is not grammatically the same as writing from another perspective (such as the third-person), it tends to reduce first-person pronoun usage relative to a self-immersed approach (Kross & Ayduk, 2008). Meanwhile, a self-distanced perspective establishes a foundation for effective processing by encouraging a focus on abstract rather than concrete details and on *why* one is feeling distressed rather than *what* one is feeling or experiencing (Kross et al., 2005).

Although previous expressive writing research has assessed the value of using different pronoun perspectives (Seih et al., 2008; Seih, Chung, & Pennebaker, 2011), writers in these studies disclosed a wide range of everyday and negative events and did not specify their subjective event-related distress. As a result, the value of other perspectives for processing events that are deemed traumatic or highly stressful remains unclear. Seih and colleagues (2008) instructed university volunteers to vary their perspective while keeping diary entries about various events from their own lives. More specifically, writers were instructed to compose entries using the first-, second-, then third-person singular perspective for ten consecutive days. Although key aspects of first- and second-person expressive writing predicted increased life satisfaction, third-person constructions did *not* predict increased life satisfaction.

In two related laboratory experiments, Seih and colleagues (2011) similarly found that third-person-singular expressive writing may not be as beneficial as a first-person-singular approach. Their results showed marginally significant or significant main effects of condition for cognitive word usage, such that first- and second-person writers used more cognitive words than did third-person writers, suggesting a greater degree of event processing among the former groups. Although the first experiment demonstrated no between-group differences in perceived

value of writing, first-person writers reported higher mean levels of perceived value than second- and third-person writers in the second experiment (who did not differ). In both experiments, first-person writers also reported a higher mean degree of emotional self-revelation than second- and third-person writers (who were statistically equal). In sum, it seems that first-person expressive writing may indeed be more beneficial than a distanced, third-person approach.

However, in both of these experiments, Seih and colleagues instructed writers to address “bothersome, annoying, or somewhat troubling” events in their lives (2011, p. 929). Because writers did not complete any subjective measure of event-related distress, the empirical link between event-related distress and the benefits of expressive writing using differing perspectives is not yet clear. Seih and colleagues (2008) found that individuals with high levels of general anxiety benefited most from their perspective-varied regimen. Therefore, using perspectives other than the first-person may be beneficial for writers who are highly distressed about their events.

Event-related distress has been examined as a between-subjects variable in studies of expressive writing. In particular, event-related intrusive thinking has been assessed as a psychometrically validated form of event-related distress (see Horowitz, Wilner, & Alvarez, 1979; Weiss & Marmar, 1997). Unprocessed memories of trauma are disorganized and are thus readily activated (Foa, Molnar, & Cashman, 1995). Such activation comes in the form of intrusive thoughts, which are defined as “repeated, unbidden memories, thoughts, and images of a stressor” (Lepore, Ragan, & Jones, 2000, p. 500). Because intrusive thoughts are undesired and anxiety-inducing, they can lead to declines in mental and physical health.

Lepore (1997) and Lepore and Greenberg (2002) found that first-person expressive writing eliminates the link between baseline event-linked intrusive thinking and negative health

outcomes such as depressive symptoms and upper respiratory illness symptoms. In contrast, this association remains among control participants who write on trivial topics. This finding is consistent with the social-cognitive processing theory of expressive writing, so called because it originated from studies showing that emotional self-disclosure is more beneficial when it occurs within a supportive social context (versus an unsupportive context; e.g., Lepore, Silver, Wortman, & Wayment, 1996). The social-cognitive theory posits that expressive writing, rather than decreasing intrusive thinking, removes the “emotional sting” of intrusive thinking so that mental and physical health are no longer negatively impacted (e.g., Lepore & Greenberg, 2002, p. 549). In contrast, a cognitive processing or integration model posits that expressive writing leads to reductions in intrusive thinking and increases in working memory capacity because it directly clarifies and resolves mental representations of event-related content (Boals & Klein, 2005; Frattaroli, 2006; Klein & Boals, 2001).

Testing the social-cognitive and cognitive-processing theories, the current study evaluates change in intrusive thoughts across time as well as between-group differences in the impact of intrusive thoughts on health processes. However, the current study more directly engages with the social-cognitive theory, and the health buffering mechanism specifically. Evidence for this mechanism remains underdeveloped. It may be the case that some “sting” of intrusive thinking remains even among first-person expressive writers. Indeed, according to previous work by Lepore and colleagues, first-person writing is not linked to *improvements* in health outcomes; rather, it merely buffers or prevents declines in health. Even though health remains stable, cycles of rumination and negative affect may prevent actual improvements in health, because the event is still being recalled in a direct manner that focuses on concrete details and thus elicits hot, angering emotional responses (Kross et al., 2005). Therefore, a revised interpretation of this

theory highlights the fact that first-person writing, while it buffers health, forestalls health improvements. Other perspectives, such as the third-person, may afford health improvements where first-person expressive writing cannot.

Study Overview and Hypotheses

The current study compares the outcomes of first- and third-person-singular expressive writing across different levels of baseline event-related intrusive thinking. Building on Seih and colleagues' (2011) short-term design, the present study features a longitudinal assessment of intrusive thinking and activity restriction due to illness. Thus, the consistency of patterns among writing condition, intrusive thinking, and perceived benefits is assessed using two time points, and change in activity restriction is modeled as a joint outcome of intrusive thinking and expressive writing (Lepore, 1997; Lepore & Greenberg, 2002).

Hypothesis 1 (Perceived Benefits)

The perceived benefits of expressive writing will be moderated by the participant's baseline level of event-related intrusive thinking. For lower levels of intrusive thinking, which denote events that are less subjectively distressing and probably not traumatic, a first-person-singular perspective will produce higher levels of perceived benefits than a third-person-singular perspective (Seih et al., 2011). However, for higher levels of intrusive thinking, which denote highly distressing events, a third-person perspective should be perceived as more beneficial than a first-person perspective, because it encourages the distance necessary for coping effectively (Cohn et al., 2004; Kross et al., 2005; Taylor, 1983). This pattern of results is predicted to hold for perceived value/meaningfulness of writing immediately following the writing intervention as well as for perceived value/meaningfulness and perceived positive, long-lasting effects of writing assessed at one-month follow-up.

Hypothesis 2 (Activity Restriction Due to Illness)

The link between intrusive thinking and negative health outcomes will be moderated by expressive writing (Lepore, 1997). For higher levels of intrusive thinking, third-person expressive writing, relative to a first-person approach, should lead to greater reduction in activity restriction due to illness, across the follow-up period, (e.g., Kross, 2009; Kross et al. 2005). Among first-person writers, change in activity restriction will be zero across all observed levels of baseline intrusive thinking, which is consistent with a health buffering effect (Lepore, 1997; Lepore & Greenberg, 2002).

Method

Participants

44 undergraduate students (32 women, 12 men; mean age = 20.5 years, $SD = 1.5$) at a Midwestern liberal arts college were recruited via a campus-wide email advertisement.¹ Participants received \$20 in exchange for completing the entire experimental regimen, which involved three sessions of expressive writing held on consecutive days as well as a one-month follow-up assessment.²

Participants were randomly assigned to one of two writing conditions, both of which involved writing for three twenty-minute sessions about their deepest thoughts and feelings surrounding a “traumatic or very stressful” life event that still affected their life to some degree. In the first-person writing condition ($n = 23$, follow-up $n = 21$), participants wrote about their stressful event using the traditional first-person perspective (Pennebaker, 1997). In the third-person writing condition ($n = 21$, follow-up $n = 20$), participants instead wrote using the third-person pronoun (as if it had happened to someone else; Seih et al., 2008).

Measures

Event-Linked Intrusive Thinking. Prior to the first writing session and again one month later, participants completed the 8-item Intrusion subscale of the Impact of Event Scale – Revised (Weiss & Marmar, 1997; baseline $\alpha = .84$; also see Lepore, 1997; Lepore & Greenberg, 2002), indicating how often they had been disturbed by their chosen event over the past week. Items included “I had dreams about it” and “Other things kept making me think about it.” For each item, participants responded using a 0-4 format [0 (“not at all”), 1 (“a little bit”), 2 (“moderately”), 3 (“quite a bit”), and 4 (“extremely”)].

Pronoun Usage and Cognitive and Emotional Expression. Linguistic Inquiry and Word Count (LIWC; Pennebaker & Francis, 1996; Pennebaker et al., 1997), a textual analysis program, provided objective measures of pronoun usage, cognitive processing, and emotional expression. Analysis yielded word use proportions for first-person-singular pronouns (e.g., “I”, “mine”), third-person-singular pronouns (e.g., “he,” “she,” “her”), cognitive words (e.g., “because,” “therefore,” “cause,” “think”), positive emotion words (e.g., “nice,” “love,” “happy”) and negative emotion words (e.g., “hurt,” “worried,” “crying”; e.g., Lee & Cohn, 2010; Lepore, 1997; Pennebaker et al., 1997; Seih et al. 2011). Also, following the third writing session, participants provided a subjective measure of emotional expression by rating the degree to which they felt they had revealed their emotions across all three sessions (1 = “not at all” to 7 = “a great deal”; from Greenberg & Stone, 1992; Pennebaker, Colder, & Sharp, 1990; also see Seih et al. 2011).

Perceived Benefits. Following the third session, participants rated the perceived value or meaningfulness of the writing intervention (Lepore, 1997; Lepore & Greenberg, 2002; Seih et al., 2011). Perceived benefits and subjective reactions to the writing experience lend unique insights into the mechanisms and outcomes of writing interventions (Pennebaker, 1997;

Theadom et al., 2010). One month later, participants again rated the degree of value/meaningfulness of last month's writing intervention and also the degree to which they believed the intervention had positive, long-lasting effects for them [1 ("not at all") to 7 ("a great deal")].

Activity Restriction Due to Illness. Prior to the first session and also one month later, participants specified the number of days that they believed their activity had been restricted over the past month due to illness (e.g., Mosher & Danoff-Burg, 2006; Smyth, True, & Souto, 2001). The response was subtracted from thirty in order to afford a self-reported measure of perceived days free from activity restriction due to illness during the past month.

Procedure

Participants wrote in private rooms equipped with a desk, a chair, and a computer terminal. Terminals ran a local application designed specifically for this study. At the beginning of each writing session, the experimenter logged the participant on to the application, delivered simple instructions, and then left the room.

Prior to beginning their first writing session, writers were directed to a screen where they answered a variety of basic questions including a measure of activity restriction due to illness. Next, writers identified an emotional upheaval (i.e., "a very stressful or traumatic event that you have experienced...an event that still affects you and your life to some degree") by typing it into a textbox. On the next screen, participants completed a baseline measure of intrusive thinking. Then, participants completed their first writing session by typewriting (Seih et al., 2011; see Brewin & Lennard, 1999 for a comparison of typewritten and handwritten emotional self-disclosure) for 20 minutes about the stressful or traumatic event they identified. For each session, first-person writers received the following prompt (Pennebaker, 1997):

For the next 20 minutes, I would like for you to write about the event/topic you specified at the beginning of the experiment. In your writing, I'd like you to really let go and explore your very deepest emotions and thoughts. All of your writing will be completely confidential. Don't worry about spelling or grammar. PLEASE USE THE FIRST-PERSON PERSPECTIVE WHILE WRITING (e.g., instead of saying "He/she thought/felt...", say "I thought/felt..."). In other words, write so that it is clear that the event happened to you.

Third-person writers received a very similar prompt:

For the next 20 minutes, I would like for you to write about the event/topic you specified at the beginning of the experiment. In your writing, I'd like you to really let go and explore your very deepest emotions and thoughts. All of your writing will be completely confidential. Don't worry about spelling or grammar. PLEASE USE THE THIRD-PERSON PERSPECTIVE WHILE WRITING (e.g., instead of saying "I thought/felt...", say "He/she thought/felt..."). In other words, write as if your event happened to someone else.

Sessions were timed exactly so that the computer informed participants when time was up and automatically logged them off. Participants returned to the laboratory on the next two consecutive days to complete the second and third writing sessions. If participants did not complete their three sessions within four days (allowing for one skipped day), their laboratory account became permanently inactive. To finish the third writing session, participants filled out a questionnaire that asked them to appraise the overall narrative they had provided in terms of perceived value/meaningfulness and emotional expression. One month later, participants returned to the same laboratory to complete a follow-up assessment of intrusive thinking, activity

restriction, and perceived value/meaningfulness and long-lasting positive effects of the writing intervention.

Results

Data Analysis Strategy

Manipulation checks involved performing a broad survey of chosen writing topics in both conditions, comparing pronoun usage between conditions, and establishing baseline equivalence of the first- and third-person expressive writing conditions in terms of event-linked intrusive thinking and activity restriction due to illness. A correlation matrix yielded an overview of relationships between variables in the current study. Correlations among first- and third-person-singular pronoun usage and linguistic indices (cognitive and emotion word usage) and subjective outcomes (perceived benefits measures) are reported in order to afford direct comparison with previous research (Seih et al., 2011). In addition, the matrix was specified to include baseline, follow-up, and change scores for event-linked intrusive thinking and activity restriction due to illness. Repeated-measures analyses of variance (ANOVAs) established baseline equivalence of the two writing conditions and also evaluated whether intrusive thinking declined across the follow-up period (which is consistent with cognitive change theory) and whether activity restriction lessened (which is predicted to occur across different forms and variations of expressive writing; Pennebaker, 1997; Smyth & Pennebaker, 2008).

The remainder of analyses evaluated the two proposed hypotheses. In particular, multiple regression equations were estimated by first regressing the outcome measure (perceived benefits or change in activity restriction due to illness across the follow-up period) on Condition and Intrusive Thinking, and then on Condition \times Intrusive Thinking in a separate step (Lepore, 1997; Lepore & Greenberg, 2002). This two-step procedure allowed for identifying main effects of

writing condition and baseline event-linked intrusive thinking on beneficial writing outcomes, and examining how writing condition interacts with baseline intrusive thinking to produce beneficial outcomes. For significant interactions, Aiken and West's (1991) guidelines provided for the calculation of (1) simple slopes for each writing condition and (2) regions of significance using the Johnson-Neyman procedure. The simple slopes procedure determined whether baseline intrusive thinking mattered to beneficial outcomes within each writing condition, and the Johnson-Neyman procedure identified ranges of baseline intrusive thinking for which between-condition differences in beneficial outcomes were present. Occasionally, the Johnson-Neyman procedure yields range boundaries that do not fall within the observed range of values, making them of limited or no practical significance. Possible values for baseline intrusive thinking items ranged from 0 ("not at all") to 4 ("extremely"), and observed mean values for intrusive thinking ranged from 0.25 to 3.0.

Manipulation Checks

Participants in both writing conditions disclosed freely about a variety of highly stressful and even traumatic life events, including parental divorce, family-related deaths, motor vehicle accidents, chronic illness, and physical and domestic abuse (including rape). Although levels of baseline intrusive thinking within the current sample are not consistent with clinically significant trauma that would satisfy Criterion A for posttraumatic stress disorder (Weiss & Marmar, 1997), all of these events reflected participants' own understandings of highly stressful or traumatic events and thus are suitable for research within a non-clinical sample.

Per the directions for their respective writing interventions, first-person writers used a higher quantity of first-person pronouns than did third-person writers, $t(42) = 15.45, p < .001$.

Likewise, third-person writers exceeded first-person writers on third-person pronoun usage, $t(42) = 8.44, p < .001$.

(Insert Table 1 about Here)

(Insert Table 2 about Here)

Table 1 presents means and standard deviations of study variables, by writing condition. Pairwise correlation analyses of all measures are presented in Table 2. Correlations indicated that whereas proportion of first-person-singular pronouns (via LIWC analysis) was positively associated with cognitive word usage, proportion of third-person-singular pronouns was inversely related to cognitive emotion word usage. Pronoun usage (first-person-singular or third-person-singular) was not related to perceived emotional self-revelation² or to positive or negative emotion word usage.

Changes in Intrusive Thinking and Activity Restriction across Follow-Up Period

A 2×2 (Writing Condition \times Time: Post to Follow-Up) repeated-measures ANOVA predicting intrusive thoughts revealed a main effect for time, such that mean levels of intrusive thinking declined significantly over the one-month follow-up period, $F(1,41) = 8.84, p = .005, \eta^2_p = .18$.³ However, the main effect of Writing Condition and the Writing Condition \times Time interaction were not significant ($F_s < 1, p_s > .50$). A second 2×2 repeated-measures ANOVA for activity restriction revealed no significant effects ($F_s < 1.73, p_s > .19, \eta^2_{ps} < .05$).

Perceived Benefits

For the perceived value/meaningfulness models (post-intervention and one-month follow-up), no main effects emerged ($|\beta|s < .20, |t|s < 1.33, p_s > .19$), but there was a significant Writing Condition \times Intrusive Thinking interaction post-intervention ($\beta = .48, t = 2.46, p = .018, \eta^2_p = .13$). Among third-person writers, higher baseline intrusive thinking predicted greater perceived

value/meaning of the intervention ($\beta = .56, t = 2.75, p = .009$); in contrast, first-person writers did not evidence an association between baseline intrusive thinking and perceived value/meaning ($\beta = -.13, t = -.63, p = .53$). However, the Johnson-Neyman procedure revealed that third-person expressive writing produced higher levels of perceived benefits only for very high levels of intrusive thinking (> 2.47 ; between 2 = “moderately” and 3 = “quite a bit” levels of intrusive thinking). The lower region of significance extended below possible values (< -2.41), thus indicating that first- and third-person expressive writing were perceived to be equally beneficial for all other observed values of baseline intrusive thinking.

At one-month follow-up, a Writing Condition x Intrusive Thinking interaction ($\beta = .56, t = 2.66, p = .011, \eta^2_p = .16$) similarly revealed that third-person writers evidenced a positive (though marginal) association between baseline intrusive thinking and perceived value/meaning ($\beta = .34, t = 1.72, p = .094$) whereas first-person writers displayed a negative association ($\beta = -.46, t = -2.04, p = .049$). Further probing demonstrated a lower threshold than for the previous model, such that third-person writing was perceived to be more beneficial for values of baseline intrusive thinking above 1.94 (i.e., just below 2 or “moderately”). Again, the lower region of significance was situated outside possible values of intrusive thinking ($< -.89$), indicating equivalence of first- and third-person expressive writing for all values below or equal to 1.94.

A model predicting perceived positive, long-lasting effects of the intervention at follow-up revealed no main effects ($|\beta|s < .18, |t|s < 1.10, ps > .28$). However, a significant Writing Condition x Intrusive Thinking interaction ($\beta = .69, t = 3.46, p = .001, \eta^2_p = .24$; Figure 1) revealed that third-person writers with higher levels of baseline intrusive thinking perceived greater long-term benefits ($\beta = .59, t = 3.29, p = .002$) whereas first-person writers showed a tendency in the opposite direction ($\beta = -.36, t = -1.63, p = .11$). Further probing revealed an even

lower threshold than for the previous model, such that third-person expressive writing was perceived to have greater positive, long-lasting effects beginning at more moderate levels of intrusive thinking (> 1.67 ; between 1 = “a little bit” and 2 = “moderately”). Also, for this model, the lower region narrowly fell within possible values ($< .06$); however, the lowest observed value for baseline intrusive thinking was .125, making this region of no practical significance.

(Insert Figure 1 about Here)

Change in Activity Restriction

Change in activity restriction (i.e., in days free of activity restriction due to illness) across the follow-up period showed no main effects ($|\beta|s < .18$, $|t|s < 1.18$, $ps > .24$) but did demonstrate a significant Writing Condition x Intrusive Thinking interaction effect ($\beta = .52$, $t = 2.68$, $p = .011$, $\eta^2_p = .17$; Figure 2). Among third-person writers, greater baseline intrusive thinking predicted larger improvements in health across the follow-up period ($\beta = .55$, $t = 2.30$, $p = .03$), whereas the association was nonsignificant, in the opposite direction, for first-person writers ($\beta = -.28$, $t = -1.45$, $p = .16$). Probing revealed lower and upper limits that fell within observed values for baseline intrusive thinking. According to these values, first-person expressive writing produced larger perceived gains in health for writers with baseline intrusive thinking below .47 (i.e., in between 0 = “not at all” and 1 = “a little bit”), whereas third-person expressive writing led to larger perceived gains when intrusive thinking fell above 1.31 (i.e., between 1 = “a little bit” and 2 = “moderately”).

(Insert Figure 2 about Here)

Discussion

Although expressive writing has shown remarkable success at improving health and well-being in the wake of highly distressing life events, its effects have been somewhat mixed overall.

Taking into account the literature on self-distancing as an effective form of coping with highly stressful life events, this study compared a third-person-singular approach to expressive writing to a traditional, first-person-singular approach. This is not the first study to consider the merits of writing expressively using differing pronoun perspectives (see Seih et al., 2008; Seih et al., 2011). However, this study specifically asked participants to disclose a very stressful or traumatic event. Although baseline levels of event-linked intrusive thinking did not indicate clinically significant levels of trauma, expressive writing studies typically rely on participants to furnish events that meet subjective rather than objective criteria.

More important, this study pioneered a novel approach to the outcomes of expressive writing. It revised Seih and colleagues' (2011) general model of perspective taking in expressive writing by proposing that differing perspectives may be preferable depending on baseline levels of intrusive thinking. Indeed, for higher levels of event-linked intrusive thinking, third-person expressive writing (relative to a traditional first-person approach) yielded greater perceived benefits and positive, long-lasting effects as well as lesser activity restriction due to illness. In fact, significantly greater outcomes were observed for third-person writers beginning around moderate levels of baseline intrusive thinking. This places a restriction on Seih and colleagues' finding that first-person expressive writing generally leads to higher perceived benefits than third-person expressive writing. Indeed, we did not find this to be the case for either low or high levels of intrusive thinking. Moreover, in contrast to Seih and colleagues' study, these findings resulted from a longitudinal design, which provides insight into the reliability of perceived benefits of writing and into changes in activity restriction due to illness.

Limitations in the Research

The current study carries a number of limitations that point the way to future directions for research. First, the current sample size fell below that of the average expressive writing study ($n = 78$; Frattaroli, 2006). A relatively small sample limits power for testing statistical interactions and between-group differences. Even despite this, all hypothesized statistical interactions demonstrated full significance, perhaps attesting to the large magnitudes of true interaction effects. Contrary to hypotheses, first-person expressive writing did not lead to greater perceived benefits for lower levels of intrusive thinking (cf. Seih et al., 2011). Although group means at low levels of intrusions trended in this direction, first-person writers did not report significantly greater perceived benefits. With a larger sample size, this test can more properly be conducted.

Second, lack of a control group limited the ability to place linguistic measures, perceived benefits and changes in intrusive thinking and activity restriction into proper context. Intrusive thinking declined for both conditions across the one-month follow-up period although group levels of activity restriction remained the same. The former is consistent with previous research finding that expressive writing lowers intrusive thinking (Klein & Boals, 2001). However, other research has found that intrusive thinking may decrease even among control participants (Mackenzie, Wiprzycka, Hasher, & Goldstein, 2007). Expressive writing does not always produce gains in health; this may be especially likely within healthy samples due to floor effects (Frattaroli, 2006). Still, in any case, it is useful to evaluate well-being and health outcomes against a control writing group. Future research should extend the present study's protocol by comparing the two expressive writing modalities to a control or trivial writing task, thus adjudicating whether decreases in intrusive thinking, and stability in activity restriction, resulted

from the therapeutic effects of emotional self-disclosure or from spurious factors (such as the mere passage of time).

Third, reliance on single-item outcome measures, while it allowed for a methodological replication of previous research on the health outcomes of differing narrative techniques (Smyth et al., 2001) and on the perceived benefits of first- versus third-person expressive writing (Seih et al., 2011), brackets the ability of this study to illuminate general well-being processes surrounding written self-disclosure. At the same time, activity restriction due to illness has been utilized as a single-item outcome measure in previous studies; while self-reported, it affords a quick and revealing measure of self-reported health status that is substantively comparable to self-reported frequency of doctor or physician visits. Single-item measures of self-reported health are widely recognized as valid indicators of health status in population health surveys and correlate highly with other, more comprehensive measures of health status and morbidity (Ferraro and Farmer 1999; Idler and Benyamini 1997; Williams and Umberson 2004).

Contributions to Expressive Writing Research, Theory, and Practice

Despite these limitations, the current findings are innovative in that they suggest a novel approach to optimizing the outcomes of expressive writing. In particular, they suggest that expressive writing may be most therapeutic when a fitting match between writing technique and event-linked distress is achieved. As such, these findings challenge the traditional, first-person approach to expressive writing, as they highlight conditions under which the traditional approach may lead to suboptimal results. Also, they contribute to a long-established tradition of research that identifies personality- and intervention-based moderators of expressive writing and well-being outcomes (e.g., Ashley, O'Connor, & Jones, in press; Frattaroli, 2006; Smyth & Pennebaker, 2008).

These findings also challenge those reported by Seih and colleagues (2011). Across their two experiments, third-person expressive writing led to lower levels of perceived benefits and perceived emotional expression. In contrast, this study found that third-person expressive writing leads to equivalent or higher levels of perceived benefits relative to first-person writing, depending on the writer's level of event-related intrusive thinking. Also in opposition to previous findings, this study found no relationship between pronoun usage and perceived emotional expression (cf. Seih et al., 2011). Additional analyses (reported in Footnote 2) showed that third-person writers perceived expressing their emotions to a greater extent with higher levels of event impact, whereas perceived emotional expression remained constant across all levels of event impact for first-person writers.

Although the current results highlight the therapeutic value of third-person expressive writing given certain circumstances, linguistic results raise some concern. In particular, linguistic analyses showed that assuming a first-person perspective is linked to higher levels of in-text cognitive engagement whereas a third-person perspective is linked to lower cognitive engagement (see also Seih et al., 2011). This replicated finding is important because previous research has shown that cognitive word usage is linked to the emergence of an organized, coherent written narrative (Pennebaker & Francis, 1996) as well as improvements in physical health (Pennebaker et al., 1997). However, in the present study, cognitive word usage did not correlate with perceived benefits of the intervention or with change in activity restriction across the follow-up period (see also Creswell et al., 2007; Graybeal, Sexton, & Pennebaker, 2002; Low, Stanton, & Danoff-Burg, 2006).

In addition to identifying a promising therapeutic regimen for clinical practice, the current findings extend knowledge of theoretical mechanisms. Levels of intrusive thinking

decreased across the follow-up period for both expressive writing conditions, which is in keeping with cognitive change theory. In addition, this study added to existing theoretical knowledge about social-cognitive theory by providing evidence that third-person expressive writing can actually reverse (rather than merely buffer) the negative impact of intrusive thinking on health. In particular, third-person writers with high levels of intrusive thinking actually showed *gains* in health across the follow-up period relative to first-person expressive writers.

In sum, the current study illuminated a new therapeutic pathway for third-person expressive writing while also replicating the expected health buffering effect among first-person writers. Although more research is needed, results suggest overall that third-person expressive writing may be an especially fitting technique for recovering from traumatic or highly stressful life events, as it optimizes perceived benefits and health outcomes relative to a traditional, first-person approach.

Notes

¹ $N = 44$ is the final, retained sample size. This number excludes participants who did not complete all writing sessions ($ns = 3$ per writing condition), did not follow directions ($n = 1$), or were regression outliers across outcome models ($n = 2$; Cook's d averages $> 4/[n-k-1]$ per Cook & Weisberg, 1982). Retained ($n = 44$) and excluded ($n = 9$) participants did not differ with regard to baseline event-linked intrusive thinking, $t(51) = 0.48, p = .63$. While information on race and ethnicity was not collected, students were recruited at a liberal arts college where the student body contains approximately 20% students of color (African-American, Asian-American, Hispanic, and Native American) and about 5-10% international students.

² In a multiple regression model predicting perceived emotional self-revelation, Writing Condition \times Intrusive Thinking is significant ($\beta = .42, t = 2.21, p = .03$). In particular, third-person writers evidenced marginally greater levels of perceived revelation at higher levels of baseline intrusive thinking ($\beta = .38, t = 1.70, p = .097$), whereas the association was in the opposite direction, though nonsignificant, for first-person expressive writers ($\beta = -.28, t = -1.42, p = .16$).

³ Conditions demonstrated baseline equivalence with regard to intrusive thinking and activity restriction due to illness. Writing condition did not moderate the effect of baseline intrusive thinking on follow-up levels of intrusive thoughts. This is consistent with Lepore and colleagues' social-cognitive model, which predicts that levels of intrusive thinking do not respond to expressive writing; rather, expressive writing is predicted to decrease the association between intrusive thinking and negative health outcomes.

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Table 1

Descriptive Statistics for Measures by Writing Condition

Measure	Writing Condition	
	First-Person <i>M(SD)</i>	Third-Person <i>M(SD)</i>
<i>Event-Linked Distress</i>		
Intrusive Thoughts (Baseline)	1.24(0.75)	1.20(0.70)
Intrusive Thoughts (FU)	1.04(0.74)	0.84(0.59)
<i>Activity Restriction</i>		
Restriction-Free Days (Baseline)	27.57(2.48)	27.90(2.53)
Restriction-Free Days (FU)	27.62(2.58)	28.75(1.89)
<i>Pronoun Usage</i>		
LIWC First-Person Singular	9.28(2.60)	0.71(1.29)
LIWC Third-Person Singular	3.47(2.32)	9.43(2.71)
<i>Cognitive-Emotional Expression</i>		
LIWC Cognitive Words	21.10(2.64)	17.85(2.41)
LIWC Positive Emotion Words	2.79(0.81)	2.87(1.23)
LIWC Negative Emotion Words	3.20(1.04)	2.90(1.15)
Emotional Self-Revelation (Post)	4.96(1.36)	5.71(1.23)
<i>Perceived Benefits of Writing</i>		
Value / Meaningfulness (Post)	4.96(1.26)	5.05(1.25)
Value / Meaningfulness (FU)	4.33(1.49)	4.81(1.72)
Perceived Pos. Effects (FU)	3.57(1.50)	4.00(1.84)

Note. Means and standard deviations are provided for each cell. For the first-person writing condition, $n = 23$ and follow-up $n = 21$. For the third-person writing condition, $n = 21$ and follow-up $n = 20$. Baseline = prior to the writing intervention; Post = immediate post-intervention assessment; FU = one-month follow-up assessment.

Table 2

Pairwise Correlations of Measures in the Current Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. LIWC 1 st p.	1.00														
2. LIWC 3 rd p.	-0.79*	1.00													
3. LIWC Cogn.	0.56*	-0.44*	1.00												
4. LIWC PE	0.00	0.16	0.35*	1.00											
5. LIWC NE	0.12	0.05	0.06	0.27	1.00										
6. BL Intrusions	0.14	-0.06	0.26	-0.01	-0.07	1.00									
7. FU Intrusions	0.06	-0.08	0.37*	-0.06	-0.18	0.44*	1.00								
8. Chg. Intrusions	-0.05	-0.04	0.12	-0.03	-0.09	-0.54*	0.51*	1.00							
9. Baseline Health	-0.13	0.05	-0.20	-0.08	-0.01	-0.36*	-0.24	0.15	1.00						
10. FU Health	-0.32	0.25	-0.21	-0.10	0.14	-0.07	-0.40*	-0.37*	0.47*	1.00					
11. Chg. in Health	-0.25	0.23	0.06	0.04	0.01	0.22	-0.02	-0.26	-0.54*	0.50*	1.00				
12. Emot. Revel.	-0.20	0.30	0.02	0.03	-0.20	-0.04	-0.07	-0.05	-0.09	0.17	0.31*	1.00			
13. BL Meaning	-0.06	0.05	0.15	0.17	-0.11	0.18	0.21	0.06	-0.28	-0.15	0.20	0.41*	1.00		
14. FU Meaning	-0.16	0.23	0.01	0.26	-0.04	0.00	-0.07	-0.07	-0.25	0.01	0.25	0.57*	0.75*	1.00	
15. FU Pos. Effects	-0.09	0.10	0.00	0.16	-0.24	0.18	0.07	-0.12	-0.51*	-0.26	0.24	0.44*	0.55*	0.76*	1.00

Note. *Ns* = 44 to 41. (1) LIWC first-person-singular pronoun word usage (2) LIWC third-person-singular pronoun word usage (3) LIWC cognitive-mechanism word usage (4) LIWC positive-emotion word usage (5) LIWC negative-emotion word usage (6) Baseline intrusive thinking (7) Intrusive thinking at follow-up (8) Change in intrusive thinking (9) Baseline days free of activity restriction due to illness (10) Follow-up days free of activity restriction due to illness (11) Change in days free of activity restriction (12) Perceived emotional self-revelation during writing (13) Perceived value/meaningfulness of the writing intervention (baseline) (14) Perceived value/meaningfulness of the writing intervention (follow-up) (15) Perceived positive, long-lasting effects of the writing intervention. * $p \leq .05$

Figure Captions

Figure 1. Perceived Positive, Long-Lasting Effects of Expressive Writing, as a Function of Writing Condition and Baseline Event-Linked Intrusive Thinking.

Figure 2. Change in Perceived Health Status, as a Function of Writing Condition and Baseline Event-Linked Intrusive Thinking.

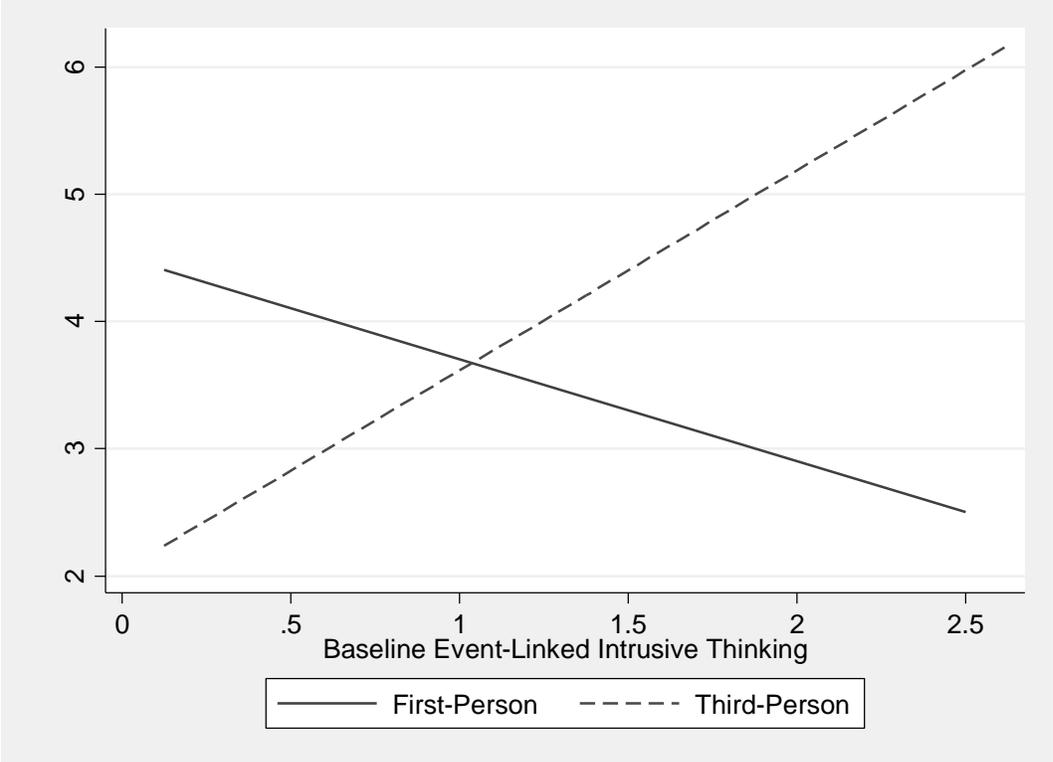


Figure 1.

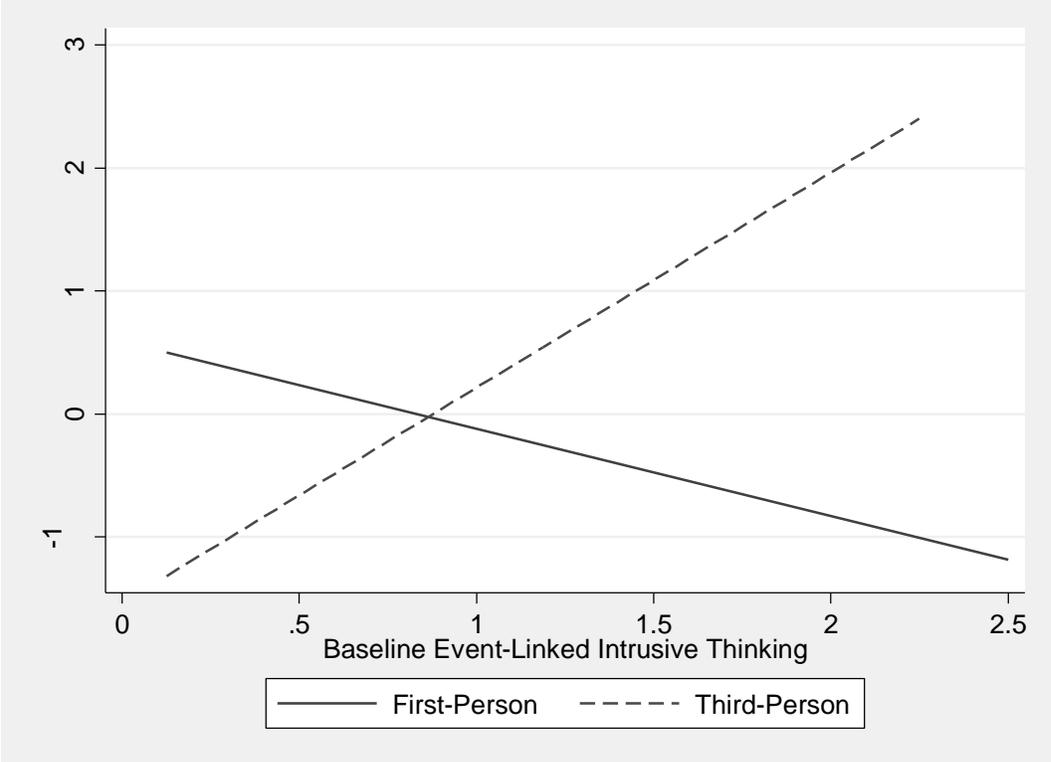


Figure 2.