Current Psychology (2021) 40:1672–1679
https://doi.org/10.1007/s12144-018-0094-2

Emotional disclosure and emotion change during an expressive-writing task: Do pronouns matter?

Alleana Micaela M. Fuentes[1] · Jeffrey H. Kahn[1] · Daniel G. Lannin[1]

Published online: 7 December 2018

Abstract

Expressive writing is an effective way to facilitate the emotional recovery from a stressor, but little is known about how adopting a first-person versus third-person perspective while writing affects the disclosure and experience of emotion. The purpose of this study was to empirically examine whether using first-person versus third-person pronouns when describing a stressor leads to differences in the amounts of emotion words used and change in emotion from before the writing to after. Participants ($N = 148$) were randomly assigned to write about a stressor using either first-person pronouns or third-person pronouns. The content of these writing samples was analyzed via computer text analyses (i.e., anxiety, sadness, and anger words), and participants completed measures of the subjective experience of emotion both before and after the writing task (i.e., change in fear, sadness, and hostility). Path analysis indicated that adopting a third-person perspective led to lower use of anxiety words but heightened use of sadness words compared to the first-person writing perspective. Moreover, participants in the third-person writing condition experienced greater post-writing sadness than did participants in the first-person writing condition. These results suggest that manipulating pronoun use can have a clinical application to help individuals express and experience their emotions more fully.

Keywords Emotional disclosure · Emotion experience · Expressive writing · Word use · Self-distancing

Expressive writing is a common tool in research on disclosure and health outcomes, and it is a frequently used clinical technique in emotion-focused treatment. Expressive writing typically involves writing about stressors or traumatic events in a stream-of-consciousness narrative (Baikie and Wilhelm 2005; Nazarian and Smyth 2013; Pennebaker 1997). Literature supporting the effectiveness of expressive writing on physical health, psychological well-being and symptoms, and other outcomes is vast (Frattaroli 2006; Frisina et al. 2004; Smyth 1998). There is evidence that engaging in expressive-writing interventions leads to a reduction in physician visits, improved autonomic nervous system activity, and decreased blood pressure and heart rate (Pennebaker and Chung 2007). Expressive writing may also lead to positive behavioral changes, increased emotional expressiveness with others, and improvements in work and school performance (Baikie and Wilhelm 2005; Lumley and Provenzano 2003; Pennebaker and Chung 2007; Slatcher and Pennebaker 2006).

One of the critical ingredients of expressive writing is that the writing process helps to direct one's attention to the underlying emotions surrounding the topic being described. Expressing these emotions through writing can then reduce distress as well as lead to greater insight (Kennedy-Moore and Watson 2001). This occurs because, as Koole (2009) described, expressive writing serves the function of providing knowledge of one's emotions by integrating emotional experiences. Specifically, writing about an emotional experience helps the writer form a cohesive narrative, and this process aids with the down-regulation of negative emotion. Expressive writing is believed to engender other emotion-regulation processes, such as greater self-efficacy with respect to regulating one's emotions (King 2002) as well as increased attention to one's emotions, habituation of emotional experiences, and cognitive restructuring (Lepore et al. 2002). These ideas are consistent with the clinical view that attending to and expressing one's emotions are fundamental mechanisms in emotional transformation and lasting cognitive and behavioral

✉ Jeffrey H. Kahn
jhkahn@ilstu.edu

[1] Department of Psychology, Illinois State University, Campus Box 4620, Normal, IL 61790-4620, USA

change (e.g., Greenberg 2015). Moreover, there is evidence that, when writing about stressors or traumatic events, disclosing negative emotions specifically (as opposed to emotions more generally) plays an essential role in health benefits (Lepore et al. 2002).

Of course, simply focusing on one's emotional troubles, or engaging in rumination, often leads people to feel worse (Nolen-Hoeksema et al. 2008). Thus, there must be an additional reason beyond disclosing emotions that leads expressive writing to have emotional benefits. This additional mechanism may be that expressive writing promotes self-distancing, or the creation of distance from one's own egocentric perspective (Kross et al. 2014; Park et al. 2016). Self-distancing is believed to help people reduce rumination by reflecting on their experiences from an outsider's point of view, like the proverbial "fly on the wall," without becoming overwhelmed by emotional reactivity. Just as it is sometimes easier to help with a friend's problem than it is to solve one's own problem, providing some psychological distance between oneself and one's emotions increases people's abilities to recognize and reappraise those emotions (Kross and Ayduk 2017).

Several studies have shown that self-distancing, whether experimentally manipulated or spontaneously occurring, is associated with outcomes such as lower negative affect and autonomic arousal (see Ayduk and Kross 2010; Kross and Ayduk 2011). For example, Kross and Ayduk (2008) asked participants to do a guided-imagery task concerning a time they experienced intense sadness. Participants who were randomly assigned to "relive" the experience as if it were happening all over again (self-immersion condition) experienced greater post-task depressed affect than participants who were assigned to watch the experience unfold from a few steps back (self-distancing condition). Verduyn et al.'s (2012) naturalistic study revealed that the use of self-distancing was negatively associated with the duration of unpleasant emotions such as anger and sadness as well as pleasant emotions such as joy and gratitude.

In addition to its relevance to emotion, the concept of self-distancing is highly relevant to expressive writing. Park et al. (2016) demonstrated that engaging in emotionally expressive writing (versus writing about a non-emotional topic or thinking privately about an emotional topic) led participants to experience greater self-distancing (i.e., whether they imagined the past episode from their own eyes versus as an observer looking at the self). As would be expected from self-distancing, participants' use of self-distancing mediated the relation between expressive writing and lower emotional reactivity. Park et al. believed that expressive writing fosters self-distancing because the process of constructing a narrative separates the self-as-narrator in the present from the self-as-protagonist in the past. Such an interpretation is consistent with recent findings that cognitive expressive writing (i.e., writing that focuses on the meaning of an unpleasant event) leads to greater self-distancing than traditional expressive writing (i.e., writing about emotional details) does (Margola et al. 2018).

Given the benefits of self-distancing, there is clinical value in adopting an outsider perspective in an expressive-writing paradigm. Such a perspective may be adopted by avoiding first-person pronouns when writing about a stressor. As Kross et al. (2014) demonstrated, referring to oneself using second-person pronouns (e.g., "You feel devastated when your partner breaks up with you") results in greater self-distancing than using first-person pronouns (e.g., "I feel devastated because my partner broke up with me"). One may surmise that the use of third-person pronouns to describe one's stressor (e.g., "She feels devastated because her partner broke up with her") would also lead to self-distancing. Increasing self-distancing in this way is of therapeutic value because of self-distancing's implications for emotional disclosure and emotional experience. Park et al. (2016) conducted linguistic analyses on participants' expressive-writing samples, specifically, the change in language use from the first day to the third day of a 3-day expressive-writing intervention. Self-distancing was associated with a decrease in the use of first-person pronouns as well as a decrease in the use of negative-emotion words over time. Nook et al. (2017) experimentally manipulated participants' use of first-person pronouns when writing about negative images and found that participants who were instructed to use the word "I" reported more negative affect than those who were instructed not to use the word "I."

The Present Study

In summary, expressive writing involves emotional disclosure that is at least partly responsible for the benefits of expressive writing (Lepore et al. 2002). In addition, expressive writing increases self-distancing which reduces one's subjective experience of negative emotions (Park et al. 2016). Increasing self-distancing via pronoun use (using third-person instead of first-person language) would therefore seem to bring about greater benefits of expressive writing, but research has yet to examine how this would affect the (a) emotional disclosure (i.e., degree to which participant writes about emotions) and (b) change in emotional experience (i.e., the subjective experience of an emotion) that appear during expressive writing. The purpose of our study was to examine how the use of first-person language versus third-person language affects one's emotional disclosure during an expressive-writing task and emotion change from before to after an expressive-writing task.

We measured emotional disclosure as the emotion language participants used in their writing samples. Rather than examine the use of negative-emotion words in general, we examined specific emotion word use, namely, the use of words related to

anxiety, sadness, and anger. These three emotions are the specific negative emotion categories counted by the LIWC2015 computer text-analysis program we used (Pennebaker et al. 2015), so they have been well-studied in the word-usage literature (e.g., Sonnenschein et al. 2018). Moreover, not only do these three emotions differ from one another in their subjective experience, facial expressions, and physiology (Ekman 1992), but they would potentially be differentially affected by one's perspective when writing about a stressor.

Second, we examined whether pronoun use predicts a change in the subjective experience of emotion from before to immediately after the writing task. We again examined three discrete emotions (fear, sadness, and hostility) to determine whether the use of first-person versus third-person pronouns led to different degrees of emotion change. We selected these three emotions because they relate somewhat closely to the three measures of emotional disclosure, that is, fear is roughly analogous to anxiety, hostility has relevance to anger, and sadness could be captured in measures of emotional disclosure as well as emotional experience.

The literature does not provide clarity on which directional hypotheses to make. Because self-distancing is associated with reduced negative affect (Ayduk and Kross 2010; Kross and Ayduk 2011), it may be that writing from a third-person perspective would lead to *lower* disclosure of and experience of negative emotions than writing from a first-person perspective. However, self-distancing is also associated with improvement, and expressing and experiencing emotions are believed to be largely responsible for outcomes of expressive writing (Koole 2009). Thus, there is also reason to believe that writing from a third-person perspective would lead to *greater* use of and experience of negative emotions than writing from a first-person perspective. Our research was designed to address these discrepant predictions empirically.

Method

Participants

The sample comprised 148 undergraduate students from a large, public university in the Midwestern United States. Most (78%) were women, and the majority (73%) was European American with smaller numbers of African American (14%), Latino/−a (9%), Asian/Pacific-Islander (3%), and Native American (1%) participants. The participants ranged in age from 18 to 36 ($M = 19.75$, $SD = 2.12$).

Measures

Characteristics of the Stressor Participants were asked to identify a current or recent stressor. Specifically, participants were instructed: "Now, take about a minute to think about a recent or current stressor. A stressor refers to a stressful situation you are experiencing or have recently experienced." Thus, the stressor might have been a current stressor, or it could have been one that is no longer a problem for the participant. Participants were asked to briefly describe their stressor on three blank lines of the paper-and-pencil questionnaire. The severity of the stressor from the participant's point of view was assessed with the question, "This stressful situation caused me pain and/or distress," to which participants rated their level of agreement from 1 (*strongly disagree*) to 5 (*strongly agree*).

Three raters (who were undergraduate research assistants) content-coded each stressor into one of 9 categories (including "other"). One principal rater coded all 148 stressors, and the other two raters coded stressors from 64 and 84 participants, respectively. The reliability of the principal rater was good vis-à-vis the other two raters, with Cohen's kappa values of .92 and .86. For simplicity, we therefore report the principal rater's coding results here. The most frequent category of stressor was academic concerns (51%). The next most frequent were romantic relationships (13%), family concerns (8%), and time management (6%), with the remaining stressors being associated with financial problems, health problems, peer relationships, legal problems, and other problems.

Emotional Disclosure Emotional disclosure was measured with the Linguistic Inquiry and Word Count (LIWC2015; Pennebaker et al. 2015), a computer text-analysis program that quantifies specific word categories from written text. Specifically, the LIWC2015 computes the percentage of total words that belong to several linguistic categories, such as pronouns, emotion words, cognitive-mechanism words, etc. To measure emotional disclosure, we used counts of three types of negative emotion. The anxiety category contains 116 words related to anxiety and fear (e.g., *worried*, *fearful*), the sadness category contains 136 words (e.g., *crying*, *grief*, *sad*), and the anger category has 230 words (e.g., *hate*, *kill*, *annoyed*) in its dictionary. Experimental studies indicate that the LIWC2015 emotion counts are valid indicators of emotional expression (Kahn et al. 2007). Additionally, as a manipulation check, we used the LIWC2015 program to count the number of pronouns in participants' writing samples. To measure pronoun use, we used the 24-word category of first-person singular pronouns (e.g., *I*, *me*, *mine*) and the 17-word category of third-person singular pronouns (e.g., *she*, *her*, *him*).

Subjective Experience of Emotion To measure emotion change from before to after the writing task, we used the Positive and Negative Affect Schedule-Expanded Form (PANAS-X;

Watson and Clark 1999). The 60-item PANAS-X contains various adjectives identifying positive and negative emotions, but we only analyzed the 6-item fear scale (e.g., *afraid*, *nervous*), the 5-item sadness scale (e.g., *downhearted*, *blue*), and the 6-item hostility scale (e.g., *angry*, *disgusted*). In this study participants were asked to rate each affect term as it was "right now, in the present/current moment." This rating was done using a 5-point Likert scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). In this study, the PANAS-X was administered twice: once before and once after the expressive writing task. Based on a large sample of undergraduates, Watson and Clark reported internal consistency estimates of .86–.87 for scores from the fear, sadness, and hostility scales. Coefficients alpha among our data were .82 and .85 for fear, .88 and .86 for sadness, and .70 and .76 for hostility. Watson and Clark found evidence of validity via correlations ≥ .85 between these three PANAS-X scales and corresponding scales from the Profile of Mood States (POMS; McNair et al. 1971).

Procedure

Ethical approval for this research was granted by the Institutional Review Board at the authors' university (IRB #973919–1). As participants entered the laboratory individually, they were asked to provide informed consent for their participation in research. They then completed a questionnaire that included demographic questions, the section for participants to describe their current or recent stressor, the PANAS-X, and measures of symptoms and emotion regulation that were not used in the present study.

After completing this first questionnaire, participants were asked to engage in a 15-min expressive writing task on the computer. They were randomly assigned to either the first-person writing condition or the third-person writing condition. Participants in the first-person writing condition ($n = 74$) were asked to write about their stressful experience from their own perspective, with the instructions highlighting their usage of first-person pronouns. Specifically, they were instructed:

> For the next 15 minutes, use the computer to write about the current or most recent stressor that you wrote about in the questionnaire, as well as your thoughts and feelings about it. Write about your stressor as you experience it, using your own perspective (using first person pronouns such as *I*, *me*, and *my*). So in other words, acknowledge that you are experiencing your stressor. As you write, you may use statements such as 'I feel _____' and 'This _____ happened to me'.

In the third-person writing condition ($n = 74$), participants were asked to imagine that this situation happened to another person and to write about this person's story using third-person pronouns. These participants were instructed:

> For the next 15 minutes, use the computer to write about the current or most recent stressor that you wrote about in the questionnaire, as well as your thoughts and feelings about it. Write about your stressor as if another person experienced it, and write it from this person's perspective (using third person pronouns such as *he*, *she*, *it*, *his*, *her*, and *they*). So in other words, pretend that someone else is experiencing your stressor. As you write, you may use statements such as 'He/she feels _____' and 'This _____ happened to him/her'.

Both groups of participants were told that it was important that they write continuously for 15 min. They were told not to worry about spelling or grammar and that if they ran out of things to write about to just repeat what they have already written. The researcher then left the room and started the 15-min timer.

After the writing task, the researcher returned to the room. Participants then completed a second questionnaire that included the PANAS-X and measures of emotion regulation that were not used in the present study. When this questionnaire was finished, participants were debriefed and dismissed.

Results

Manipulation Check

In this study, LIWC2015 served as a manipulation check on whether or not participants correctly used their assigned pronouns given their writing instructions. Two independent-samples *t*-tests were conducted; corrected degrees of freedom were used given the unequal variances between groups (see Table 1). For first-person singular pronouns (e.g., *I*, *me*), significant differences were found between the first-person condition ($M = 11.42$, $SD = 2.42$) and the third-person condition ($M = 0.23$, $SD = 0.75$), $t(87.02) = 37.88$, $p < .001$, $d = 6.23$. By contrast, participants in the third-person condition ($M = 11.27$, $SD = 3.83$) used more third-person singular words (e.g., *she*, *him*) than did participants in the first-person condition ($M = 0.89$, $SD = 1.64$), $t(99.06) = -21.43$, $p < .001$, $d = -3.52$. Thus, the manipulated writing condition had a strong effect on singular-pronoun use.

Path Models

The primary goals of our study were to examine how pronoun use predicted (a) emotional disclosure and (b) change in the subjective experience of emotion during an expressive writing task. Our first path model examined the use of emotion words

Table 1 Means and standard deviations of measures by writing condition

	First-person condition		Third-person condition			
Measure	*M*	*SD*	*M*	*SD*	*t*	*d*
First-person pronouns	11.42	2.42	0.23	0.75	37.88***	6.23
Third-person pronouns	0.89	1.64	11.27	3.83	−21.43***	−3.52
Anxiety words	1.73	1.16	1.27	0.90	2.70**	0.44
Anger words	0.34	0.47	0.50	0.66	−1.73	−0.28
Sadness words	0.43	0.40	0.73	0.62	−3.53***	−0.58
Fear (pre-writing)	9.01	4.40	9.81	3.78	−1.17	−0.19
Sadness (pre-writing)	8.45	4.12	8.14	4.32	0.46	0.08
Hostility (pre-writing)	8.10	2.98	8.84	2.91	−1.52	−0.25
Fear (post-writing)	9.92	4.68	11.34	4.94	−1.80	−0.30
Sadness (post-writing)	9.03	4.51	8.64	4.45	0.53	0.09
Hostility (post-writing)	8.49	3.52	9.70	3.53	−2.08*	−0.34

*$p < .05$; **$p < .01$; ***$p < .001$

during the writing task, and our second model examined change in emotion from before to after the writing task. Given the potential impact of the severity of the stressor on emotional responding, we controlled for the degree of distress the stressor has caused the participant. We estimated these models using R's lavaan package. We evaluated model fit based on the Comparative Fit Index (CFI), root mean square error of approximation (RMSEA), and standardized root mean-square residual (SRMR). Good fit is indicated by CFI values ≥ .95, RMSEA values ≤ .06, and SRMR values ≤ .08 (Hu and Bentler 1999).

Emotional Disclosure We first specified a path model in which writing condition and stressor distress predicted the use of anxiety, sadness, and anger words (see Fig. 1). This model had no constraints, so it provided a perfect fit to the data. Participants assigned to the third-person writing condition (coded 1) used fewer anxiety words than participants assigned to the first-person writing condition (coded 0), $\beta = -.22$, $p < .01$, but those in the third-person condition used more sadness words than participants in the first-person perspective did, $\beta = .27$, $p < .001$. Thus, adopting a third-person (versus first-person) perspective while writing was associated with diminished use of anxiety words but increased use of sadness words. The distress caused by the stressor (as measured by self-report) also predicted emotional disclosure. The more distressing the stressor was, the more sadness words participants used, $\beta = .18$, $p = .02$, and the more anger words the participant used, $\beta = .19$, $p = .02$.

Change in Experience of Emotion Our second path model specified writing condition and stressor distress as predictors of post-writing self-report measures of fear, sadness, and hostility. This model was conceptually similar to the model for emotion word use, yet in this model each post-writing measure controlled for the pre-writing measure of the same emotion (see Fig. 2). This model provided a good fit to the data based on all fit indices, $\chi^2(6, N = 145) = 5.11$, $p = .53$, CFI = 1.00, RMSEA = .00 (90% CI = .00, .10), SRMR = .03.

All three pre-writing measures–fear, $\beta = .60$, $p < .001$, sadness, $\beta = .55$, $p < .001$, and hostility, $\beta = .47$, $p < .001$–strongly predicted the post-writing measure of the same emotion. The writing condition was associated with post-writing measures of sadness, $\beta = .13$, $p = .04$, whereby participants who wrote in the third-person reported a greater increase in the subjective experience of sadness than participants who wrote in the first-person did; this finding paralleled that found with sadness disclosure in the previous path analysis. Writing condition was not associated with a change in fear nor a change in hostility after the writing exercise. Stressor distress also predicted post-writing sadness, $\beta = .21$, $p < .01$, such that participants who wrote about relatively more distressing stressors experienced a greater increase in sadness than those who wrote about relatively less distressing stressors. Stressor distress was not associated with post-writing measures of fear or hostility.

Discussion

This study demonstrated that the use of first-person versus third-person pronouns during an expressive writing task had implications for emotional disclosure as determined by the use of emotion words in the writing sample. One finding supported theoretical work on self-distancing (e.g., Kross and Ayduk 2011). Specifically, using more third-person pronouns was

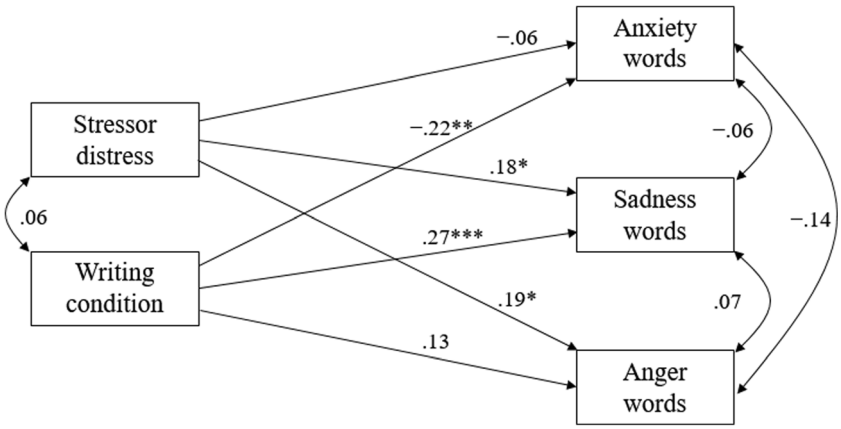

Fig. 1 Standardized path coefficients for model predicting emotional disclosure. Writing condition was coded 0 = first-person and 1 = third-person. R^2 = .05 for anxiety, .11 for sadness, and .06 for anger words

associated with fewer anxiety words in the writing sample. Because participants in the third-person condition were instructed to use third-person pronouns and to write about their stressor "as if another person experienced it," there is evidence that using third-person pronouns played a causal role in the diminished use of anxiety words. This is consistent with Park et al.'s (2016) findings that thinking about one's stressor from the perspective of another person is associated with lowered emotional reactivity because one is able to remove or distance oneself from a stressor.

Whereas adopting a third-person perspective was associated with lower use of anxiety words, it was associated with greater use of sadness words. This lies in contrast to Kross and Ayduk's (2008) finding that self-distancing during a guided imagery task led to lower post-task depressed affect as compared to self-immersion during a guided imagery task. Given these mixed results, it is possible that our pronoun manipulation affected more than one's degree of self-distancing. A typical self-distancing manipulation used in the literature is to visualize one's experience as though a "fly on the wall" (Kross and Ayduk 2011, p. 188), but writing about a stressor as if another person experienced it might have also led to greater understanding and appreciation of one's own emotional experiences. Specifically, taking the third-person perspective might have triggered a norm to express empathy for this "other" person. Because effective empathy involves describing one's emotional experiences (via word use), this third-person perspective might have increased participants' use of sadness-related words.

This study also confirmed that the direct manipulation of pronoun use brings about a change in one's subjective experience of emotion, specifically, the experience of sadness. Just as a third-person perspective led to relatively greater emotional disclosure of sadness, a third-person perspective also led to

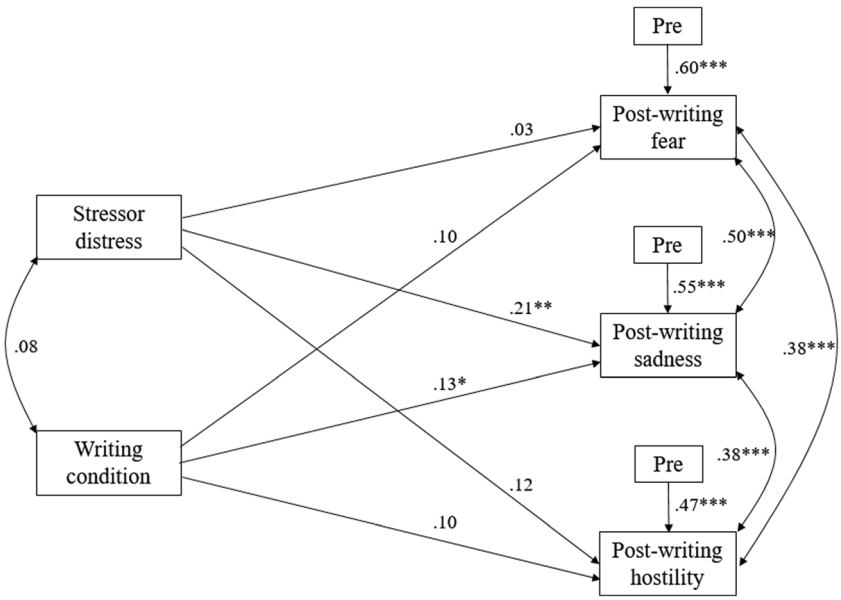

Fig. 2 Standardized path coefficients for model predicting change in subjective experience of emotion. Writing condition was coded 0 = first-person and 1 = third-person. Correlations among pre-writing measures of fear, sadness, and hostility and with stressor distress and writing condition were estimated but are not displayed in this figure for simplicity. R^2 = .39 for fear, .48 for sadness, and .30 for hostility

a relatively greater increase in the subjective experience of sadness. Thus, whereas experiencing sadness brings about self-focus and a corresponding increase in first-person pronouns (Pennebaker 2011), it seems that focusing on another person's stressor via third-person pronouns can actually increase one's sadness. A synthesis of our findings for emotional disclosure and change in emotion suggests a process-oriented view of how emotions unfold during and after an expressive-writing task. Specifically, it may be that greater disclosure of emotions (specifically sadness) led to a re-experiencing of that sadness, and this was responsible for the pre−/post-writing change in sadness that we observed. We note that the emotions experienced just after writing are not necessarily predictive of the long-term outcomes of writing (e.g., health improvement). It would be beneficial to develop theories of how emotional disclosure and emotional experience unfold both during and after the actual writing task and how those may be responsible for distal outcomes.

From a practice perspective, our results can be used to tailor expressive-writing tasks used with psychotherapy clients. For example, a client who has trouble disclosing sadness because of their high level of threat might benefit by writing about a stressor from another person's perspective. Such an approach might reduce threat, thereby allowing sadness to be expressed and experienced. Likewise, given the association between depression and first-person pronoun use (Edwards and Holtzman 2017), depressed clients in particular might find it beneficial to use more third-person pronouns as they describe their own experiences. Doing so might help such clients to experience emotions such as anxiety and sadness more fully, thereby helping them to recover from their stressors in an adaptive way.

Limitations and Future Research Directions

We note several limitations of this study. First, we based our hypotheses on theoretical work on self-distancing, yet we did not measure self-distancing in this study. We were therefore limited in our ability to generate theory-based explanations for our findings. We encourage future research on pronoun use and expressive writing to measure potential mediators such as self-distancing.

Second, because our focus was on in-the-moment emotional disclosure and immediate change in one's emotional experience, we did not measure long-term outcomes of manipulating pronoun use on emotional recovery. Moreover, we examined only one writing task, whereas typical expressive writing interventions occur at least 3 times, with a preferred 1–2 day interval between writing sessions (Pennebaker 1997). It would be important to examine how emotional outcomes (such as lasting change in emotion, intrusive thoughts about the stressor, etc.) would change over time. It is likely that individuals' abilities to regulate emotions and reappraise their stressful situations develop after some post-writing period of reflection. It is also possible that, with repeated writing, people habituate to the stressors and decrease their negative affect over time (Lepore et al. 2002).

We would also find value in supplementing our self-report measures of change in the subjective experience of emotion with other indicators of emotion. For example, it would be valuable to measure continuous autonomic responding and facial expressions during the writing task. Because there is no gold standard for verifying one's emotional state (Levenson 2014), it would be important to examine multiple response systems of emotion. This would include emotion-word use as it occurs over the course of writing as opposed to a period average which we analyzed.

Finally, our sample was limited to a small number of participants from a predominantly European American, middle-class university. A larger and more diverse sample with respect to gender, ethnicity, and socioeconomic status may have been more representative and inclusive of other groups of people. For example, cultural differences in emotional self-control (Kim et al. 1999) would be important to explore in expressive-writing research. Considering the role of individual differences would be an important next step in determining the role of pronoun use on emotional processing.

Acknowledgements Portions of this research constituted a master's thesis by the first author under the direction of the second author. We thank Kyle Lawell and Benjamin Taour for their assistance with data collection and Alyssa Allen, Alison Hamlet, and Jennifer Woodrum for their assistance with data coding.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

Ayduk, Ö., & Kross, E. (2010). Analyzing negative experiences without ruminating: The role of self-distancing in enabling adaptive self-reflection. *Social and Personality Psychology Compass, 4*, 841–854. https://doi.org/10.1111/j.1751-9004.2010.00301.x.

Baikie, K. A., & Wilhelm, K. (2005). Emotional and physical health benefits of expressive writing. *Advances in Psychiatric Treatment, 11*, 338–346. https://doi.org/10.1192/apt.11.5.338.

Edwards, T., & Holtzman, N. S. (2017). A meta-analysis of correlations between depression and first-person singular pronoun use. *Journal of Research in Personality, 68*, 63–68. https://doi.org/10.1016/j.jrp.2017.02.005.

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion, 6*, 169–200. https://doi.org/10.1080/02699939208411068.

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin, 132*, 823–865. https://doi.org/10.1037/00332909.132.6.823.

Frisina, P. G., Borod, J. C., & Lepore, S. J. (2004). A meta-analysis of the effects of written emotional disclosure on the health outcomes of clinical populations. *The Journal of Nervous and Mental Disease, 192*, 629–634. https://doi.org/10.1097/01.nmd.0000138317.30764.63.

Greenberg, L. S. (2015). *Emotion-focused therapy: Coaching clients to work through their feelings* (2nd ed.). Washington, DC: American Psychological Association.

Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1–55. https://doi.org/10.1080/10705519909540118.

Kahn, J. H., Tobin, R. M., Massey, A. E., & Anderson, J. A. (2007). Measuring emotional expression with the linguistic inquiry and word count. *American Journal of Psychology, 120*, 263–286. https://doi.org/10.2307/20445398.

Kennedy-Moore, E., & Watson, J. C. (2001). How and when does emotional expression help? *Review of General Psychology, 5*, 187–212. https://doi.org/10.1037/1089-2680.5.3.187.

Kim, B. S. K., Atkinson, D. R., & Yang, P. H. (1999). The Asian values scale: Development, factor analysis, validation, and reliability. *Journal of Counseling Psychology, 46*, 342–352. https://doi.org/10.1037/0022-0167.46.3.342.

King, L. A. (2002). Gain without pain? Expressive writing and self-regulation. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being* (pp. 119–134). Washington, DC: American Psychological Association.

Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion, 23*, 4–41. https://doi.org/10.1080/02699930802619031.

Kross, E., & Ayduk, O. (2008). Facilitating adaptive emotional analysis: Distinguishing distanced-analysis of depressive experiences from immersed-analysis and distraction. *Personality and Social Psychology Bulletin, 34*, 924–938. https://doi.org/10.1177/0146167208315938.

Kross, E., & Ayduk, O. (2011). Making meaning out of negative experiences by self-distancing. *Current Directions in Psychological Science, 20*, 187–191. https://doi.org/10.1177/0963721411408883.

Kross, E., & Ayduk, O. (2017). Self-distancing: Theory, research, and current directions. *Advances in Experimental Social Psychology, 55*, 81–136. https://doi.org/10.1016/bs.aesp.2016.10.002.

Kross, E., Bruehlman-Senecal, E., Park, J., Burson, A., Dougherty, A., Shablack, H., Bremner, R., Moser, J., & Ayduk, O. (2014). Self-talk as a regulatory mechanism: How you do it matters. *Journal of Personality and Social Psychology, 106*, 304–324. https://doi.org/10.1037/a0035173.

Lepore, S. J., Greenberg, M. A., Bruno, M., & Smyth, J. A. (2002). Expressive writing and health: Self-regulation of emotion-related experience, physiology, and behavior. In S. J. Lepore & J. M. Smyth (Eds.), *The writing cure: How expressive writing promotes health and emotional well-being* (pp. 119–134). Washington, DC: American Psychological Association.

Levenson, R. W. (2014). The autonomic nervous system and emotion. *Emotion Review, 6*, 100–112. https://doi.org/10.1177/1754073913512003.

Lumley, M. A., & Provenzano, K. M. (2003). Stress management through written emotional disclosure improves academic performance among college students with physical symptoms. *Journal of Educational Psychology, 95*, 641–649. https://doi.org/10.1037/0022-0663.95.3.641.

Margola, D., Travagin, G., & Dennis, J. L. (2018). Taking a step back: Self-distancing dynamics in adolescent writing about peer problems. *Journal of Adolescence, 65*, 6–15. https://doi.org/10.1016/j.adolescence.2018.02.007.

McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). *Manual: Profile of mood states*. San Diego: Educational and Industrial Testing Service.

Nazarian, D., & Smyth, J. M. (2013). An experimental test of instructional manipulations in expressive writing interventions: Examining processes of change. *Journal of Social and Clinical Psychology, 32*, 71–96. https://doi.org/10.1521/jscp.2013.32.1.71.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science, 3*, 400–424. https://doi.org/10.1111/j.1745-6924.2008.00088.x.

Nook, E. C., Schleider, J. L., & Somerville, L. H. (2017). A linguistic signature of psychological distancing in emotion regulation. *Journal of Experimental Psychology: General, 146*, 337–346. https://doi.org/10.1037/xge0000263.

Park, J., Ayduk, Ö., & Kross, E. (2016). Stepping back to move forward: Expressive writing promotes self-distancing. *Emotion, 16*, 349–364. https://doi.org/10.1037/emo0000121.

Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science, 8*, 162–166. https://doi.org/10.1111/j.1467-9280.1997.tb00403.x.

Pennebaker, J. W. (2011). *The secret life of pronouns: What our words say about us*. New York: Bloomsbury Press.

Pennebaker, J. W., & Chung, C. K. (2007). Expressive writing, emotional upheavals, and health. In H. Friedman & R. Silver (Eds.), *Handbook of health psychology* (pp. 263–284). New York: Oxford University Press.

Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. Austin: University of Texas at Austin.

Slatcher, R. B., & Pennebaker, J. W. (2006). How do I love thee? Let me count the words: The social effects of expressive writing. *Psychological Science, 17*, 660–664. https://doi.org/10.1111/j.1467-9280.2006.01762.x.

Smyth, J. (1998). Written emotional expression: Effect sizes, outcome types, and moderating variables. *Journal of Consulting and Clinical Psychology, 66*, 174–184. https://doi.org/10.1037/0022-006X.66.1.174.

Sonnenschein, A. R., Hoffman, S. G., Ziegelmayer, T., & Lutz, W. (2018). Linguistic analysis of patients with mood and anxiety disorders during cognitive behavioral therapy. *Cognitive Behaviour Therapy, 47*, 315–327. https://doi.org/10.1080/16506073.2017.1419505.

Verduyn, P., Van Mechelen, I., Kross, E., Chezzi, C., & Van Bever, F. (2012). The relationship between self-distancing and the duration of negative and positive emotional experiences in daily life. *Emotion, 12*, 1248–1263. https://doi.org/10.1037/a0028289.

Watson, D., & Clark, L. A. (1999). *The PANAS-X: Manual for the Positive and Negative Affect Schedule - Expanded Form*. Iowa City: University of Iowa.