A SOCIAL INTEGRATION PERSPECTIVE ON EXPRESSIVE WRITING:
HOW THE PERCEIVED RELATIONSHIP BETWEEN
WRITER AND READER AFFECTS OUTCOMES

A THESIS TO BE SUBMITTED TO THE GRADUATE DIVISION OF
THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN

SPEECH

AUGUST 2011

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ACKNOWLEDGEMENTS

This research project represents the culmination of a journey shared with many important people in my life. The past two years would have never been possible without the support of my advisors, friends, and family. First, I would like to thank my advisors Kelly Aune, Krystyna Aune, and Amy Hubbard. Two of the most enriching days of my life thus far were shared with the three of you. Thank you for investing yourselves fully in the discussion of this research project during the proposal and defense meetings. I am honored to have worked with such brilliant minds at the start of my academic career. Beyond the boardroom, you have each supported me and guided me in ways for which I will forever be grateful. Second, I would like to thank my friend and “ghost advisor” Jayson Dibble. You have answered questions, inspired ideas, explained concepts and methods, and patiently read and re-read my work for the past two years. Thank you for supporting me despite your inability to professionally benefit from my achievements. Finally, I would like to thank my entire family. Mom, Dad, Wendy, Brandon, and Donovan, without your love and support my life would be empty. No single accomplishment would be meaningful if I was unable to share it with all of you. Mom, thank you for always being there for me. Your empathy, love, and patience are unending and should serve as a lesson for all. Dad, thank you for inspiring me to achieve success in everything I do. Your loving and motivational words have always encouraged me. You two are the best parents I could have ever asked for. Thank you for your unwavering confidence in my ability to achieve every goal I set for myself. Thank you for raising me to strive for success, to love others, and to live by the “golden rule.” Without these lessons, my graduate school journey would not have been so enriching. I love you.
ABSTRACT

Recent research suggests that the expressive writing paradigm, which was assumed to be anonymous and intrapersonal, may actually be a communicative and social event. The social integration theory of expressive writing assumes participants increase interactions with their social networks resulting in psychological and physical health improvements. The present study tests the idea that social integration is invoked at the moment the writer perceives the presence of another person (e.g., a reader) in the expressive writing process. Based on the salience of one’s social network in instantiate the perception of emotional support, it can be expected that participants who write for a relationally close reader (i.e., close friend or romantic partner) would report stronger and more numerous health outcomes than participants who write for a non-relational reader (e.g., a researcher). Thus, the goal of this study was to investigate how perceived relational differences between writer and reader may affect expressive writing outcomes. Participants were randomly assigned to one of two experimental conditions designed to induce perceived relational differences with their readers. A third group served as the control. Depression, interpersonal sensitivity, physical health, cognitive intrusions and avoidance were measured. Findings successfully replicated psychological improvements and fell just shy of significance for cognitive benefits. Physical health benefits, however, were not replicated. Additionally, though the findings were not sufficient to reject the null hypotheses, this study poses important theoretical questions regarding the boundaries the social integration theory of expressive writing. Practically, it informs researchers and clinicians of the potential importance of treating expressive writing as a communicative event.
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CHAPTER 1. INTRODUCTION

A Social Integration Perspective on Expressive Writing:

How the Perceived Relationship between Writer and Reader Affects Outcomes

Celebrities have popularized the concept of expressive writing. When Portia de Rossi introduced her book “Unbearable Lightness” (2010) on the Ellen Degeneres show, she discussed the therapeutic benefits she experienced from writing about her difficult struggle with an eating disorder. She talked about the stress-relieving aspects of unveiling these previously unknown details of her traumatic life experiences through written communication. Portia explained that she benefited greatly knowing that her writing would be read by others. However, she seemed particularly moved when she discussed the benefits of sharing her written accounts of such traumatic life events with her companion and life partner, Ellen. The concept of expressive writing about traumatic life events has been researched for decades. The current study seeks to extend this area of research by investigating the social integration that occurs the moment one chooses to write about a traumatic life experience knowing that his/her writing will be read by another person. Specifically, the study seeks to illuminate potential differences in the perceived relational nature of one’s reader.

A quarter-century of research yielded more than 200 published studies investigating the psychological, physical, and social benefits of expressive writing (Pennebaker & Chung, in press). The paradigm used in these studies, first introduced by Pennebaker and Beall (1986), involves participants writing about traumatic or emotional experiences for 15 minutes per day for four consecutive days. This landmark experiment revealed that written emotional disclosure about traumatic or stressful events results in
improved health. Researchers have expanded this paradigm with varying procedures and outcome measures over the past 25 years. Several meta-analyses are consistent with the conclusion that expressive writing produces consistent and significant psychological, physical, and social benefits (Frattaroli, 2006; Frisina, Borod & Lepore, 2004; Harris, 2006; Smyth, 1998).

In the last decade, researchers have begun to investigate the potential impact of socially shared expressive writing (Kunkel, 2001; Mosher & Danoff-Burg, 2006; Radcliffe, Lumley, Kendall, Stevenson, & Beltran 2010; Raval, 2000). Researchers have traditionally viewed the expressive writing exercise as an intrapersonal experience often described as solitary and anonymous (Pennebaker, 2002). However, according to the largest meta-analysis to date, the vast majority of expressive writing studies required participants to submit their writing to the research team (Frattaroli, 2006). In fact, of the 146 published and unpublished studies reviewed in her meta-analysis, Frattaroli found that 92% required participants to produce their writing with the understanding that their writing would be read by the researchers. For this reason, one might argue that the expressive writing paradigm is anything but a private, intrapersonal experience. In fact, by introducing another individual (i.e., the reader), expressive writing becomes a social event. A phenomenon known as compresence suggests that the mere presence of someone else is socially meaningful (Horn, 1974; Zajonc, 1980) because it causes arousal and can influence human behavior (Borden, 1980; Cottrell, 1972; Geen, 1980; Sanders, 1981; Zanjonc, 1965, 1980). If expressive writing is a social event, rather than a private experience, one would expect expressive writing outcomes to be affected by the perception that one’s writing will be read by another person.
In their investigation of perceived shared versus perceived private disclosure, Radcliffe, Lumley, Kendall, Stevenson, and Beltran (2010) sought to determine if the presence or absence of “an audience” for one’s disclosure affects outcomes (p. 1). Their experiment revealed that although both shared (submitted to researchers) and private (not submitted) disclosure groups benefited over the control groups, the shared disclosure group reported more numerous and stronger benefits. Whereas both groups reported less cognitive intrusion (unwanted thoughts) and avoidance (attempts to avoid thoughts) related to the traumatic event, only the shared disclosure group reported reduced depression, interpersonal sensitivity, and physical symptoms.

The psychological and physical health benefits of socially shared writing might be related to an underlying mechanism known as social integration (Pennebaker & Graybeal, 2001). Although many theories have been posited to explain the benefits of expressive writing (e.g., inhibition, cognitive-processing, self-regulation, social integration and exposure), social integration appears relevant when considering the findings of Radcliffe et al. (2010). Social integration theorists suggest that expressive writing leads participants to discuss traumatic events with members of their social networks. Because the traumatic experience is being addressed during the writing exercise, this theory suggests that participants initiate conversations about the event with others. Social integration theory suggests that by talking about these events with members of their social networks, participants experience more social integration. Thus, increases in social interaction, according to this theory, are responsible for psychological and physical improvements. Based on the findings of Radcliffe et al. (2010) the argument could be made that social integration dynamics are being activated at the moment the writer comes to believe that
his/her writing will be read. Although expressive writing participants are not actually
speaking to members of their social networks, they are given reason to believe they are
communicating with someone (i.e., the reader). Perceiving that a reader is simply
receiving the message (without providing feedback) seems to improve participants’
psychological and physical health. This is analogous to what social support literature
terms perceived emotional support (Dunkel-Schetter & Bennett, 1990; Wethington &

Decades of research have demonstrated associations between social support and
health outcomes (Cassell, 1976; Cobb, 1976; Cohen & Wills, 1985; Uchino, 2006).
Emotional support is one aspect of social support that appears to affect outcomes. In fact,
Seeman, Berkman, Blazer, and Rowe (1994) found that emotional support has greater
health benefits than informational support (e.g. advice, cognitive guidance, appraisal
support). Therefore, when an individual feels emotionally supported s/he may also report
more profound health benefits.

When considering the findings of Seeman et al. (1994) and Radcliffe et al. (2010)
an interesting parallel emerges. If people are given reason to believe they are emotionally
supported, they report health improvements. Regarding the expressive writing paradigm,
it is possible that participants who believe their writing will be read actually perceive
more emotional support than participants whose writing remains anonymous. This
perception of emotional support may be responsible for the psychological and physical
health benefits only reported when expressive writing participants believe their writing
will be read.
An argument could be made that expressive writing participants might perceive varying degrees of emotional support dependent on the nature of the relationship to the reader. If they believe their writing will be read by a researcher (i.e., a stranger), participants might experience a greater sense of emotional support than would private disclosure participants. However, if they believe their writing will be read by a relationally close other (e.g., a friend, family member, or romantic partner) participants might experience an even greater degree of emotional support relative to the belief that their writing would be read by a stranger, as a relationally close other is certainly more likely to be perceived as part of one’s social network. If this is the case, social support literature suggests greater health improvements for the participants writing for a relationally close other.

Thus, the goal of this study is to investigate how the perceived nature of the relationship between writer and reader may impact expressive writing outcomes. Addressing this question benefits expressive writing literature in both theoretical and practical ways. Theoretically, this could possibly further the understanding of mechanisms underlying expressive writing health benefits by testing the theory of social integration. Practically, researchers and clinicians can begin to approach the expressive writing paradigm as a function of interpersonal communication and social integration rather than as an intrapersonal mechanism.

**Expressive Writing Paradigm**

Emotional disclosure about important life events is considered vital for mental and physical health (Alexander, 1950; Esterling, Antoni, Kumar & Schneiderman, 1990; Jourard, 1971; Mumford, Schlesinger, & Glass, 1983; Murray, Lamm, & Carver, 1989;
Research consistently shows that the inhibition of emotion results in detrimental health consequences (Breuer & Freud, 1895/1966; Florin, Freudenberg, & Hollander, 1985; Grinker & Spiegel, 1945; Goldstein, Edelberg, Meier, & Davis, 1988; Jamner, Schwartz, & Leigh, 1988; Jensen, 1987; Larson, 1990; Rachman, 1980; Scheff, 1979). Pennebaker and Beall (1986) were among the first to address which aspects of emotional expression could be responsible for such profound health benefits. They pointed to interpersonal, cognitive, and cathartic aspects of emotional expression as potential explanations.

Interpersonally, according to Pennebaker and Beall (1986), emotional expression involves social feedback such as social comparison (e.g., Wortman & Dunkel-Schetter, 1979) and coping information (e.g., Lazarus, 1966). Cognitively, emotional expression results in organization (Meichenbaum, 1977), assimilation (Horowitz, 1976), and understanding of the information surrounding an important life event (Silver & Wortman, 1980). Cathartically, emotional expression allows suppressed memories to be recalled cognitively and affectively thus allowing the individual to deal with emotions linked to specific cognitions (Breuer & Freud, 1895/1966).

In their efforts to examine the possible cognitive and cathartic effects of emotional expression independent of social feedback, Pennebaker and Beall (1986) assigned participants to write, rather than talk, about either a traumatic life event or a neutral topic. On four consecutive nights, participants wrote about an assigned trivial topic (control) or one of three assigned conditions. The trauma-fact group wrote only about the facts surrounding their trauma. This condition was designed to reflect a strictly cognitive approach to dealing with a difficult life experience. The trauma-emotion group
wrote only about the emotions surrounding their trauma. This condition was designed to simulate only the “venting” involved in catharsis. The trauma-combo group wrote about both the facts and emotions surrounding their trauma. This group was designed to demonstrate the fundamental link between cognition and affect addressed by the cathartic method. The results of the study revealed that several weeks after writing, only the trauma-combo group experienced a reduction in illness-related physician visits. This experiment demonstrated that emotional expression free from social feedback can result in health benefits so long as participants address the facts and emotions surrounding a stressful event.

Since the publication of this landmark study, researchers have expanded this paradigm by varying procedures and outcome measures (Frattaroli, 2006; Pennebaker & Chung, in press). Participants have varied from young children to the elderly, college students to maximum-security prisoners, and healthy subjects to those with cancer, HIV, and other diseases. Procedures have varied the number of writing days (1-5), length of writing time (10-30 minutes), and time to follow-up (immediately, days, or several months after writing). Outcome measures have included physiological measures (immune parameters, liver function, dopamine, and HIV viral load), psychological measures (distress, depression, subjective well-being, anger, and anxiety), and social measures (forgiveness, stereotyping, creativity, life satisfaction, and school performance). Several meta-analyses are consistent with the conclusion that, despite the vast differences in research protocol, expressive writing produces reliable and sizeable psychological, physical, and social benefits (Frattaroli, 2006; Frisina, Borod & Lepore, 2004; Harris, 2006; Smyth, 1998).
Socially Shared Expressive Writing

Researchers have spent 25 years attempting to determine the boundaries of the expressive writing paradigm. In addition to varying protocols and outcome measures, researchers have begun to investigate the potential impact of socially shared expressive writing (Kunkel, 2001; Mosher & Danoff-Burg, 2006; Radcliffe, Lumley, Kendall, Stevenson, & Beltran 2010; Raval, 2000). As previously mentioned, the expressive writing paradigm was originally designed to eliminate the effects of social feedback. Thus, expressive writing has been treated as a private, anonymous, and intrapersonal experience. However, according to the largest meta-analysis to date (Frattaroli, 2006), the vast majority of expressive writing studies informed participants that their writing would be read by the research team. In fact, of the 146 published and unpublished studies reviewed in her meta-analysis, Frattaroli found that 92% required participants to submit their writing to researchers with the understanding that their writing would be read. For this reason, one might argue that the expressive writing paradigm is anything but a private, anonymous, and intrapersonal experience. It is possible that, despite the absence of feedback, knowing that one’s writing will be read by a researcher may contribute to enhanced outcomes.

In their investigation of shared versus private disclosure, Radcliffe et al. (2010) sought to determine whether and how sharing one’s disclosure writing with a researcher affects outcomes. The authors also addressed the question of whether a traditional writing control group, assigned to write about a superficial topic, would differ from a no-writing control group. Their study featured four conditions: shared disclosure, private disclosure, placebo writing control, no-writing control. The shared disclosure and private disclosure
groups received identical rationale and writing instructions. The only difference was the message communicated about whether or not participants’ writing would be viewed by the researchers. The rationale for the placebo writing control was stated similarly to that of the two disclosure groups. Participants were asked to write about time management, a topic regularly used for control groups in expressive writing experiments. They were asked to not write about their feelings, but to simply write facts about what happened in their day or week. The no-writing control group was not informed about any writing options. They were simply assessed at baseline and follow-up. Outcome measures included: cognitive intrusions and avoidance, depression, interpersonal sensitivity, and physical symptoms. Cognitive intrusions and avoidance were measured as an indicator of the “cognitive manifestations of unresolved stress” (Radcliffe et al., 2010, p. 3). Intrusions are undesirable thoughts about a traumatic event. Avoidance is any conscious attempt to avoid thinking about the event. Depression, interpersonal sensitivity, and physical symptoms were measured as indicators of the psychological and physical impact of stress related to a traumatic event.

The researchers anticipated the experimental groups would differ on all measures. These predictions were partially supported. Both shared and private disclosure groups benefited over the control groups, but the shared disclosure group experienced more numerous and stronger benefits. Whereas both experimental groups experienced less cognitive intrusion and avoidance, only the shared disclosure group experienced reduced depression, interpersonal sensitivity, and physical symptoms. Furthermore, by comparing the traditional placebo writing group and the no-writing group, it was demonstrated that placebo writing has neither adverse nor positive effects.
Based on the results of the Radcliffe et al. (2010) experiment, it can be concluded that both private and shared written disclosure are cognitively beneficial. However, psychological and physical health outcomes are positively affected only when participants are told that their writing will be read by a researcher. This reinforces the possibility that processes such as self-regulation and social integration may also be involved. Taken as a whole, these findings suggest that multiple mechanisms underlie the outcomes of expressive writing. To underscore the theoretical importance of these findings, a review of experimental disclosure theories (Frattaroli, 2006; Lepore & Smyth, 2002; Slatcher & Pennebaker, 2004; Sloan & Marx, 2004b) is presented.

**Theories of Experimental Disclosure**

Researchers have posited many theories to explain the relationship between written emotional disclosure and positive health outcomes. King (2002) pointed to the fact that expressive writing clearly has benefits, but “no one really knows why” (p. 119). Given the recent findings of Radcliffe et al. (2010), it is conceivable that expressive writing participants are affected by more than one of the processes outlined by the following theories.

**Inhibition Theory.** Initially researchers believed catharsis was responsible for the salutary effects of expressive writing. It was believed that participants who expressed previously inhibited thoughts and feelings would be more physically and psychologically healthy than individuals who did not. However, this theory has received criticism due to contradictory evidence (e.g., Francis & Pennebaker, 1992; Greenberg & Stone, 1992). Furthermore, in her meta-analysis, Frattaroli (2006) found very little support for this theory.
Self-Regulation Theory. Self-regulation theorists (King, 2002; Lepore, Greenberg, Bruno, & Smyth, 2002) suggest that traumatic events disrupt the process of self-regulation. Thus, expressive writing allows participants to make sense of a traumatic event through the exploration of emotions and clarification of goals. This theory suggests that through the expressive writing process, participants observe themselves expressing and controlling their own emotions. Through this mastery experience, individuals strengthen the sense of self-efficacy for emotional regulation. Emotional challenges may then seem more controllable resulting in improved mood and overall well-being.

Exposure Theory. Also referred to as flooding therapy, exposure is used in the treatment of phobias and posttraumatic stress disorder. Repeated exposure to a bothersome event requires an individual to repeatedly experience the thoughts and feelings related to that event. According to exposure theory, this eventually results in the eradication of these thoughts and feelings (Bootzin, 1997). Regarding expressive writing, exposure is achieved through the daily writing activity which forces participants to experience their thoughts and feelings related to a traumatic event.

Cognitive-Processing Theory. Cognitive-processing theorists (Pennebaker, 1993; Pennebaker, Colder, & Sharp, 1990; Pennebaker & Graybeal, 2001) suggest that the experience of intrusive thoughts and attempts to avoid these thoughts result from the mental effort involved in assimilating information from a stressful event. To the extent that an individual cognitively integrates information about a stressful event into his/her existing self-schema, s/he will experience a reduction of intrusive thoughts and attempts at avoiding such thoughts about the event. Based on the findings of Radcliffe et al. (2010) it appears that cognitive changes, as evidenced by universal reductions in cognitive
intrusion and avoidance, result from expressive writing regardless of the presence or absence of a perceived reader.

**Social Integration Theory.** According to Durkheim (1987/1951), talking about emotional experiences can help people become more socially integrated with their social networks. Social integration theorists (Pennebaker & Graybeal, 2001) suggest that expressive writing benefits are related to a participant’s interactions with his/her social world. This theory supposes that when participants spend time writing about a traumatic event they tend to discuss the event with members of their social network. Thus, psychological and physical improvements can be explained by increases in social interaction about the traumatic incident.

To date, this theory has treated social integration as if it begins when participants are finished writing and, in turn, begin talking to members of their social networks. In other words, social integration theory is typically applied after the participant has completed his/her journal entry. The assumption is that a participant will communicate details about the traumatic event to members of his/her social network after the expressive writing activity. However, what is being overlooked is the potential communicative nature of the expressive writing exercise itself. If a participant believes his/her writing will be read by the researcher, then the exercise has become a *communicative event*. A communicative event is inherently a *social* event. Thus social integration theory is applicable the moment the participant begins to compose a journal entry that s/he believes will be read by the researcher. The findings of Radcliffe et al. (2010) would suggest that a *communicative* expressive writing exercise is more psychologically and physically beneficial than a *non-communicative* expressive writing
exercise. To better understand the increased benefits of social expressive writing as compared to private writing, it is useful to consult the social support.

**Social Support**

**Health benefits.** Since the 1970s researchers have reported favorable relationships between social support and a variety of health outcomes (Cassell, 1976; Cobb, 1976; House, Landis, & Umberson, 1988; Strine, Chapman, Balluz, & Makdad, 2008; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Generally speaking, social support is associated with reduced risk of mental and physical illness and mortality (Achat, Kawachi, Levine, Berkey, Coakley, & Colditz, 1998; Berkman, 1995; Blazer, 1982; Bloom 1990; Broadhead, Kaplan, James, Wagner, Schoenbach, Grimson, et al., 1983; Callaghan & Morrissey, 1993; Cohen, 1988; Hale, Hannum, & Espelage, 2005; Lin, Simeone, Ensel, & Kuo, 1979; Lyyra & Heikkinen, 2006; Schwarzer & Leppin, 1991; Seeman, 2000; Turner & Marino, 1994). It has been related to improved cardiovascular, endocrine, and immune function (Seeman, 1996; Uchino, 2006) and appears to reduce stress and the slow the progression of illness (Jackson, 2006; Muhlenkamp & Sayles, 1986). This evidence has led many researchers to conclude that social support is critical to one’s health.

**Definition.** According to Cohen (1988) the scientific community has failed to precisely define social support. For instance, Cobb (1976) defined social support as “information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations” (p. 300). Social support has been more broadly defined as “resources and assistance exchanged through social relationships and interpersonal interactions” (Strine et al., 2008, p. 151) or as “a social fund from which
people draw when dealing with stressful or traumatic experiences” (Thoits, 1995, p. 64).

The lack of consensus in defining social support is likely due to the complexity of this concept.

One critical distinction in defining social support involves parsing out the structural facets of social networks (size, type, and frequency of contact) and the functional support provided by these networks (Cohen & Syme, 1985; Cohen & Wills, 1985; Seeman & Berkman, 1988). Functional support takes many forms: emotional (e.g., love, sympathy, understanding, care and concern), instrumental (e.g., help accomplishing tasks), financial (e.g. economic support), informational (e.g. providing necessary information, giving advice), and appraisal (e.g., help evaluating a situation, social comparison) (Barth, Schneider, & von Kanel, 2010; Cohen, 1988; Thoits, 1995).

Furthermore, functional support can be categorized as either received (actual support received from the network) or perceived (the belief that this support is available) (House, 1981; House & Kahn, 1985).

**Perceived Emotional Support.** When these distinctions are made, research suggests that perceived emotional support has some particularly beneficial effects. The *perception* that emotional support is available, rather than the actual *receipt* of support, has yielded more mental health benefits (Dunkel-Shetter & Bennett, 1990, Wethington & Kessler, 1986). Furthermore, when social support is considered multi-dimensionally, emotional support is a more consistent predictor of neuroendocrine function than informational support (Seeman, Berkman, Blazer, & Rowe, 1994). These findings suggest that, regardless of *received* social support, when an individual *perceives* that s/he is emotionally supported, profound health benefits will emerge.
Research Propositions

In the Radcliffe et al. (2010) study, some expressive writing participants were told that their writing would be read. These participants may have believed they were more emotionally supported than did those whose reading was kept private. Participants who believed their writing would be read by a researcher may have experienced social integration at the moment they perceived the presence of another person (the reader). From a social support perspective, this perceived emotional support should result in psychological and physical health benefits. Based on the salience of perceived support from one’s social network, one might expect participants who write for a relationally close other (i.e., close friend or romantic partner) to experience stronger and more numerous health outcomes than participants who submit writing to a non-relational other (e.g., a researcher). Submission of one’s writing to a researcher (i.e., a stranger) might result in a small degree of perceived emotional support as compared to the private disclosure group. However, if the reader is a relationally close other (e.g., a friend, family member, or romantic partner) a higher degree of perceived emotional support should be expected. If this is the case, social support literature would suggest even more robust health improvements for the participants writing for a relationally close reader. Thus, the goal of this study is to investigate how relationship differences between writer and reader may impact expressive writing outcomes.

Radcliffe et al. (2010) found that depression, interpersonal sensitivity, and physical symptoms improved when expressive writing participants were told that their writing would be read by a researcher. This may be due to the participants’ increased
perception of emotional support which, according to the social support literature, should result in improved health outcomes. Therefore, the following hypothesis is presented:

H1a: The reduction in depression, interpersonal sensitivity, and physical symptoms scores from baseline (T1) to follow-up (T2) will be greater for participants writing for a relational reader (i.e., a friend, family member, or significant other) than for participants writing for a non-relational reader (i.e., a researcher).

H1b: The reduction in depression, interpersonal sensitivity, and physical symptoms scores from T1 to T2 will be greater for participants writing for a non-relational (i.e., a researcher) than for participants in the control condition.

Based on the findings of Radcliffe et al. (2010) it should be expected that reports of cognitive intrusion and avoidance will not differ between experimental groups. However, these groups will report lower intrusion and avoidance than the control group. Thus, the following hypothesis is presented:

H2: The reduction in cognitive intrusion and avoidance scores from T1 to T2 will be greatest for participants writing for either a relational or non-relational reader than for participants in the control condition.
CHAPTER 2. METHOD

A replication and extension of “Written Emotional Disclosure: Testing Whether Social Disclosure Matters (Radcliffe et al., 2010) was conducted. All study methods (experimental conditions, outcome measures, participant instructions and rationale) were identical to those used in the previous study. The single deviation from the previous study’s methods was the manipulation designed to test perceived relational differences with one’s reader. This was achieved by instructing participants to think of a relationally close other who might be asked to read what they had written. Participants were randomly assigned to one of three conditions: relational reader, non-relational reader, or placebo writing control. Baseline and follow-up questionnaires assessed psychological and physical health outcomes: cognitive intrusion and avoidance, depression, interpersonal sensitivity, and physical symptoms.

Participants

Eighty-three participants were recruited from undergraduate classes at the University of Hawaii at Manoa (female = 48, male = 35). The average age of the participants was 21.06 years (SD = 2.95), and ages ranged from 18 to 37. The race-ethnic makeup of the participants was predominantly Asian (42.17%), followed by European American (19.28%), Pacific Islander (8.43%), African American (8.43%), and Latino/Latina (4.82%). Approximately 16.86% of the participants indicated they were multiracial or of some other race-ethnicity. One participant declined to answer demographic questions.
Procedures

Participants completed consent forms via internet survey. Typical consent form language was used regarding confidentiality, debriefing, and access to university services for counseling and human subjects. Furthermore, the following information was provided regarding the details of study and expected time for completion of this three-part study: “We are interested in the stress-reducing benefits of writing. You will be asked to complete a series of questionnaires, write about an assigned topic for 20 minutes for four days (Part II). One month from today you will be asked to complete a follow-up questionnaire (Part III). The total time required to complete this three-part study should be less than 2 hours.” Additionally, because many instructors offer either extra-credit or research credit for participation in University-funded research, the following disclaimer was provided regarding such incentives for participation: “You will receive extra-credit or research credit in your class in exchange for your participation if your instructor has previously agreed to provide such credit. If you would receive research or extra-credit in exchange for your participation, you can get an equivalent amount of credit by doing an alternative research project should you choose not to participate in this study, or if you withdraw before completion of today’s session.”

After consenting to participate in the study, participants completed three baseline surveys. They were then scheduled to attend four consecutive, 20-minute journal sessions. These sessions were held in one of two conference rooms bi-hourly Monday through Thursday during two weeks of data collection. At the beginning of the first journal session, participants received writing instructions for one of three assigned writing conditions: relational reader, non-relational reader, or placebo writing control.
Adequate time was given for participants to read the rationale and writing instructions. They were then asked to write about a previously identified traumatic or bothersome life event for 20 minutes each day. At the conclusion of the final day, participants were informed that they would be contacted in one month to complete a follow-up survey. During this one-month follow-up, all eighty-three participants completed follow-up questionnaires via internet survey.

**Experimental conditions.** The following rationale for the disclosure exercise was given to the *relational reader* and *non-relational reader* groups: “The goal of this project is to see whether writing for 4 days about a stressful event in your life will reduce stress and therefore improve your health and functioning. If you are like most people, you have had some stressful experiences or events during your life. Research has found that when people write about stress, they feel less stressed.” Participants were instructed to write about the stressful experience they identified when completing the Impact of Events Scale (see below).

The following specific writing instructions were given to participants in both experimental groups: “As you write over the 4 days, your task is to do the following: a) try to make your memories of the stressful experience as vivid as possible. Include mental images, emotions, and sensations in your body; b) try to describe both the facts about the experience as well as your deepest feelings about it; c) try to write as much as you are able, even if there is some part of the experience that you are reluctant to write about. Over the 4 days of writing, you should try to work on and resolve the stressful experience and try to understand its meaning. This might include trying to answer questions about why the experience occurred, how it has affected your beliefs, your
relationships, or your actions. You might also try to determine ways that you might cope with the experience now.”

The only difference in instructions for the relational reader and non-relational reader groups was relative to the reader with whom they would share their writing. The relational reader group was asked at the beginning of the study to think of a relationally close individual with whom they would typically discuss problems or other bothersome events. They were asked to write the initials of this individual’s first and last name at the top of their writing material each day and were instructed to write as if this individual would read everything they wrote. The non-relational reader group was informed at the beginning of the study that their writing would be read by a researcher. Participants were instructed to write as if the researcher would read everything they wrote.

**Placebo writing control condition.** The rationale for this group was provided as follows: “The goal of this project is to see whether writing for 4 days about your time management will reduce stress and therefore improve your health and functioning. If you are like most people, how you spend your time can be a source of stress. Research has found that when people plan their time or organize their activities better, they feel less stressed.” Participants were asked to focus on what they did with their time during the last week (Writing Day 1), what they did with their time in the past 24 hours (Writing Day 2), and what they planned to do with their time over the next 24 hours (Writing Day 3). Participants were instructed as follows: “As you write, you should try to focus on your actual behaviors or planned actions. Try not to write about your feelings about what happened or what is going to happen, and try to avoid giving your opinions. Write only
about the facts. Do not write about your feelings or opinions.” Participants submitted their writing to the research team.

Measures

**Cognitive intrusion and avoidance.** The 15-item Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979) was used to assess cognitive intrusions and avoidance related to a specific stressor. Items were rated from 0 to 3 for the frequency of occurrence during the month following expressive writing. The IES is designed to be completed with respect to a specific stressor. At baseline and follow-up, participants were instructed to identify one particularly stressful or bothersome experience and to complete the IES with this stressor in mind. Cronbach’s alpha was .86 (n = 83). Baseline and follow-up scores were used to create delta scores for overall Impact of Events. Additionally, delta scores were calculated for subscale items: cognitive intrusions and cognitive avoidance. All delta scores were calculated using change from baseline (T1) to follow-up (T2). T2 was subtracted from T1 such that a positive delta score indicated an improvement in the participant’s cognitive functioning.

**Interpersonal Sensitivity and Depression.** Subscales of the Brief Symptom Inventory (BSI) (Derogatis, 1993) was used to measure psychological outcomes. The BSI is a 53-item self-report symptom inventory designed to measure psychological symptom patterns. Each item of the BSI is rated on a 5-point scale of distress ranging from “not at all” (0) to “extremely” (4). The BSI is comprised of nine primary symptom dimensions and three global indices of distress. For the purposes of this study, the 6-item depression subscale was used to assess participants’ emotional functioning and the 4-item interpersonal sensitivity subscale was used to assess participants’ interpersonal
functioning. The BSI has been used with a variety of culturally diverse populations. It has shown high levels of both internal reliability and validity. Cronbach’s alpha for the present study was .97 (n = 83). Delta scores were calculated for overall psychological functioning using total BSI score change from baseline to follow-up. Additionally, delta scores were calculated for subscale items: interpersonal sensitivity and depression. All delta scores were calculated using change from baseline (T1) to follow-up (T2). T2 was subtracted from T1 such that a positive delta score indicated an improvement in the participant’s psychological health.

**Physical Symptoms.** The Short Form-36 (SF-36) General Health Survey (Ware, 1993) will be used to assess participants’ physical health. The SF-36 was constructed to measure eight health attributes using eight multi-item scales containing 2 to 10 items each. The scales are Physical Functioning, Role-Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role-Emotional, Mental Health, and Reported Health Transition. These scales are scored using Likert’s method of summated ratings. The SF-36 items and scales are scored so that a higher score indicates a better physical state. The Physical Functioning Scale is considered to have the best validity of the physical health scales (Ware, 1993) and was used as the singular measure of physical health in this study. Cronbach’s alpha was .93 (n = 83). Delta scores were calculated using change from baseline (T1) to follow-up (T2) for the sum of all 36 items. T2 was subtracted from T1 such that a positive delta score indicated an improvement in the participant’s physical health.
CHAPTER 3. RESULTS

Preliminary tests. The data were examined to determine whether the results of the present experiment were consistent with previously conducted expressive writing experiments. A series of one-way analyses of variance with a priori contrast weights was used to test for replication of prior results. Means for the dependent variables of physical health, depression, and interpersonal sensitivity scores were collapsed across the relational and non-relational conditions and compared to the mean of the placebo conditions (using contrast weights of .5, .5, -1 respectively). This specific contrast revealed a successful replication of the main effect for expressive writing on psychological outcomes, \( t(80) = 3.46, p < .01, r^2 = .13 \). The contrast test for the impact of events scale was consistent with prior studies but fell just shy of significance, \( t(80) = 1.91, p = .06, r^2 = .04 \). Finally, the physical health scores revealed a non-significant finding, \( t(80) = .51, ns \). Thus, replication of prior results was partially achieved.

Hypothesis one. Part A of the first hypothesis proposed that writing for a relational reader would produce greater mean differences for physical health, depression, and interpersonal sensitivity scores from baseline to follow-up than writing for a non-relational reader. This hypothesis was tested with three a priori contrast tests comparing the relational group mean difference scores (coded -1) with the non-relational mean difference scores (coded 1 with the placebo group coded 0). Results showed no significant difference between depression delta scores for the relational condition \( (M = .16, SD = .64, n = 29) \) and the non-relational condition \( (M = .25, SD = .33, n = 28), t(42.44) = -.70, ns \). Additionally, no significant difference was found between interpersonal sensitivity delta scores for the relational condition \( (M = .11, SD = .60, n = \)
29) and the non-relational condition ($M = .16, SD = .48, n = 28$), $t(80) = -.38, ns$. Finally, no significant difference was found between physical health delta scores for the relational condition ($M = .51, SD = .33, n = 29$) and the non-relational condition ($M = -.01, SD = .23, n = 28$), $t(80) = -.85, ns$. Thus Hypothesis 1a was not supported.

Part B of the first hypothesis predicted that writing for a non-relational reader would produce greater mean differences for the dependent variables than placebo writing. This hypothesis was tested with three a priori contrast tests comparing the non-relational group mean difference scores (coded -1) with the placebo group mean difference scores (coded 1 with the relational group coded 0). Results showed a significant difference between depression delta scores for the non-relational condition ($M = .25, SD = .33, n = 28$) and the placebo condition ($M = -.14, SD = .30, n = 26$), $t(51.83) = 4.60^1, p < .05$. No significant difference was found between interpersonal sensitivity delta scores for the non-relational condition ($M = .16, SD = .48, n = 28$) and the placebo condition ($M = -.02, SD = .33, n = 26$), $t(80) = 1.35, ns$. Finally, no significant difference was found between physical health delta scores for the non-relational condition ($M = -.01, SD = .23, n = 28$) and the placebo condition ($M = -.02, SD = .28, n = 26$), $t(80) = .03, ns$. Thus Hypothesis 1b received only partial support.

**Post hoc tests.** Post hoc Scheffe tests were also examined for differences in delta scores across conditions not directly addressed by the hypothesis. The tests for depression showed that the relational group delta ($M = .16, SD = .64, n = 29$) relative to the placebo condition ($M = -.14, SD = .30, n = 26$) approached significance, $p = .06$. Tests for interpersonal sensitivity revealed non-significant results between the relational group delta ($M = .11, SD = .60, n = 29$) and the placebo group ($M = -.02, SD = .33, n = 26$), $ns$. 
Finally, tests for physical health revealed non-significant results between the relational group delta (\(M = .51, SD = .33, n = 29\)) and the placebo group (\(M = -.02, SD = .28, n = 26\)), \(ns\). Thus it would appear that the relational reader manipulation provided very little evidence of having worked better than the placebo condition.

**Hypothesis two.** The second hypothesis proposed that both relational and non-relational groups would experience greater mean changes in cognitive intrusion and avoidance scores from baseline to follow-up as compared to the placebo group. This hypothesis was tested with an a priori set of contrast weights (1, 1, -2) for cognitive intrusions and avoidance scores among participants in the relational, non-relational, and placebo conditions respectively. Results of this specific contrast were not consistent with the prediction, however differences are approaching significance for both cognitive intrusions, \(F(2, 80) = 1.83, p = .08\), and cognitive avoidance, \(F(2, 80) = 1.47, p = .11\).

\[1\] Depression delta standard deviations failed the test for homogeneity of variance consequently the reported \(t\) value does not assume equal variance.
CHAPTER 4. DISCUSSION

The psychological and physical health benefits of expressive writing are well-documented. When an individual spends several days writing his or her thoughts and feelings about a traumatic life event, psychological and physical benefits ensue. However, research continues to question the underlying mechanisms responsible for such positive outcomes. Recent research suggests that the benefits of expressive writing are positively impacted when participants know that their writing will be read by another person. It is unclear how this communicative aspect of expressive writing affects participants. If expressive writing for a non-relational (i.e., stranger) reader elicits the perception of emotional support, then expressive writing for a relationally close other might lead to an even greater sense of emotional support.

Social integration suggests that the interaction with one’s social network is responsible for health outcomes. However, this theory supposes that social integration occurs after the expressive writing exercise. The current research suggests that by inducing the perception of a social relationship with one’s reader, participants may experience greater benefits than those who write for a non-relational reader.

An experiment was conducted to test the boundaries of the social integration theory of expressive writing. The goal was to determine if perceived relational differences between expressive writing participants and their perceived readers would affect expressive writing outcomes. Results of this manipulation were partially consistent with previous research. Participants in the expressive writing conditions experienced a greater change in psychological outcomes as compared to the placebo group. Furthermore, the expressive writing groups reported greater changes in cognitive
intrusions and avoidance as compared to placebo. The cognitive improvements approached but fell shy of significance. The study was not able to replicate the physical health improvements observed in other expressive writing studies. Hypothesis 1 predicted that participants writing for a relationally close other would experience greater psychological and physical health benefits than those writing for a non-relationally close other. Furthermore, the first hypothesis predicted that the participants writing for a non-relationally close other would outperform participants in the placebo writing group. Although results were trending in the predicted direction they failed to achieve significance or support the hypothesis.

Despite methodological limitations (discussed below), the present study successfully replicated results of prior research. Participants experienced improvements in psychological and cognitive functioning when they wrote about the facts and emotions surrounding a traumatic or stressful life event. Anecdotally, many participants expressed the benefits of participating in this study. Several participants in the experimental conditions made comments to the researcher regarding how much better they felt after spending several days organizing their thoughts on paper. One participant said, “I cannot believe how much this was bothering me. Participating in this study first thing in the morning has made me feel less stressed throughout the day. Thank you for letting me do this!” Another participant said, “The stress (about the traumatic event) was overwhelming. I am so grateful that I signed up for this study. I feel like I have resolved everything in my own head. I feel so much better now.”

In addition to comments about the usefulness of the expressive writing process, many participants made comments about the “reader”. Several participants asked if their
friend/family member (relational condition) or the researcher (non-relational condition) would actually be reading their journals. Some participants indicated that they would prefer to change their topic (i.e. they were uncomfortable writing about the previously identified event if someone would, in fact, be reading their journal.) Others, however, were happy to know that someone would be reading what they had written. In some cases, participants actually directed their writing at the relational other for whom they were assigned to write. In these cases, phrases such as: “I told you something like this would happen” or “I cannot believe you didn’t do anything to stop it” were used.

Combined with the empirical evidence, these anecdotes reinforce the importance of investigating the communicative aspect of expressive writing. The health benefits of expressive writing have received decades of attention. However, it appears that many health benefits are related to the communicative aspect of expressive writing. To better understand this phenomenon, researchers must begin to understand what role communication plays in this process.

Limitations. The present study was underpowered relative to other studies in this line of research. Methodological limitations which may have contributed to this issue include the recruitment and selection of participants. Recruitment for a study of this nature is inherently difficult. Participants are asked to contribute several hours of time and energy completing surveys and attending journaling appointments. Some expressive writing studies report compensating subjects monetarily. (e.g., Rentfrow & Keough, 1999). Offering monetary compensation as a recruitment strategy for the present study may have increased the likelihood of participation, thus resulting in a larger and more diverse sample.
In addition to recruitment, participant selection may have affected power. Some previous studies have sought participants who report moderate to severe cognitive intrusions and avoidance with regard to traumatic events. For example, Radcliffe et al. (2010) prescreened 2,000 participants to identify individuals who reported experiencing a stressful event that continued to bother them at least “moderately”. This procedure is beneficial in that participants are more bothered by the stressful events that have taken place, thus allowing for greater opportunity for cognitive improvements. However, to be conducted successfully, this procedure requires a very large number of participants. Of the 2,000 prescreened participants, only 253 qualified to participate and 165 agreed to participate. The present study relied on a student population not selected a priori for moderate to severe cognitive intrusions and avoidance. Rather, most participants reported relatively low cognitive intrusions and avoidance at baseline.

In addition to being underpowered, restriction in variance may have contributed to the failure to reject the null hypotheses. Participants reported extremely low psychological and physical health symptoms at baseline compared to previous studies of expressive writing. For example, participants in Radcliff et al. (2010) reported more severe baseline depression scores ($M = 1.34, SD = 1.22$) than the present study ($M = .51, SD = .64$). The Radcliffe et al. (2010) participants also reported more severe baseline interpersonal sensitivity scores ($M = 1.52, SD = .89$) than the present study ($M = .56, SD = .69$). As a result, this relatively healthy study population had very little room for psychological and physical health improvements resulting from the expressive writing exercise. A sample that was more heterogeneous in initial psychological and physical
health symptoms would have allowed for greater variance in difference scores at follow-up.

Finally, a stronger induction to test these hypotheses may have resulted in greater differences in psychological and physiological scores. The current study design instructed writers in the relational group to imagine a hypothetical reader. These participants were told that a friend may be contacted at the conclusion of the study to read their journals. On the other hand, writers in the non-relational group were told that the researcher may read what they wrote, and these participants actually handed their journals to the researcher. In other words, the relational group participants imagined the possibility that a hypothetical other would read their writing, whereas the non-relational group was faced with an actual and present other who physically collected their journals at the end of each session. This confound in the manipulation likely resulted in a stronger effect for participant responses in the non-relational group who interacted with actual potential reader relative to the relational group who imagined a hypothetical potential reader. To eliminate this confound, participants in the relational group should have been instructed to bring a friend to the writing sessions who would collect and read the journal entries. Although this would eliminate any confound related to the actual versus hypothetical nature of the reader, it would be a difficult study to conduct. Recruitment and human subject’s board approval would have been difficult obstacles to overcome. An alternative test of the social integration theory is discussed in the following section.

**Future Directions.** As a test of the social integration theory, a study could be conducted wherein all participants’ journals would all be read by the researcher. However, half of the participants would be promised therapeutic feedback and half would
not. Social feedback would be provided in the form of a therapeutic session with a counselor at the conclusion of the fourth journaling session. In addition to measuring psychological and physical health outcomes, a content analysis of the journals could be conducted to determine if participants construct messages differently when they are aware that they will receive social feedback about their traumatic or stressful life events.

**Conclusion.** Expressive writing about a traumatic or stressful life event clearly provides psychological and physical health benefits. The findings presented by Radcliffe et al. (2010) support the argument that this exercise is most beneficial when the writer knows his or her journal will be read by another person. Writing thoughts and feelings about an event with the knowledge that one’s writing will be read by another person makes expressive writing a communicative and social event. Understanding this communicative nature of expressive writing may shed light on the underlying mechanisms responsible for its salubrious health benefits. The argument can be made that social integration is elicited the moment when expressive writing begins. If this is the case, future research should continue to explore the communicative and social nature of expressive writing.
### Study Information

#### Study Name
Journal Study Part I

**Abstract**
This study occurs in three parts and is worth THREE (3) credits. Please do not sign up unless you are able to complete all three parts.

**Description**
The Journal Study consists of THREE parts. Upon completion of this three-part study, you will be awarded THREE (3) credits. Partial completion will not qualify for credits. You must finish the entire three-part study to receive credit.

Part I consists of a short online questionnaire. Upon completion, you will be awarded 0.25 credits. These credits are contingent upon your participation in Journal Study Parts II & III. Should you choose not to participate in Parts II and/or III, the credits will be removed.

Part II consists of four consecutive 20 minute appointments during which you will be asked to write a journal about an assigned topic.

Part III consists of a short follow-up questionnaire to be completed one month after your last day of journaling.

At the conclusion of Part III you will be awarded a total of THREE (3) credits.

**Web Study**
This study is an on-line survey. To participate, sign up and you will start the survey immediately after you sign up.

**Duration**
15 minutes

**Credits**
0.25 Credits

**Researcher**
Amy Wisner
Email: amy6@hawaii.edu
APPENDIX B

INFORMED CONSENT

We are interested in the stress-reducing benefits of writing. You will be asked to complete a series of questionnaires, write about an assigned topic for 20 minutes for four days (Part II). One month from today you will be asked to complete a follow-up questionnaire (Part III). The total time required to complete this three-part study should be less than 2 hours.

Participation in this study is voluntary, and you may withdraw your consent to participate at any time without penalty, or loss of benefit to which you would otherwise be entitled.

Confidentiality cannot be ensured in this study. Whereas your answers on the questionnaires will not be associated with your name, your writing may be read by another individual. With that exception, your privacy will be protected to the maximum extent allowable by law.

Although this study is not expected to yield any immediate benefit to the individual participants, it will add to our knowledge of human communication. There are no anticipated physical or financial risks associated with participation. However, short-term psychological consequences such as temporary stress or anxiety are possible. If you are uncomfortable being in the experiment at any time, please notify the researcher so that the procedure can be discontinued. The experiment will be ended immediately upon request. Referrals to University Counseling Services are available upon request.

You will receive extra-credit or research credit in your class in exchange for your participation if your instructor has previously agreed to provide such credit. If you would receive research or extra-credit in exchange for your participation, you can get an equivalent amount of credit by doing an alternative research project should you choose not to participate in this study, or if you withdraw before completion of today’s session.

A complete debriefing will follow the study. Information about this research can be obtained from Amy Wisner via email: amy6@hawaii.edu. She will answer any questions you have about this research.

If you have any questions or concerns regarding your rights as a study participant, please contact the UH Committee on Human Studies (808) 956-5007, or uhirb@hawaii.edu.

I have read and understand the above information and agree to participate in this study:

___ Yes, I agree to participate in this three-part study
___ No, I do not want to participate.
APPENDIX C

DEMOGRAPHIC QUESTIONNAIRE

Which of the following BEST describes your ethnic or racial background? Please select only one answer.
___Caucasian
___Japanese
___Filipino
___Hawaiian (or part Hawaiian)
___Chinese
___Korean
___African American
___Samoan (without Hawaiian)
___Hispanic
___Other

Please enter your age in years ___

What is your sex?
___ Female
___ Male

What is your native language?
___ English
___ Other
APPENDIX D

BRIEF SYMPTOM INVENTORY

Below is a list of problems and complaints that people sometimes have. Please circle the response that best describes how much discomfort each problem has caused you during the past 7 days INCLUDING TODAY. Please do not skip any items.

0 = Not at all  1 = A little bit  2 = Moderately  3 = Quite a bit  4 = Extremely

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<th>1</th>
<th>2</th>
<th>3</th>
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<tr>
<td>1.</td>
<td>Nervousness or shakiness inside</td>
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<td>2.</td>
<td>Faintness or dizziness</td>
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<td>3.</td>
<td>The idea that someone else can control your thoughts</td>
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<td>4.</td>
<td>Feeling others are to blame for most of your troubles</td>
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<td>5.</td>
<td>Trouble remembering things</td>
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<td>6.</td>
<td>Feeling easily annoyed or irritated</td>
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<td>7.</td>
<td>Pains in your heart or chest</td>
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<td>8.</td>
<td>Feeling afraid in open spaces</td>
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<td>9.</td>
<td>Thoughts of ending your life</td>
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<td>10.</td>
<td>Feeling that most people cannot be trusted</td>
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<td>11.</td>
<td>Poor appetite</td>
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<td>12.</td>
<td>Suddenly scared for no reason</td>
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<td>13.</td>
<td>Temper outbursts that you could not control</td>
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<td>14.</td>
<td>Feeling lonely even when you are with other people</td>
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<td>15.</td>
<td>Feeling blocked in getting things done</td>
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<td>16.</td>
<td>Feeling lonely</td>
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<tr>
<td>17.</td>
<td>Feeling blue</td>
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<tr>
<td>18.</td>
<td>Feeling no interest in things</td>
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<td>19.</td>
<td>Feeling fearful</td>
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<td>20.</td>
<td>Your feelings being easily hurt</td>
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<td>21.</td>
<td>Feeling that people are unfriendly or dislike you</td>
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<td>22.</td>
<td>Feeling inferior to others</td>
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<td>23.</td>
<td>Nausea or upset stomach</td>
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<td>24.</td>
<td>Feeling that you are watched or talked about by others</td>
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<td>25.</td>
<td>Trouble falling asleep</td>
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<td>26.</td>
<td>Having to check and double check what you do</td>
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<td>27.</td>
<td>Difficulty making decisions</td>
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</table>
28. Feeling afraid to travel on buses, subways, or trains
29. Trouble getting your breath
30. Hot or cold spells
31. Having to avoid certain things, places, or activities because they frighten you
32. Your mind going blank
33. Numbness or tingling in parts of your body
34. The idea that you should be punished for your sins
35. Feeling hopeless about the future
36. Trouble concentrating
37. Feeling weak in parts of your body
38. Feeling tense or keyed up
39. Thoughts of death or dying
40. Having urges to beat, injure, or harm someone
41. Having urges to break or smash things
42. Feeling very self-conscious with others
43. Feeling uneasy in crowds
44. Never feeling close to another person
45. Spells of terror or panic
46. Getting into frequent arguments
47. Feeling nervous when you are left alone
48. Others not giving you proper credit for your achievements
49. Feeling so restless that you couldn't sit still
50. Feelings of worthlessness
51. Feeling that people will take advantage of you if you let them
52. Feelings of guilt
53. The idea that something is wrong with your mind
APPENDIX E

PHYSICAL HEALTH QUESTIONNAIRE

Please indicate how severe each of these symptoms or health problems has been for you over the last two weeks. Enter the appropriate number in the space before the symptom or problem.

0 = Not at all
1 = Mild
2 = Moderate
3 = Severe
4 = Extremely severe

1. Allergies
2. Muscle Strain
3. Cold
4. Flu
5. Fever
6. Cold Sores
7. Sore throat
8. Upset Stomach
9. Dry cough
10. Muscle aches
11. Trouble hearing
12. Productive cough
13. Rash
14. Indigestion
15. Stuffed-up nose
16. Swollen joints, hands or feet
17. Muscle pain or cramps
18. Shin splints
19. Runny Nose
20. General physical weakness
21. Sinus pain
22. Vomiting
23. Irritability
24. Blistering
25. Abdominal pain
26. Dizziness
27. Constipation
28. Nausea
29. Aching joints/bones
30. Skin irritation
31. Sneezing
32. Physical fatigue
33. Hoarseness
34. Diarrhea
35. Headache
36. Lower back pain
APPENDIX F

IMPACT OF EVENTS SCALE

This questionnaire specifically asks about a stressful event that has happened in your life. Please take a moment to think about a stressful, traumatic, or bothersome event that you have personally experienced. Try to think of an event that continues to bother you. This may be something that has happened recently or something that happened a long time ago.

In a few words, please describe the stressful event:

______________________________________________________________________

Approximately when did this stressful event take place?

month__________ year ____________

---------------------------------------------------------------------------------------------------------------------

Please read over the following statements and rate how often during the last month these statements were true for you regarding the stressful event;

(0) not at all, (1) rarely, (2) sometimes, or (3) often.

___ 1.I thought about it when I didn't mean to.
___ 2.I avoided letting myself get upset when I thought about it or was reminded of it.
___ 3.I tried to remove it from my memory.
___ 4.I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came into my mind.
___ 5.I had waves of strong feelings about it.
___ 6.I had dreams about it.
___ 7.I stayed away from reminders about it.
___ 8.I felt as if it had not happened or was not real.
___ 9.I tried not to talk about it.
___ 10.Pictures about it popped into my head.
___ 11.Other things kept making me think about it.
___ 12.I was aware that I still had a lot of feelings about it but I did not deal with them.
___ 13.I tried not to think about it.
___ 14.Any reminder brought back feelings about it.
___ 15.My feelings about it were kind of numb.
APPENDIX G

RELATIONAL GROUP WRITING INSTRUCTIONS

INSTRUCTIONS

The goal of this project is to see whether writing for 4 days about a stressful event in your life will reduce stress and therefore improve your health and functioning. If you are like most people, you have had some stressful experiences or events during your life. Research has found that when people write about stress, they feel less stressed.

Over the next 4 days, please write about the stressful experience you identified when completing the Impact of Events Scale. As you write, your task is to do the following: a) **try to make your memories of the stressful experience as vivid as possible.** Include mental images, emotions, and sensations in your body; b) **try to describe both the facts about the experience as well as your deepest feelings about it;** c) **try to write as much as you are able, even if there is some part of the experience that you are reluctant to write about.** Over the 4 days of writing, you should try to work on and resolve the stressful experience and try to understand its meaning. This might include trying to answer questions about why the experience occurred, how it has affected your beliefs, your relationships, or your actions. You might also try to determine ways that you might cope with the experience now.

Before you begin writing, please think of a relationally close individual (such as a friend, family member, therapist, etc.) with whom you would typically discuss problems or other bothersome events. **Please write the initials of this individual’s first and last name at the top of your writing material.**

Please write as if your friend will read everything you have written. In the future you may be asked to provide your friend’s contact information so he/she may read your journal.
APPENDIX H

NON-RELATIONAL GROUP WRITING INSTRUCTIONS

INSTRUCTIONS

The goal of this project is to see whether writing for 4 days about a stressful event in your life will reduce stress and therefore improve your health and functioning. If you are like most people, you have had some stressful experiences or events during your life. Research has found that when people write about stress, they feel less stressed.

Over the next 4 days, please write about the stressful experience you identified when completing the Impact of Events Scale. As you write, your task is to do the following: a) **try to make your memories of the stressful experience as vivid as possible.** Include mental images, emotions, and sensations in your body; b) **try to describe both the facts about the experience as well as your deepest feelings about it;** c) **try to write as much as you are able, even if there is some part of the experience that you are reluctant to write about.**

Over the 4 days of writing, you should try to work on and resolve the stressful experience and try to understand its meaning. This might include trying to answer questions about why the experience occurred, how it has affected your beliefs, your relationships, or your actions. You might also try to determine ways that you might cope with the experience now.

Please write as if the researcher will read everything you have written. It is likely that the researcher will read some or all of what you have written. However, this information will be kept in the strictest confidence.
APPENDIX I

PLACEBO GROUP WRITING INSTRUCTIONS

INSTRUCTIONS

The goal of this project is to see whether writing for 4 days about your time management will reduce stress and therefore improve your health and functioning. If you are like most people, how you spend your time can be a source of stress. Research has found that when people plan their time or organize their activities better, they feel less stressed.

Over the next 4 days, please focus on what you did with your time. As you write, you should try to focus on your actual behaviors or planned actions. Try not to write about your feelings about what happened or what is going to happen, and try to avoid giving your opinions. Write only about the facts. Do not write about your feelings or opinions.

Day 1: Write about what you did with your time during the last week.
Day 2: Write about what you did with your time in the past 24 hours.
Day 3: Write about what you plan to do with your time over the next 24 hours.
Day 4: Write about what you plan to do with your time over the next week.
REFERENCES


