

ABSTRACT

PAPPALARDO, GABRIEL. An Examination of the Effects of Expressive Writing on Organizational Outcomes. (Under the direction of Dr. Adam Meade.)

This study attempts to extend research involving expressive writing, a well-established Clinical and Health Psychology intervention, further into the realm of I/O Psychology related constructs. Participants in the treatment group wrote about their thoughts and feelings regarding a stressful event or experience three times over the course of a week. Participants' job satisfaction, emotional exhaustion, and turnover intentions were assessed before and after the intervention for significant changes. Post-intervention assessments took place immediately after the intervention, two weeks after the intervention, and four weeks after the intervention to assess for immediate and lasting or delayed effects. In addition, participants' personalities, affective dispositions, perceptions of surface acting (a form of emotional labor) demands at work, and commitment to organizational display rules were assessed as possible moderators of the effect of expressive writing on the dependent variables.

The intervention was found to be largely ineffective at all assessments regardless of participant personality or affective disposition. The study failed to replicate an earlier finding that expressive writing improves job satisfaction, and the results indicated that expressive writing worsened job satisfaction for participants who had high perceptions of surface acting demands, contrary to theory. However, the study suffered from a number of limitations including inadequate funding, high attrition, and ceiling and floor effects that undermine the ability to draw confident conclusions from the results. The author recommends the study be repeated to see if these findings can be replicated.

An Examination of the Effects of Expressive Writing on Organizational Outcomes

by
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BIOGRAPHY

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Effects of Expressive Writing on Organizational Outcomes

Over two decades of clinical and health psychology research have demonstrated that expressing thoughts and emotions about stressful experiences through writing can have long lasting physiological and psychological health benefits (Frattaroli, 2006; Pennebaker, 1997). Over 150 studies have examined expressive writing (Jones & Pennebaker, 2006), but researchers in industrial/organizational psychology have only recently begun to examine the effects of the intervention in work settings. Recent studies have found that expressive writing aids in increasing job satisfaction (Alford, Malouff, & Osland, 2005), increasing job commitment (Sinclair, Waitsman, Deese, & Sears, 2010), and reducing anger and retaliatory intentions following an event of perceived organizational injustice (Barclay & Skarlicki, 2009). While this initial research is promising, there are many other relevant aspects of work that have yet to be explored, and should this intervention prove effective, organizations could employ it as an easily-implemented and inexpensive way to improve employee health and organizational outcomes.

This study examines the relationships depicted in Figure 1. First, I assess expressive writing's effects on job satisfaction, emotional exhaustion, and employee turnover intentions at three time points: immediately after the intervention, two weeks following the intervention, and four weeks following the intervention. Second, I examine whether employee personality traits, affective dispositions, and perceptions about their jobs moderate expressive writing's effects. Finally, I examine whether or not changes in job satisfaction and emotional exhaustion due to the intervention mediate the relationship between expressive writing and turnover intentions.

The Expressive Writing Paradigm

The basic expressive writing intervention involves instructing participants to write several times for 15-20 minutes about their deepest thoughts and emotions regarding a traumatic or stressful event or experience; however, specific directions regarding the number of sessions, length of sessions, and topics have varied from study to study (Frattaroli, 2006). The intervention is based on the findings of Pennebaker and Beall (1986), who found that participants who expressed both their thoughts and feelings about a traumatic event saw a greater reduction in health-center visits than participants who wrote only about their thoughts, only about their feelings, or about a non-traumatic topic. Expressive writing has subsequently been shown to have a number of physiological benefits (including improved immune function [Pennebaker, Kiecolt-Glaser, & Glaser, 1988] and lasting reductions in blood pressure [McGuire, Greenberg, & Gevirtz, 2005]), psychological benefits (including reduced distress [Alford et al., 2005], reduction of intrusive thoughts about negative events, and improved working memory [Klein & Boals, 2001]), and improvements in several general life functions (including improved GPA [Klein & Boals, 2001, Pennebaker & Francis, 1996], faster reemployment, and reduced work absenteeism [Pennebaker, 1997]).

Why expressive writing is effective is still heavily debated. Proposed mechanisms have all received some degree of empirical support, but fail to capture the full scope of the findings in the expressive writing literature. These findings lead researchers to believe that more than one process is at work, and future research is needed to clarify the issue (Pennebaker & Chung, 2007). Most relevant to this study is the theory that expressive

writing's benefits come from a release of inhibition. To inhibit, people must "consciously restrain, hold back, or in some way exert effort not to think or talk about their experiences and emotions" (Jones & Pennebaker, 2006, p. 285). Inhibition creates an internal conflict that is a source of stress, and to sustain inhibition requires physiological resources. The chronic drain of resources from the body is linked to a host of health complaints, including depressed immune system functioning and increased cardiovascular activity (Pennebaker, 1985). Expressive writing is believed to alleviate the stress reactions by providing participants a medium through which to disclose their thoughts and feelings regarding stressful events.

Job Satisfaction and Emotional Exhaustion

Expressive writing may have direct influences on employee job satisfaction and emotional exhaustion. Job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976, p. 1304). Organizations should be concerned with the level of job satisfaction of its workers because affective states sustain motivation, affect decision making, influence politics, influence appraisals, and are essential in leadership (Barsade & Gibson, 2007). Emotional exhaustion, a feeling of being depleted of emotional and physical resources, is the key tenet of burnout, "a prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach, Schaufeli, & Leiter, 2001, p. 397). Emotional exhaustion has destructive consequences to both individuals and the organizations that employ them (Swider & Zimmerman, 2010). For instance, emotionally exhausted individuals develop a cynical view of their work and a feeling of personal inefficacy that impedes productivity (Maslach et al., 2001). An intervention that

could directly raise job satisfaction and directly lower emotional exhaustion would be of considerable value.

Alford et al. (2005) found that job satisfaction immediately increased as a result of expressive writing about recent stresses (Cohen's $d = .58$). This study attempts to replicate this finding and also examines whether or not the effect persists two weeks and four weeks after the intervention. No published study to date has examined the relationship between expressive writing and emotional exhaustion. Because emotional exhaustion is characterized by a dearth of physical and emotional resources (Maslach et al., 2001) and expressive writing is thought to free these resources (Klein & Boals, 2001), I hypothesize that expressive writing will decrease emotional exhaustion and examine whether or not the effect will persist 2 weeks and 4 weeks after the intervention.

Hypothesis 1: Participants who engage in expressive writing will report a significant increase in job satisfaction immediately following the writing intervention.

Hypothesis 2: Participants who engage in expressive writing will report a significant decrease in emotional exhaustion immediately following the writing intervention.

Research Question 1: Will participants' increases in job satisfaction following expressive writing persist in follow-up assessments 2 weeks and 4 weeks after the intervention?

Research Question 2: Will participants' decreases in emotional exhaustion following expressive writing persist in follow-up assessments 2 weeks and 4 weeks after the intervention?

Possible moderators: Disposition, Display Rule Strength, and Display Rule

Commitment

Previous investigations into whether or not participant disposition moderates the effectiveness of expressive writing have returned inconsistent and incomparable results. Recently authors have called for more research into personality moderators, citing that “no consistent personality measures have distinguished who does versus does not benefit from writing” (Pennebaker & Chung, 2007, p. 271). Therefore, I investigate whether or not participant Big 5 (Costa & McCrae, 1992) personality traits and affective dispositions moderate the relationships between expressive writing and job satisfaction and emotional exhaustion, forming no specific hypotheses.

A series of research questions will be examined in which the levels of trait variables will be tested for moderation of the relationship between expressive writing and job satisfaction. These variables are:

Research Question 3a: extraversion.

Research Question 3b: neuroticism.

Research Question 3c: agreeableness.

Research Question 3d: conscientiousness.

Research Question 3e: openness to experience.

Research Question 3f: trait positive affectivity.

Research Question 3g: trait negative affectivity.

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Display rules are social guidelines for how we should want to feel in certain situations (Hochschild, 2008). Organizations have both overt and covert display rules in place to help them achieve their goals (Bono & Vey, 2005; Grandey, 2000; Zapf et al., 2001). To conform to these display rules, employees sometimes must engage in emotional labor, “the process of regulating both feelings and emotional expressions for organizational goals” (Grandey, 2000, p. 97). One form of emotional labor is called surface acting, which “involves engaging in a superficial display of the normative emotion without making any effort to change what one is actually feeling” (Judge, Woolf, & Hurst, 2009, p. 57-58). However, there is evidence that surface acting takes a toll on employees who engage in it (Bono & Vey, 2005; Grandey, 2000; Zapf et al., 2001). Because emotional suppression taxes individuals’ cognitive and attentional resources (Gross, 1998b) and physiologically stresses the body (Gross, 1998a,

Gross & Levenson, 1997), it is no surprise that surface acting has been tied to higher levels of emotional exhaustion and lower levels of job satisfaction (Bono & Vey, 2005; Grandey, 2000). Because the degree to which employee's perceive their organization as having strong display rules predicts whether or not they will engage in surface acting (Bono & Vey, 2005; Gosserand & Diefendorff, 2005; Grandey, 2000), I hypothesize that employees who perceived their jobs as having higher surface acting demands from display rules will benefit more from expressive writing with regards to increases in job satisfaction and decreases in emotional exhaustion.

Hypothesis 3: Participants engaging in expressive writing who perceive higher surface acting demands will report significantly greater increases in job satisfaction than participants who perceive lower surface acting demands.

Hypothesis 4: Participants engaging in expressive writing who perceive higher surface acting demands will report significantly greater decreases in emotional exhaustion than participants who perceive lower surface acting demands.

Gosserand and Diefendorff (2005) demonstrated empirically that even when display rules are strong, participants only engage in higher amounts of surface acting when they are committed to following the display rules. Gosserand and Diefendorff describe display rule commitment as "a person's intention to extend effort toward displaying organizationally desired emotions, persist in displaying these emotions over time, and not abandon the display rules under difficult conditions" (2005, p. 1257). I hypothesize that display rule commitment moderates the relationships between expressive writing and job satisfaction and emotional

exhaustion such that participants who both perceive high surface acting demands and report high display rule commitment will show the greatest increases in job satisfaction and greatest decreases in emotional exhaustion following expressive writing.

Hypothesis 5: Participants engaging in expressive writing who report higher display rule commitment and higher surface acting demands will report significantly greater decreases in emotional exhaustion than participants who report only higher surface acting demands.

Hypothesis 6: Participants engaging in expressive writing who report higher display rule commitment and higher surface acting demands will report significantly greater increases in job satisfaction than participants who report only higher surface acting demands.

Distal Outcomes: Turnover Intentions

Turnover intention is one of the largest predictors of actual employee turnover (Griffeth et al., 2000). Research has shown job satisfaction and emotional exhaustion to be antecedents of workers' turnover intentions (Griffeth et al., 2000; Swider & Zimmerman, 2010; Wright & Cropanzano, 1998). While raising job satisfaction and decreasing emotional exhaustion is in itself a worthy goal, expressive writing may have greater utility still through its indirect effects on turnover intentions. Because expressive writing may increase job satisfaction and decrease emotional exhaustion, I hypothesize that expressive writing may affect this distal outcome indirectly with job satisfaction and emotional exhaustion serving as mediators.

Hypothesis 7: Participants who engage in expressive writing will report significantly lower turnover intentions following the intervention than participants who did not engage in expressive writing.

Hypothesis 8: The relationship between expressive writing and turnover intentions will be partially mediated by expressive writing's relationships to job satisfaction and emotional exhaustion.

Research Question 5: Will participants' decreases in turnover intentions following the expressive writing treatment persist in follow-up assessments 2 weeks and 4 weeks after the intervention?

Method

Participants and Procedure

The study consisted of four sessions over the initial week, a two-week follow up session, and a four-week follow-up session. Participants were recruited using Amazon's Mechanical Turk crowdsourcing service. An advertisement for the study was posted soliciting participants who lived in the United States, worked at least 30 hours a week for a single organizations, spoke English as a first language, and were at least 18 years of age. Participants were offered \$1.25 for completing the first week of sessions and an additional \$0.25 for each of the two follow-up sessions. Participants were randomly assigned into control and treatment conditions. While over 550 participants expressed initial interest in participation, attrition, likely due to the high demands and meager pay of the study, resulted in only 82 control group and 65 treatment group participants completing the initial week.

Attrition continued between assessments, with only 52 control group and 49 treatment group participants completing the two-week follow-up assessment. Only 47 control group and 36 treatment group participants completed the four-week follow-up assessment.

During the first session, all participants were presented with an informed consent form detailing the expectations of the study. Each participant completed a demographic survey gathering his or her age, sex, marital status, hours worked per week, educational achievement, job type, industry, and job title. The participants then completed a battery of surveys including measures of job satisfaction, burnout, turnover intentions, trait positive affectivity, trait negative affectivity, perceived surface acting demands, and display rule commitment. While this concluded the session for the control group, the treatment group was presented with a page of directions for the expressive writing task (See Appendix A). The page instructed participants to think of an event or situation that was currently causing them stress or unhappiness. Participants were asked to set a timer for 15 minutes and write about their deepest thoughts and emotions regarding their selected topic. They were instructed not to worry about sentence structure or grammar, but rather to focus on exploring the event or situation for the full writing period. Both groups were instructed to return to the webpage for the second session in 48 hours.

During the second session all participants completed surveys assessing extraversion, neuroticism, agreeableness, openness to experience, and conscientiousness personality constructs. The treatment group then engaged in the expressive writing task a second time. They were told they were free to write about the same topic as the previous session or a new

topic. Both groups were instructed to return to the webpage for the second session in 48 hours.

During the third session, control group members were informed that there was no task for them this day. The experimental group completed the expressive writing task for a final time. Both groups were instructed to return to the webpage for the second session in 48 hours.

The final session of the initial week was identical for both groups. All participants completed the job satisfaction, burnout, and turnover intentions surveys. They were advised to watch for invitations to follow-up sessions in their email.

Two weeks and four weeks following the final session of the initial week, participants were invited to complete follow-up sessions via email. The follow-up sessions had all participants complete the job satisfaction, burnout, and turnover intentions surveys.

Measures

Job satisfaction. Job satisfaction was measured using Judge, Bono, and Locke's (2000) shortened version of Brayfield and Rothe's (1951) scale. The scale contains 5 statements reflecting attitudes towards a job, for instance, "I felt fairly satisfied with my present job." Participants are asked to rate using a 7-point scale the degree to which they agree with each statement. (1 = Strongly Disagree, 7 = Strongly Agree). Participants were instructed to make their assessments reflecting only on the past week. Cronbach's alpha was .91 for the job satisfaction scale.

Emotional exhaustion. Emotional exhaustion was measured using the emotional exhaustion subscale of the Maslach Burnout Inventory – General Survey (MBI-GS) (Maslach, Jackson, & Leiter, 1997). The MBI-GS contains 16 statements regarding participants’ feelings towards their jobs, and participants are instructed to rate on a 6-point scale the frequency with which they feel these statements apply to their jobs (0 = Never, 6 = Every day). The MBI-GS contains 3 subscales: a 5-item emotional exhaustion subscale, a 5-item cynicism subscale, and a 6-item professional efficacy subscale. The MBI-GS will be presented to participants in its entirety. Participants were instructed to make their assessments reflecting only on the past week. Cronbach’s alpha for the exhaustion subscale was .89.

Turnover intentions. Turnover intentions were assessed with a single item, “How often have you seriously considered quitting your present job?” rated on a 7-point scale (0 - Never this past week, 6 - More than 5 times this past week.) (Spector, 1985). Participants were instructed to make their assessments reflecting only on the past week.

Personality traits. The personality traits of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness were measured using the 10-item International Personality Item Pool (IPIP) scales corresponding to each construct. These scales are highly similar to and correlate highly with Costa and McCrae’s (1992) NEO-PI scales. (International Personality Item Pool, 2010). Each scale contains 10 self-descriptive statements, and participants were instructed to rate on a 7-point scale the degree to which they agree the statement describes them (1 = Strongly Disagree, 7 = Strongly Agree).

Example items for neuroticism include “I get stressed out easily” and “I have frequent mood swings”. Example items for extraversion include “I am the life of the party” and “I feel comfortable around people”. Example items for openness to experience include “I have a vivid imagination” and “I enjoy hearing new ideas.” Example items for agreeableness include “I have a good word for everyone” and “I respect others.” Example items for conscientiousness include “I pay attention to details” and “I carry out my plans”. Cronbach’s alpha was .91, .88, .77, .86, and .87 for neuroticism, extraversion, openness, agreeableness, and conscientiousness respectively.

Positive affectivity and negative affectivity. Trait positive affectivity and trait negative affectivity were assessed using the Positive and Negative Affectivity Schedule (PANAS) (Watson, Clark, & Tellegen, 1988). The scale contains 20 emotional adjectives, and participants are instructed to rate on a 5-point scale the degree to which they have felt these emotions over a specified time frame (1 = Very slightly or not at all, 5 = Extremely). The validity of the scale is unaffected by the time frame specified, which has allowed researchers to use the PANAS and its variants (i.e. the PANAS-X) to study PA and NA as both state variables, by instructing participants to rate the degree to which they currently feel or have recently felt the emotions, and as trait variables, by instructing participants to rate the degree to which they have felt the emotions over the past few months or over the past year (Watson, Clark, & Tellegen, 1988; Watson & Clark, 1994). Example adjectives for PA include “interested” and “excited”. Example adjectives for NA include “distressed” and “upset” (Watson, Clark, & Tellegen, 1988). This study assessed trait PA and trait NA by

instructing participants to specify the degree to which they felt the emotions “over the past two months.” Cronbach’s alpha was .90 for the PA scale and .89 for the NA scale.

Perceived surface acting demands. Perceived surface acting demands was assessed using a modified version of a surface acting scale developed by Diefendorff, Croyle, and Gosserand (2005). This scale drew upon items from two scales previously created by Grandey (2000) and Kruml and Geddes (2000). The scale includes seven statements regarding work behaviors, and participants are instructed to rate on a five-point scale the degree to which they agree with each statement (1 = Strongly disagree, 5 = Strongly agree). The original scale items include “I put on a ‘mask’ in order to display the emotions I need for the job” and “I fake the emotions I show when dealing with customers,” and Cronbach’s alpha ranges from .91 to .92. (Diefendorff et al., 2005). I modified these items to read, “To be effective in my job, I must put on a ‘mask’ in order to display the emotions I need for the job” and “To be effective in my job, I must fake emotions I show when dealing with customers.” Other scale items were similarly altered. Cronbach’s alpha was .96 for the modified surface acting demands scale.

Display rule commitment. Display rule commitment was measured using a scale developed by Gosserand and Diefendorff (2005) which was adapted from a scale “developed by Hollenbeck, Williams, and Klein (1989) and further validated by Klein, Wesson, Hollenbeck, Wright, and DeShon (2001)” (Gosserand & Diefendorff, 2005, p. 1259). The scale contains five statements regarding participants’ attitude toward display rule goals and instructs participants to rate the degree to which they agree with each statement on a five-

point scale (1 = strongly disagree, 5 = strongly agree). Example items include “It’s hard to take the requirement for displaying the organizationally desired emotions on the job seriously” and “I am committed to displaying the organizationally desired emotions on the job.” Cronbach’s alpha for the display rule commitment scale was .88.

Results

Data Manipulations

An examination of the change scores in job satisfaction and emotional exhaustion revealed that several distributions were significant skewed and/or leptokurtic. Corrections were required in order for scores to be used in subsequent analyses that assumed normal distributions. Several strategies were employed to improve normality including logarithmic transformations and employing various criteria to identify and remove participants as outliers, all of which returned the same results after analyses were conducted. The strategy ultimately selected was to identify cases that had change scores on either variable at any time point that lay three standard deviations outside the mean and remove them entirely from future analysis. This method was chosen to aid in the interpretability of findings. Five cases were removed from the control group, and four cases were removed from the treatment group. This method removed all instances of significant skew and all but one instance of significant kurtosis. The change score distribution for job satisfaction between baseline and the initial post-test remained significantly leptokurtic, but the removal of the outliers did reduce the kurtosis to less extreme levels.

Turnover intention data was collected using a six-point Likert scale item asking participants to report the frequency with which they had seriously considered quitting their jobs over the past week. However, 60%-68% of participants reported they had never seriously considered quitting at each assessment, creating a distribution in turnover intention change scores that deviated from normality beyond repair. Therefore, the variable was dichotomized (0 = Never considered quitting, 1 = Had considered quitting at least once) for further analysis, and a nonparametric analytic strategy was adopted.

Main Effects

Hypotheses and research questions examining the main effects of expressive writing on job satisfaction (H1, RQ1) and emotional exhaustion (H2, RQ2) are examined with a series of repeated measures t-tests. Mean job satisfaction and emotional exhaustion levels from the final session of the initial week, the two-week follow-up session, and the four-week follow-up session are compared to pre-intervention job satisfaction and emotional exhaustion levels to check for significant within-group differences.

The results of the analyses for effects on job satisfaction are presented in Table 1. Mean job satisfaction levels at all post-writing assessments do not significantly differ from mean baseline levels in the treatment group. Therefore, Hypothesis 1 is not supported; participants who engage in expressive writing do not show significant benefits to job satisfaction immediately following the expressive writing treatment. Furthermore, Research Question 1 is answered in the negative: participants who engage in expressive writing do not show significant improvements in job satisfaction at either the two-week or the four-week

follow-up assessments, suggesting that there is no delayed effect of the writing treatment on job satisfaction levels.

The results for the analyses for effects on emotional exhaustion are displayed in Table 2. Mean emotional exhaustion levels at all post-writing assessments do not significantly differ from mean baseline levels in the treatment group. Therefore, Hypothesis 2 is not supported; participants who engage in expressive writing do not show significant benefits to emotional exhaustion immediately following the expressive writing treatment. Furthermore, Research Question 2 is answered in the negative: participants who engage in expressive writing do not show significant improvements in emotional exhaustion at either the two-week or four-week follow-up assessments, suggesting that there is no delayed effect of the writing treatment on emotional exhaustion levels.

Main effects for expressive writing on turnover intentions are explored using McNemar's test, which can be considered a nonparametric equivalent of a repeated measures t-test when comparing dichotomous variables. The test calculates difference scores and ranks them, assigning the positive or negative sign of the difference score to the rank. The ranks at each time point are summed, and these values are tested for significant differences (Field, 2009). The results are displayed in Table 3 and indicate that the probability that a participant in the treatment group would seriously consider quitting his or her job does not change significantly from baseline at any of the post-intervention assessments. Therefore, Hypothesis 7 is not supported and Research Question 5 was answered in the negative.

Expressive writing does not appear to have significant immediate nor delayed effects on turnover intentions.

Dispositional and Situational Moderators

Hypotheses and research questions examining possible moderators of the relationship between expressive writing treatment group and job satisfaction (RQ3a-3g, H3, H6) and emotional exhaustion (RQ4a-4g, H4, H5) are examined using multiple linear regression. All analyses began by regressing job satisfaction or emotional exhaustion change scores on group membership (Control = 0, Treatment = 1). Change scores are computed by subtracting baseline levels of the variables from their levels at the final session of the initial week. These models do not significantly predict changes in job satisfaction scores ($F(1, 136) = 1.32, p = .25, R^2 = .01$) or emotional exhaustion scores ($F(1, 136) = 1.43, p = .23, R^2 = .01$) suggesting that whether or not a participant was a member of the control versus treatment group does not significantly affect changes in job satisfaction or emotional exhaustion between baseline and immediately after the intervention.

As each research question is examined, the proposed moderating variable and the group by moderator interaction term are introduced in a second step in the analysis to determine whether or not they account for a significantly greater amount of variance than the group only regression model. The model examining the possible moderating effect of trait extraversion on the relationship between expressive writing and job satisfaction change scores does not account for significantly more variance in job satisfaction change scores than the group only model ($F\Delta(2, 134) = .04, p = .96, R^2\Delta = .00$). Similar null results are found

when examining the moderating effects of trait neuroticism ($F\Delta(2, 134) = .96, p = .38, R^2\Delta = .01$), trait agreeableness ($F\Delta(2, 134) = .33, p = .72, R^2\Delta = .01$), trait conscientiousness ($F\Delta(2, 134) = .55, p = .58, R^2\Delta = .01$), trait positive affectivity ($F\Delta(2, 134) = 1.24, p = .29, R^2\Delta = .02$), and trait negative affectivity ($F\Delta(2, 134) = .36, p = .69, R^2\Delta = .01$). While adding openness to experience and the openness by group interaction term causes the model to explain significantly more variance than the group only model ($F\Delta(2, 134) = 3.17, p = .05, R^2\Delta = .05$), the new model still fails to explain a significant amount of variance in job satisfaction change scores ($F(3, 134) = 2.41, p = .06, R^2 = .05$). Collectively, these results address Research Questions 3a-3g, suggesting that the effectiveness of expressive writing in changing job satisfaction is not significantly moderated by any of the Big 5 personality variables, trait positive affectivity, or trait negative affectivity.

The model examining the possible moderating effect of trait extraversion on the relationship between expressive writing and emotional exhaustion change scores does not account for significantly greater variance in job satisfaction change scores than the group only model ($F\Delta(2, 134) = .10, p = .91, R^2\Delta = .00$). Similar null results are found when examining the moderating effects of trait neuroticism ($F\Delta(2, 134) = .19, p = .83, R^2\Delta = .00$), trait agreeableness ($F\Delta(2) = 1.20, p = .31, R^2\Delta = .02$), trait openness to experience ($F\Delta(2, 134) = .57, p = .57, R^2\Delta = .01$), trait positive affectivity ($F\Delta(2, 134) = 1.73, p = .18, R^2\Delta = .03$), and trait negative affectivity ($F\Delta(2, 134) = .76, p = .47, R^2\Delta = .01$). Adding conscientiousness and the group by conscientiousness interaction term produces a model that explains significantly more variance than the group only model ($F\Delta(2, 134) = 2.49, p = .09$,

$R^2\Delta = .04$) and explains a significant portion of the variance in emotional exhaustion change scores. However, an examination of the results (see Table 4) reveals that no single predictor in the model significantly explains unique variance when controlling for other model variables. Collectively, these results address Research Questions 4a-4g, suggesting that the effectiveness of expressive writing in changing emotional exhaustion is not significantly moderated by any of the Big 5 personality variables, trait positive affectivity, or trait negative affectivity.

The model examining the hypothesis that the perception of surface acting demands will moderate the relationship between expressive writing and job satisfaction change scores accounts for significantly more variance than the group only model ($F\Delta (2, 134) = 3.80, p = .03, R^2\Delta = .05$) and explains a significant amount of variance in job satisfaction change scores ($F = 2.99(3, 134), p = .03, R^2 = .06$). An examination of the results (see Table 5) reveals that perceived surface acting demands significantly predicts job satisfaction change scores when controlling for other model variables, such that participants who reported higher perceived surface acting demands tend to show significantly greater improvements in job satisfaction over the initial week of the study. Additionally the interaction between group membership and perceived surface acting demands significantly predicts job satisfaction change scores when controlling for other model variables.

Simple slopes analyses were conducted to decompose the interaction (See Figure 2). The results indicate that for participants one standard deviation below the mean in surface acting perceptions, group membership does not significantly predict jobs satisfaction change

scores ($t = 1.37, p = .17$). The same is found for participants with average surface acting perceptions ($t = -1.67, p = .53$). However, for participants who have surface acting perceptions one standard deviation above the mean, group membership is significantly and negatively related to jobs satisfaction change scores ($t = -3.68, p = .00$). Not only do the results fail to support Hypothesis 3; they suggest the reverse of what was expected. These results indicate that for participants who perceive their jobs as having higher surface acting demands, members of the control group tend to show improvement in job satisfaction over the initial week, while participants who engage in expressive writing tend to show worsening job satisfaction over the initial week.

The model examining the hypothesis that participants in the treatment group will see the greatest improvements in job satisfaction when they both perceive high surface acting demands and have high display rule commitment is examined by adding the group by surface acting by display rule commitment three-way interaction term to the model already regressing job satisfaction change scores on group, surface acting, and the group by surface acting interaction term. Adding this three-way interaction term does not result in a significant change of variance explained in job satisfaction scores ($F\Delta (1, 133) = .00, p = .96, R^2\Delta = .00$). Therefore Hypothesis 6 is not supported.

The model examining the hypothesis that the perception of surface acting demands will moderate the relationship between expressive writing and emotional exhaustion change scores does not account for significantly more variance than the group only model ($F\Delta (2, 134) = .16, p = .85, R^2\Delta = .00$). Hypothesis 4 is not supported. It does not appear that the

participants' perceptions of surface acting demands at work affects the relationship between expressive writing and changes in emotional exhaustion.

The model examining the hypothesis that participants in the treatment group would see the greatest improvements in emotional exhaustion when they both perceive high surface acting demands and have high display rule commitment is examined by adding the group by surface acting by display rule commitment three-way interaction term to the model already regressing emotional exhaustion change scores on group, surface acting, and the group by surface acting interaction term. Adding this three-way interaction term does not result in a significant change of variance explained in emotional exhaustion scores ($F\Delta(1, 133) = 1.17$, $p = .28$, $R^2\Delta = .01$). Therefore Hypothesis 5 is not supported.

Indirect Effects

In order to test whether or not expressive writing has an indirect effect on turnover intentions through its relationships with job satisfaction emotional exhaustion, regression analyses for examining mediation are attempted. The first step of these analyses is to establish that the predictor, mediators, and outcome variables are all significantly correlated (Baron & Kenny (1986)). The results in Table 6 indicate that expressive writing is not significantly correlated to job satisfaction change scores, emotional exhaustion change scores, or turnover intention change scores. Of the correlations examined, only the negative relationship between job satisfaction change scores and emotional exhaustion changes scores is significant, suggesting that participants who tend to improve in job satisfaction over the

initial week also tend to show decreased emotional exhaustion. Because this first condition for mediation is not met, further analysis is abandoned.

Discussion

The results indicate that expressive writing is largely ineffective in bolstering job satisfaction, relieving emotional exhaustion, or reducing turnover intentions at all post-intervention assessments. Additionally, these results appear to generalize across participants regardless of their scores on dispositional assessments, as no personality trait or affective disposition appears to moderate the relationship between expressive writing and work outcomes. The only statistically significant result is the finding that for participants higher in surface acting, expressive writing actually proved detrimental to job satisfaction. This finding is opposite to what was hypothesized, inconsistent with past empirical findings, and outside of range of explanation offered by currently existing theories. However, results from this study should be interpreted with caution, as the study suffers from a number of methodological limitations that may hamper the ability to detect meaningful results.

This study was highly limited by insufficient funding to provide adequate compensation for the amount of work requested of participants. Participants were able to make a maximum of \$1.75 for completing a study that required multiple assessments over the course of a week, and while the control group only had to complete a series of surveys, the treatment group had to engage in a highly involved and time-consuming writing task. It is unsurprising that while over 550 participants responded to the advertisement to participate in the study, only 82 and 65 participants from the control and experimental group

respectively completed the initial week, with attrition continuing further in the follow-up assessments. Attrition was worse for those assigned to the treatment group than for the control group, likely due to the higher demands. On two occasions, I even received angry emails from participants berating me for not offering sufficient compensation. This raises the question of what type of person would willingly complete the task when so many others opted not to. While the control and treatment groups are statistically equivalent on all dependent variables at baseline (See Table 7), the generalizability of results outside of this sample is questionable.

Another limitation regards ceiling and floor effects. The aim of this study is to assess the effectiveness of expressive writing for workers in general rather than those who work in particularly stressful environments where low satisfaction and high emotional exhaustion are likely to be expected. The baseline scores of the dependent variables of this sample are highly non-normal, with average participants being high in job satisfaction, low in emotional exhaustion, and largely reporting no serious thoughts of quitting their jobs. The question then becomes whether or not these workers had room for meaningful improvement. Further investigations should look into whether or not expressive writing is more effective in samples that have less healthy job attitudes before engaging in the writing intervention.

Noteworthy among the findings in this study is the failure to replicate Alford et al.'s (2005) report that expressive writing is linked to immediate post-intervention increases in job satisfaction. A comparison of the methodologies employed by their study and the present study shows a number of similarities. Both studies had participants write three times for 15

minutes, and both allowed participants to complete the writing in the comfort of their own homes (Alford et al., 2005). Differences include that Alford et al. had their participants journal for three consecutive days and mail in their submissions, whereas this study spaced the writings two days apart and had participants submit writings online. Participant instructions for the writing task varied slightly, and the studies employed different measures of job satisfaction (Ironson et al., 1989 vs. Judge et al., 2000) to assess job satisfaction.

It is unlikely that methodology accounts for the differences in findings. A meta-analysis examining expressive writing studies has shown no significant differences in outcomes for minor tweaks in the intervention, including spacing of writings, variations in instructions, and the use of paper versus electronic forms of writing submissions (Frattaroli, 2006). Both measures of job satisfaction are well established and of sound psychometric properties (Ironson et al., 1989; Judge et al., 2000). Therefore, I believe the differences in findings come from difference in the samples. Alford et al. (2005) used a sample of 65 child protective workers, specifically targeting this group because of the highly stressful nature of the work. Child protective workers exhibit higher levels of burnout than many other professions, and reports of turnover range from 14%-75% annually (Anderson, 2000). Therefore, their sample likely did not have the high satisfaction and low exhaustion of the sample in the present study, and they found a moderate to large beneficial effect (Cohen's $d = .58$) in a relatively small sample. Therefore, I believe if this study were repeated in a similar sample, the job satisfaction benefits would reemerge, and it is possible that the

hypothesized improvements in emotional exhaustion and turnover intentions may be observed as well.

Finally, the finding that high perceptions of surface acting are related to decreases in job satisfaction in the treatment group is very difficult to explain. Job satisfaction and surface acting were found to be significantly and negatively correlated ($r = -.39$, $p < .01$), consistent with theory that participants who engage in surface acting tend to be less satisfied with their jobs (Grandey, 2000). Emotional inhibition required for surface acting causes emotional dissonance, and this dissonance is a chronic source of job stress (Zapf et al., 2001).

Expressive writing is believed to relieve inhibition-related stress by allowing a medium for expression of these inhibited emotions (Jones & Pennebaker, 2006), so why the job satisfaction of participants who perceive their jobs as forcing them to regularly inhibit emotions would decrease after being given the opportunity to express those emotions is difficult to understand. Equally perplexing is that members of the control group, who supposedly did nothing more than fill out the study questionnaires, show an increase in job satisfaction over the short span of a week, but only when they perceive the surface acting demands as being high. Between the aberrant behavior of the control group and the controversial finding in the treatment group, I am hesitant to draw conclusions. The question should be reexamined in a new sample to see if it can be replicated.

In conclusion, this study attempts to expand the expressive writing literature further into the realm of I/O related outcomes. It attempts to replicate previous findings, examines expressive writing's effects on new constructs including emotional exhaustion and turnover

intentions, and attempts to assess the duration of the effects with multiple post-intervention assessments. Furthermore, this study attempts to determine whether or not individual differences moderate these effects and hypothesized that participants who worked in jobs with higher surface acting demands would benefit more from the intervention. The results reveal expressive writing to be a largely ineffective intervention at all time-points regardless of participant disposition. The only significant finding suggests that the intervention is harmful for those who perceive their jobs as having high surface acting demands, a finding that stands in contrast to what would be expected from current theory. However, the study suffers from a number of crippling limitations making it difficult to determine whether or not the null and controversial results are real or a function of an unusual sample. I recommend that the study be repeated with adequate funding to fairly compensate participants and a sample that does not exhibit baseline characteristics that may mute the effectiveness of the expressive writing intervention.

Table 1

Repeated Measures T-Tests of Changes in Job Satisfaction at Multiple Time Points

	Control					Treatment				
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>t(df)</i>	<i>p</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>t(df)</i>	<i>p</i>
S1 Job Sat	4.67	1.67	77	.91(76)	.37	4.82	1.33	61	-0.29(60)	.47
S4 Job Sat	4.74	1.53				4.76	1.47			
S1 Job Sat	4.71	1.60	50	-.36(49)	.72	4.69	1.39	48	-0.22(47)	.84
S5 Job Sat	4.65	1.52				4.71	1.67			
S1 Job Sat	4.60	1.66	44	.82(43)	.42	4.54	1.35	34	-0.65(33)	.65
S6 Job Sat	4.75	1.46				4.48	1.64			

Notes: S1 = Session 1 (baseline); S4 = Session 4 (initial week post-test); S5 = Session 5 (2 week follow up; S6 = Session 6 (4 week follow up).

Table 2

Repeated Measures T-Tests of Changes in Emotional Exhaustion at Multiple Time Points

	Control					Treatment				
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>t</i> (df)	<i>p</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>t</i> (df)	<i>p</i>
S1 Exhaustion	1.41	1.00	77	.57 (76)	.57	1.48	1.01	61	-1.02(60)	.31
S4 Exhaustion	1.45	1.06				1.37	1.10			
S1 Exhaustion	1.38	.95	49	.73 (48)	.47	1.56	1.05	47	-1.34 (46)	.19
S5 Exhaustion	1.47	1.02				1.40	1.17			
S1 Exhaustion	1.41	.93	44	.15 (43)	.88	1.52	1.06	33	-.74 (32)	.46
S6 Exhaustion	1.43	1.04				1.42	1.08			

Notes: S1 = Session 1 (baseline); S4 = Session 4 (initial week post-test); S5 = Session 5 (2 week follow up; S6 = Session 6 (4 week follow up). Higher values mean worse exhaustion.

Table 3

McNemar's Test for Changes in Turnover Intentions at Multiple Time Points

	Control					Treatment				
	<i>M</i>	<i>SD</i>	<i>N</i>	χ^2 (df)	<i>p</i>	<i>M</i>	<i>SD</i>	<i>N</i>	χ^2 (df)	<i>p</i>
S1 Turnover	.29	.46	76	1.39 (1)	.24	.39	.49	61	.00 (1)	1.00
S4 Turnover	.36	.48	77			.38	.49	61		
S1 Turnover	.29	.46	76	.10 (1)	.75	.39	.49	61	.80 (1)	.37
S5 Turnover	.27	.45	48			.36	.48	45		
S1 Turnover	.29	.46	76	.44 (1)	.51	.39	.49	61	.80 (1)	.37
S6 Turnover	.34	.48	44			.48	.51	33		

Notes: S1 = Session 1 (baseline); S4 = Session 4 (initial week post-test); S5 = Session 5 (2 week follow up); S6 = Session 6 (4 week follow up). Turnover intentions were dichotomized such that 0 = never considered quitting and 1 = considered quitting at least once.

Table 4

Regression Analysis for Emotional Exhaustion Change Scores on Group Membership and Trait Conscientiousness

Variable	<i>B</i> (SE)	β	<i>p</i>	<i>R</i> ²
<hr/> Step 1				
Intercept	.04(.08)			.01
Group (0 = Control, 1 = Treatment)	-.15(.12)	-.10	.23	
<hr/> Step 2				
Intercept	.35(.44)		.03	.06
Group (0 = Control, 1 = Treatment)	.77(.65)	.53	.24	
Conscientiousness	-.06(.09)	-.08	.48	
Group X Conscientiousness	-.18(.12)	-.66	.16	

Table 5

Regression Analysis for Job Satisfaction Change Scores on Group Membership and Perceived Surface Acting Demands

Variable	B(SE)	β	<i>p</i>	<i>R</i> ²
Step 1				
Intercept	.07(.08)		.35	.01
Group (0 = Control, 1 = Treatment)	-.13(.11)	-.10	.25	
Step 2				
Intercept	-.41(.20)		.04	.06
Group (0 = Control, 1 = Treatment)	.51(.29)	.39	.08	
SA	.16(.06)	.29	.01	
Group X SA	-.22(.09)	-.54	.02	

Note: SA = Perceived surface acting demands.

Table 6

Correlations of Study Variables

Construct	1	2	3	4
S1 JS	1.00			
S1 EX	-.68*	1.00		
S1 TI	-.47 ^{a*}	.48 ^{a*}	1.00	
Expressive Writing	1.00			
JS Change	-.10	1.00		
EX Change	-.10	-.17*	1.00	
TI Change	-.11 ^a	-.06 ^a	-.04 ^a	1.00

Notes: * $p < .05$. a = Spearman's rho. S1 = Session 1 (baseline). JS = Job Satisfaction. EX = Emotional Exhaustion. TI = Turnover Intentions. All change scores are for initial week (Post-test – baseline).

Table 7

Mann-Whitney Test to Assess Equivalence of Groups at Baseline

	Mean Rank	<i>N</i>	Mann-Whitney <i>U</i>	<i>z</i>	<i>p</i>
Control S1 Job Satisfaction	69.01	77	2311.00	-.16	.87
Treatment S1 Job Satisfaction	70.11	61			
Control S1 Emotional Exhaustion	67.87	77	2223.00	-.54	.59
Treatment S1 Emotional Exhaustion	71.56	61			
Control S1 Turnover Intentions	65.48	76	2050.50	-1.38	.17
Treatment S1 Turnover Intentions	73.39	61			
Control Perceived SA Demands	71.77	77	2174.00	-.75	.45
Treatment Perceived SA Demands	66.64	61			

Notes: S1 = Session 1 (baseline); SA = Surface Acting.

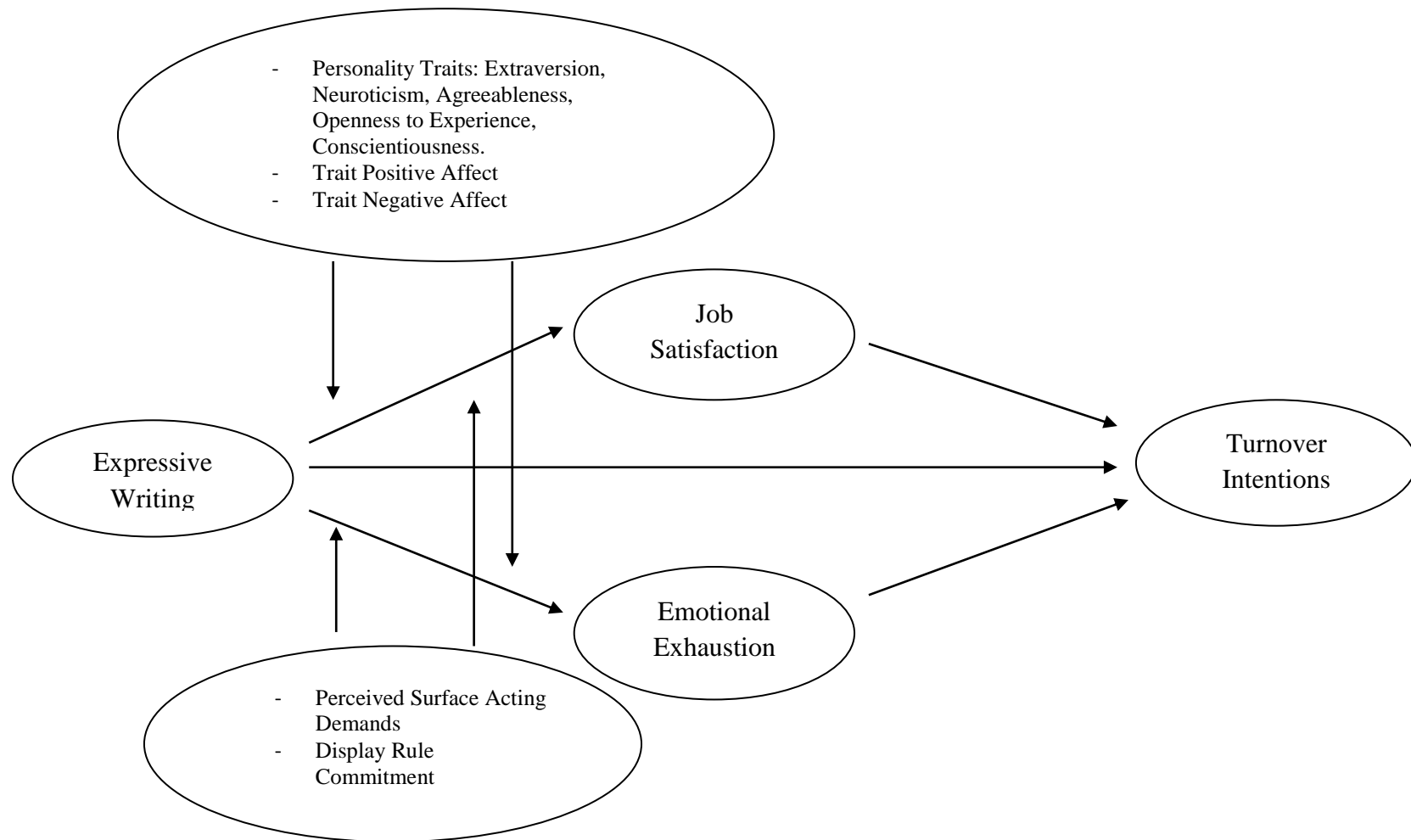


Figure 1. Study Model.

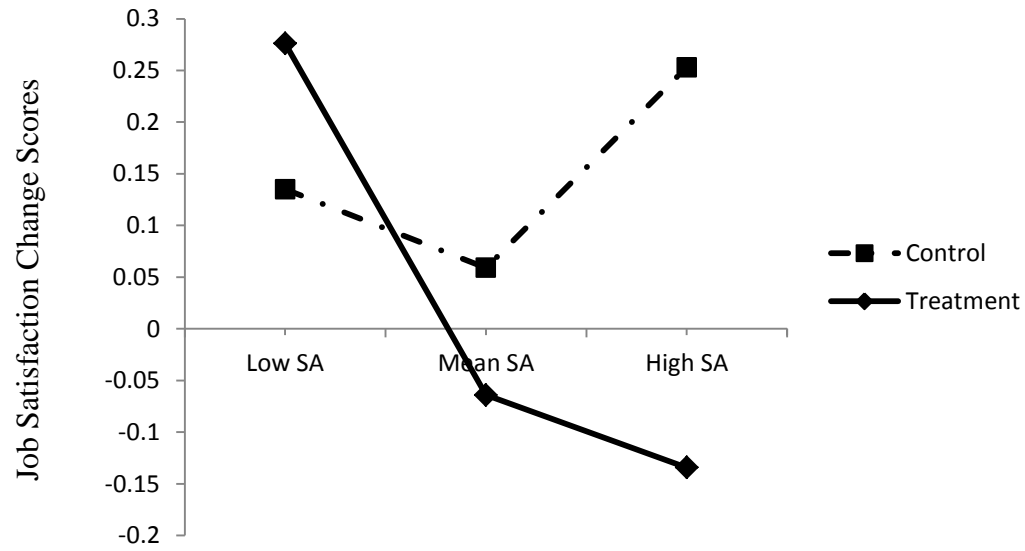


Figure 2: Perceived Surface Acting Demands by Treatment Group Interaction on Job Satisfaction Change Scores.

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APPENDIX

Appendix A

Writing Instructions

During your writing, I would like you to explore an event or situation in your life that is bothering you. This can be an upsetting, stressful, or disappointing situation that occurred a long time ago or an event that has happened just recently. You may also write about a current situation that is affecting your life right now. Examples may include a time when you felt you were treated unfairly, a time when you felt overwhelmed, or a time you lost something dear to you. This can be the event you came up with for the previous survey, but it does not have to be. Take a minute to reflect on such an event or situation before beginning to write. It is important that you select an event or situation that currently causes you stress or unhappiness.

I want you to really let go and explore your deepest feelings about the subject. Don't hold back in your writing. Really focus and explore your deepest thoughts and feelings about the event or situation. You may write however you wish, but if you're having trouble finding what to write, you may use these questions as guidelines to help you:

- What were the causes of the event or situation? What were the outcomes?
- What were your thoughts and feelings about the event or situation at the time it occurred? Have they changed over time?
- Has this event caused you to see yourself or others differently?
- Do you feel you or others have been changed by the event or situation?
- What might another person involved in the event or situation think or feel about it? What might someone outside it think or feel?
- Would you address a similar event or situation the same way in the future? If not, what would you change?

The session should last 15 minutes. Set a timer or use a clock somewhere close to you so that you will know when to stop writing. Towards the end of the session, try to tie together the thoughts you've written about.

Only the researchers involved in this project will have access to your writings. No one will have access to or be shown your writings. Therefore, your confidentiality is assured. You have the right to withdraw from the experiment at any time. Don't worry about sentence structure, spelling, or grammar. The important thing is that you really let go and dig down to your very deepest emotions and thoughts about the stressful event and explore them in your writing.