

NEGATIVE MOOD REGULATION AND THE EMOTIONAL
DISCLOSURE PARADIGM: A CLOSER LOOK AT
INDIVIDUAL DIFFERENCES

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Negative Mood Regulation and the Emotional Disclosure Paradigm:
A Closer Look at Individual Differences

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ABSTRACT

Demime Serap Serbest, Negative Mood Regulation and the Emotional Disclosure Paradigm: A Closer Look at Individual Differences

This study aimed to examine an individual differences variable, namely Negative Mood Regulation Expectancies (NMR), on effects of written emotional disclosure regarding depressive symptomatology, level of intrusion and avoidance and intensity of negative and positive emotions regarding the written stressful experience. A total of 119, 17-28 years old university students (72 females, 47 males) were participated. The study consisted of three writing sessions and a follow-up session four weeks after the writing procedure. Participants who were divided into three groups (low, middle, high) depending on their NMR scores, were randomly assigned to either a written emotional disclosure condition or a control writing condition. Participants from two conditions (experimental vs control) with different NMR levels were compared on their BDI scores and health scores. Results indicated that participants in the disclosure group with lower NMR levels experienced a lower increase in their BDI scores compared to those in the control group with lower NMR levels. Results also revealed that neither experimental condition nor NMR level had effect on differences in health complaints, number of sick days, frequency of illnesses or frequency of doctor visits. Results suggests the importance of examining individual differences on the effects of emotional disclosure in order to understand for whom this procedure works best.

ÖZET

Demime Serap Serbest, Olumsuz Duygulanımın Düzenlenmesi ve Duygusal Açılım: Bireysel Farklılıklara Yakından Bir Bakış

Bu çalışmanın amacı olumsuz duygulanımları düzenlemedeki bireysel farklılıkların, yazma yoluyla yapılan duygusal açılımın sonuçlarını nasıl etkilediğini incelemektir. Çalışmaya, yaşları 17 ile 28 arasında değişen 119 (72 bayan, 47 bay) öğrenci katılmıştır. Çalışma, üç yazma oturumunu ve bir ay sonrasında yapılan takip çalışmasını içermektedir. Katılımcılar, olumsuz duygulanımları düzenlemedeki beklenti düzeylerine göre üç gruba (düşük, orta, yüksek) ayrılmıştır. Bu üç gruptaki katılımcılar seçkisiz atama yoluyla duygusal açılım grubuna ya da kontrol grubuna yerleştirilmiştir ve depresyon düzeyleri ile sağlık sonuçlarında yaşadıkları değişimler açısından karşılaştırılmıştır. Sonuçlar, yazarak duygusal açılımda bulunan ve olumsuz duygulanımları düzenlemedeki beklentileri daha düşük olan katılımcıların depresyon düzeylerinin olumsuz duygulanımları düzenlemedeki beklentileri düşük olan ve kontrol grubunda olan katılımcılara göre daha az artış gösterdiğini ortaya koymuştur. Sonuçlar, ayrıca, olumsuz duygulanımları düzenlemedeki beklenti düzeyinin veya yazma yoluyla duygusal açılımda bulunmanın sağlık şikayetleri üstünde bir etkisi olmadığını düşündürmektedir. Bu çalışma, yazma yoluyla duygusal açılımda bulunmanın etkileri incelenirken bireysel farklılıkları göz önünde bulundurmanın önemini düşündürmektedir.

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INTRODUCTION

Emotional disclosure paradigm, pioneered by the studies of Pennebaker and his colleagues, has been an important research area in recent years. Since the first study conducted in 1986, there have been many investigations about the benefits of emotional disclosure and theoretical models underlying these benefits. Emotional disclosure has been found to have positive physical and psychological outcomes in various samples and cultures. Recently, individual differences have started to be the focus of investigations for emotional disclosure studies in order to better understand for whom this procedure works best. This study will investigate an individual difference variable, namely negative mood regulation expectancies, on the effects of emotional disclosure. Also, the effects of emotional disclosure on physical health, level of distress, intrusive thoughts and avoidance will be examined.

Emotional Disclosure Paradigm

Emotional expression has long been recognized as a contributor to physical and psychological health within the psychology community (Breuer and Freud, 1893/1966; as cited in Smyth and Greenberg, 2000). People have the need to make meaning of their experiences. Even though it is a relatively easy and effortless task to understand daily, normal experiences, it is more complicated to make meaning of and process major and stressful life events. Through facilitating integration of thoughts and feelings, emotional expression helps individuals to make sense of, organize and construct coherent stories of their experiences. Having a coherent story gives individuals a sense of control over their lives and a sense of resolution that makes the effects of negative experiences more manageable (Pennebaker and Seagal, 1999). One form of creating a story involves telling other people what individuals experienced and expressing how they feel about it. Although self expression is a

basic human need, many traumatic experiences cannot be easily disclosed to other people for various reasons like embarrassment, fear of punishment or social constraint.

Inability to talk with others about upsetting events can lead to inhibition of thoughts and feelings related to these events (Pennebaker and Beall, 1986). Pennebaker and Beall (1986) proposed that active inhibition, which refers to suppressing thoughts and emotions willfully, may have physiological correlates, exemplified by increased arousal in the autonomic nervous system. Gross and Levenson (1997) examined the behavioral and physiological differences between the participants who were asked to inhibit their expressive behaviors and emotions while watching neutral, amusing, and sad films, and those who did not inhibit their expression of behaviors and emotions. There were no significant physiological differences between the two groups while they were watching the neutral film. However, participants suppressing their emotions during the amusing film displayed slower heart rates and less somatic activity but greater sympathetic activation of the cardiovascular system than participants who did not suppress their emotions; whereas those suppressing their emotions while watching the sad film exhibited higher levels of skin conductance, greater sympathetic activation of the cardiovascular system and greater respiratory activation as well as less somatic activity compared to non-suppressing participants. Thus, these findings suggest that suppression of emotions influences physiological functioning. In another study by Petrie, Booth and Pennebaker (1998), participants were asked to write about either emotional topics expressively or nonemotional topics for 15 minutes on consecutive 3 days. Then, they were asked either to think about what they had written or to try to suppress their thoughts about what they had written. Blood was drawn from participants before and

after each writing session for immunological analysis. Results showed that suppression of thoughts resulted in a significant decrease in the number of circulating T lymphocytes, indicating changes in the immune system.

Pennebaker and Beall (1986) proposed that when individuals actively inhibit their feelings, thoughts and behaviors about traumatic experiences over long periods of time, cumulative stress is placed on the body. This results in increased vulnerability to stress-related diseases. Following this, they hypothesized that disclosure of past traumatic experiences in a benign setting, in which people are not afraid of feeling embarrassed or being criticized, could reduce long-term stress and negative health outcomes because disclosure may free physiological resources which were previously used for inhibition (Pennebaker and Beall, 1986).

Pennebaker and his colleagues designed a series of studies that tested the effects of disclosure on health. In this emotional disclosure paradigm, they used expressive writing which is a self-guided, written method of disclosing and processing traumatic experiences. Participants are randomly assigned to either the written disclosure group or the control group. Those in the written disclosure group are instructed to write about a negative life event, either a past or a recent one that bothered them. They are asked to write about the event and their feelings related to the event. Studies using the emotional disclosure paradigm typically ask participants to write for three to five consecutive days for approximately 15 to 30 minutes each day. Participants are instructed to write continuously without any regard to spelling or grammar. Writing is conducted privately without any feedback from the researchers. In this design, control participants are asked to write about neutral topics (such as contents of their bedroom closets, description of their living room and the shoes that they are wearing) for an equivalent duration. Usually the experimental and the

control groups are compared on health and mood indices at baseline, at the end of the final writing session and at a follow-up period (Smyth and Pennebaker, 1999).

In the initial study of the emotional disclosure paradigm (Pennebaker and Beall, 1986), college students were divided into four groups: trauma-emotion group, trauma-fact group, trauma-combination group and control group. Participants who were in the trauma-emotion group were asked to write about their feelings about their traumatic experiences without discussing the event itself. Participants in the trauma-fact group were asked to write about traumatic experiences without discussing their feelings. Those in the trauma-combination group were asked to write about both the traumatic experiences and their feelings with regard to these experiences. Participants in the control group were asked to write about a different nonemotional topic everyday (during the first session, a description of their living room; the shoes that they were wearing for the second session; a tree and the room in which they were sitting, during the third and fourth sessions, respectively). Results showed that trauma-fact group was similar to control group on the heart rate and blood pressure indices after each writing session. Although, students both in the trauma-emotion and trauma-combination groups showed short-term increases in physiological arousal after the writing sessions, they visited the health center less frequently and reported fewer physical health complaints over the following six months compared to participants who objectively wrote about how they spent their time (control group) or who wrote about traumatic experiences without referring to their emotions. This study indicates that it is important to disclose not only the event but also the feelings associated with the event. After the publication of this study, similar investigations were conducted in order to replicate and extend these findings.

Studies conducted with undergraduate students indicated that students who wrote about past traumas experienced long-term decreases in health care visits and physical symptoms (Greenberg and Stone, 1992; Pennebaker, Colder and Sharp, 1990; Pennebaker and Francis, 1996) and evidenced improved immune functioning (Esterling, Antoni, Fletcher, Margulies and Schneiderman, 1994; Pennebaker, Kiecolt-Glaser and Glaser, 1988). Another study (Pennebaker, Colder and Sharp, 1990) showed that writing about coming to college led to increased GPA in the end of the year for the participants in the experimental group. In a meta-analysis of the expressive writing studies, Smyth (1998) calculated the effect size of the 13 studies using the emotional disclosure paradigm. Results of this study indicated a mean effect size across all studies and outcomes of $d=.47$ ($r=.23$, $p<.0001$), showing that the written emotional disclosure procedure is associated with positive outcome of medium effect size. Another meta-analysis was conducted by Frisina, Borod and Lepore (2004) on expressive writing studies with people who have physical or psychological disorders in order to examine the magnitude of expressive writing's effect in clinical populations. Nine studies were used in this meta-analysis and an overall effect size of $d=.19$ ($p<.05$) was obtained. Moreover, results revealed that effect size was $d=.21$ ($p=.01$) for physical health outcomes and effect size was $d=.07$ ($p=.17$) for psychological health outcomes, suggesting that expressive writing in clinical populations is less effective for psychological health outcomes than it is for physical health outcomes. Furthermore, Frattaroli (2006) conducted a meta-analysis with 146 studies of experimental disclosure and obtained an overall effect size of $d=.151$ ($r=.075$, $p=.000043$). The overall average effect size was smaller in the study of Frattaroli (2006) than it was obtained in studies of Smyth (1998) and Frisina et al. (2004). Frattaroli (2006) proposed that this difference might be due to the inclusion

of a higher proportion of unpublished studies compared with previous two meta-analyses, stating that unpublished studies are likely to have smaller effect sizes.

While expressive writing has been linked with numerous positive physical effects among relatively healthy undergraduate students, the disclosure paradigm has only been recently tested among clinical samples. In a study by Smyth, Stone, Hurewitz and Kaell (1999), it was reported that for patients with asthma or rheumatoid arthritis, written disclosure resulted in improvements in lung function and overall improvement in disease severity in both clinical groups when compared with patients who wrote about emotionally neutral topics. In another study with men diagnosed with prostate cancer, individuals who were in the expressive disclosure condition showed improvements in physical symptoms and health center visits, compared to those in the control group (Rosenberg Rosenberg, Ernstoff, Wolford, Amdur, Elshamy, Bauer-Wu, Ahles and Pennebaker, 2002).

Beside physical health outcomes, cognitive functioning, in particular working memory, has been the focus of studies about emotional disclosure. Klein and Boals (2001) proposed that as a limited capacity system, working memory is distracted by cognitions about stressful experiences since these cognitions compete for attentional resources of the working memory. They hypothesized that expressive writing about stressful experiences reduces the load of these cognitions on attentional resources. Two studies were conducted in order to investigate the effect of expressive writing on working memory capacity, measured by the Operation Span Task (OSPAN; Turner and Engle, 1989; as cited in Klein and Boals, 2001). In the first study, participants, composed of freshmen, were asked to write either about coming to college for the first time or everything they had done on the day of study. Results showed that, at the seven week follow-up, participants who wrote about coming to

college showed larger working memory gains, compared to those who wrote about a trivial topic. In the second study, at seven or eight week follow-up, participants who wrote about a negative experience had greater working memory improvements and declines in intrusive thoughts, compared to those who wrote about either a positive experience or a trivial topic. Klein and Boals (2001) proposed that expressive writing reduces intrusive thinking through creating a narrative about stressful experiences and this leads to fewer demands on working memory resources.

Even though numerous studies examined the effects of expressive writing on physical health, there is a limited amount of research studying the psychological outcomes (e.g., Greenberg and Stone, 1992; Lepore, 1997; Schoutrop, Lange, Hanewald, Davidovich and Salomon, 2002; Sloan and Marx, 2004a). In these studies, mood changes, levels of distress and depression have been the typical outcome variables, measured by various scales such as the Positive and Negative Affect Schedule (PANAS, Watson, Clark and Tellegen, 1988); Pennebaker's Negative Mood Scale (Pennebaker, 1982); Depressive symptoms subscale of the Symptom Checklist (SCL-90-R, Derogatis, 1983); Beck Depression Inventory (BDI-II, Beck, Steer and Brown, 1996). Findings of these studies on mood changes have been equivocal: while some studies indicated positive gains for mood, other studies found no improvement in self-reported mood parameters. Pennebaker et al. (1988) indicated that trauma writing group did not differ from control group on levels of negative mood at the three month follow-up. Moreover, Greenberg and Stone (1992) found that writing about traumatic experiences did not have an impact either on longer term negative mood or longer term positive mood. On the other hand, Lepore (1997) showed that participants who were assigned to write their deepest thoughts and emotions about a stressful event (graduate entrance exams) showed a decline in

the level of depressive symptoms from one month to three days before the exam. However, participants who wrote about neutral topics maintained a relatively high level of depressive symptoms over the same period. Also, Sloan and Marx (2004a) found that disclosure participants reported fewer depressive symptoms compared with the control participants at one month follow-up. Moderating variables as well as measurement and procedure differences between studies might be the reason of the inconsistent results between these studies.

Written emotional disclosure procedure is typically applied for negative experiences. However, it was possible that regardless of its positive or negative valence, writing about any experience with emotional content, could lead to positive health and psychological outcomes. In order to test this hypothesis, Kloss and Lisman (2002) applied written emotional disclosure to three groups: People in trauma disclosure group wrote about traumatic experiences; people in positive emotion writing group wrote about their happiest experiences and people in neutral writing group wrote about their daily activities in an objective manner. Results of this study did not reveal any differences among three groups. In another study, King and Miner (2000) examined whether writing about only the perceived benefits of traumas would have any benefit on health. For this purpose, participants were assigned either to write about a trauma or to write about perceived benefits of their traumas without focusing on the negative aspects of their experiences. Results of this study indicated that people in the perceived benefits group showed identical health benefits to those who wrote only about trauma. These findings imply that writing about perceived benefits of traumatic events may also provide an effective and less upsetting way to benefit from writing. Moreover, King (2001) investigated whether writing about life goals would promote health without evoking negative mood. For

this purpose, participants were randomly assigned to write about a life trauma, their best possible future selves, both a trauma (for the first 2 writing sessions) and their best possible future selves (for the last 2 writing sessions) or a control topic. Results revealed that at five month follow-up, the best possible self and trauma only group were significantly lower in illness than the other two groups. These findings imply that people writing about life goals can have positive health outcomes without evoking negative feelings associated with writing about trauma.

Social Constraints and Expressive Writing

Social constraint (Lepore and Ituarte, 1999; Lepore, Silver, Wortman and Wayment, 1996) can be defined as perceived inadequacy of support from social network which results in hesitancy to express thoughts and feelings regarding a stressful experience. One kind of social constraint is the lack of people who are willing to listen and to be comforting figures. Another constraint comes to play when others minimize individual's problems and/or avoid talking about it. Moreover, showing discomfort when the person expresses his/her thoughts and emotions is another kind of constraint (Zakowski, Ramati, Morton, Johnson & Flanigan, 2004). Unhelpful responses from social network may be perceived by the person as insensitive or inappropriate (Lepore et al., 1996).

People who feel socially constrained about sharing their traumatic experiences with other people may inhibit disclosing these experiences. Behavioral inhibition as a result of social constraint prevents people from processing their traumatic experiences, resulting in incomplete psychological adaptation and increased emotional distress (Lepore et al., 1996). When people experience social constraints, expressive writing can be an alternative form of emotional expression

that compensates for the negative consequences of social constraints (Zakowski et al., 2004).

Zakowski, Ramati, Morton, Johnson and Flanigan (2004) conducted a study among cancer patients in order to see whether written emotional disclosure would be a buffer for the effects of high levels of social constraint regarding expression of cancer related emotions on their levels of distress. They divided patients randomly into two groups, either to expressive writing group in which they wrote about their feelings related to their cancer or to control group in which they were asked to write about their daily activities in a nonemotional manner. The results of the study indicated that at the six month follow-up, individuals with high social constraint levels exhibited distress levels comparable to those with low social constraint levels if they were in the expressive writing group. On the other hand, people with high levels of constraint who were in the control group continued to exhibit high levels of distress at follow-up. Regardless of their group assignment (experimental or control) people with low levels of social constraint did not experience any difference in level of distress between baseline and follow-up. Thus, the study suggested that written disclosure buffered the effects of social constraints on stress.

Intrusion/Avoidance and Expressive Writing

Intrusions can be defined as repeated, uncontrollable thoughts or images about stressful experiences (Kennedy-Moore and Watson, 2001). Persistence of trauma-related intrusions or attempts to avoid these thoughts, memories and images have been hypothesized to result in increased arousal, psychological distress and illness (Lepore et al., 1996). It was argued that once an individual successfully processes stressful information, emotionally disturbing, intrusive thoughts become less intense (Horowitz, 1975, 1986; as cited in Lepore 1997). However, in a

nonsupportive social environment, people may inhibit themselves from talking and thinking about their stressful experiences. If people avoid the aversive thoughts about stressful events, if they do not confront these thoughts, intrusive ideation may persist and as a result, traumatic events will not be processed completely (Lepore et al., 1996).

There are two explanations about the mediating role of intrusive thoughts in the relation between emotional expression and psychological adjustment. According to Pennebaker (1989), giving people an opportunity to express their thoughts and feelings about a stressor helps their psychological adjustment to the stressor by decreasing the frequency of their intrusive thoughts. Through emotional expression, people engage in a confrontation process during which they assimilate the stressor to their existing schemas or restructure their cognitions about the stressor. This assimilation leads to resolution of stressful thoughts, decreases in intrusions which, in turn, facilitates psychological adjustment following emotional expression.

On the other hand, according to Lepore (Lepore et al., 1996; Lepore and Helgeson, 1997), emotional expression promotes adjustment through diminishing not the frequency but the impact of intrusive thoughts. Lepore (1997) argued that when individuals can express themselves in a supportive environment, intrusive thoughts about a stressor lose their emotional impact. He conducted a study in which he investigated whether expressive writing about an anticipated stressful event, in this case graduate entrance exams, decreases psychological distress through reducing the frequency of intrusive thoughts or through weakening the effects of intrusive thoughts. Results indicated that expressive writing reduced distress through diminishing the negative emotional impact of intrusive thoughts rather than the frequency of intrusive thoughts (Lepore, 1997).

PTSD and Expressive Writing

An important caveat about the effectiveness of emotional disclosure paradigm must be stated: Most studies using the emotional disclosure paradigm include participants who are relatively healthy undergraduate students. Results of these studies have usually been found to have positive outcomes. However, results of the emotional disclosure studies, conducted with individuals who had experienced a significant trauma are more equivocal. Batten and colleagues (2002) conducted a study in order to see whether expressive writing procedure would have beneficial effects with individuals who had experienced childhood sexual abuse. Results indicated that, contrary to expectations, writing about childhood sexual abuse experience was not associated with lower health care visits, physical symptoms or psychological distress at the twelve week follow-up. Batten et al. (2002) proposed that individuals with a history of multiple traumas and at least one sexual trauma might be more challenging to treat effectively than individuals who deal with relatively more simple issues. It was proposed that for people with significant traumatic experiences, 20 minute writing sessions may not be sufficient duration for the successful resolution of posttraumatic symptomology. In another study by Sloan and Marx (2004a), women with at least one traumatic experience who showed at least moderate levels of PTSD symptom severity were asked to write about either their most traumatic/distressing experience or how they spent their time (control group). Participants assigned to the disclosure condition reported fewer physical and psychological symptoms at the one month follow-up. Sloan and Marx (2004a) stated that methodological differences between their study and that of Batten et al. (2002) might account for the discrepancy between the results of these two studies. Thus, it can be said that these equivocal results makes generalizability of emotional

disclosure paradigm to significant trauma survivors difficult. Further research is required in this area in order to clarify the effectiveness of emotional disclosure paradigm for severe trauma survivors.

Gender and Expressive Writing

In his meta-analysis, Smyth (1998) examined the effect of gender on written disclosure outcome by comparing the results of studies with a higher proportion of male participants with results from studies with a higher proportion of female participants and he proposed that expressive writing may be more beneficial for men than women because traditional sex roles make it less likely for men to disclose their negative emotions regarding their traumatic experiences. However, Epstein, Sloan and Marx (2005) did not find any gender differences among participants in the expressive writing condition and they proposed that the written disclosure procedure is equally beneficial for men and women.

Populations

Researchers have studied the expressive writing paradigm with a variety of samples, like college students (Greenberg and Stone, 1992; Pennebaker, Kiecolt-Glaser and Glaser, 1988), individuals who recently lost their jobs (Spera, Buhrfeind and Pennebaker, 1994; as cited in Sloan and Marx, 2004b), individuals diagnosed with cancer (Rosenberg, Rosenberg, Ernstoff, Wolford, Amdur, Elshamy, Bauer-Wu, Ahles and Pennebaker, 2002; Stanton, Danoff-Burg, Sworowski, Collins, Branstetter, Rodriguez-Hanley, Kirk and Austenfeld, 2002; as cited in Stanton and Danoff-Burg, 2002; Zakowski et al., 2004), individuals taking an upcoming graduate entrance exam (Lepore 1997), individuals diagnosed with either rheumatoid arthritis or asthma (Smyth et al., 1999), and individuals with a history of traumatic experiences (Batten et al., 2002; Sloan and Marx, 2004a). Written emotional disclosure procedure

had positive outcomes in most of these samples. Moreover, although expressive writing paradigm has been mostly studied in the United States, there are also studies conducted in different countries like, New Zealand (e.g: Petrie et al., 1998), The Netherlands (e.g: Schoutrop et al., 2002) and Spain (e.g: Paez, Valesco and Gonzalez, 1999). In most of these studies, positive outcomes have been obtained regardless of the language and culture (Smyth and Pennebaker, 1999) indicating that emotional disclosure paradigm is linked with health gains in different cultures and samples.

As expressive writing paradigm has been found to have positive effects on health, attention has begun to be paid to understand the underlying mechanisms by which these health effects are brought about. Four theoretical models have been proposed to explain the beneficial effects associated with expressive writing.

Theoretical Models

Emotional Disinhibition

The idea originally conceptualized as the underlying mechanism by which health benefits are brought about is that writing about traumatic experiences allows individuals to confront these upsetting topics and decreases the inhibition associated with nondisclosing (Smyth and Pennebaker, 1999). Pennebaker (1989) suggested that disclosing inhibited feelings reduces cumulative stress on the body and this can lead to better immune functioning and health.

Some findings supported the emotional inhibition theory. Pennebaker, Hughes and O'Heeron (1987) investigated the short-term autonomic correlates of emotional disclosure. They hypothesized that skin conductance level, which is an autonomic index associated with inhibition, would decrease when a person discloses stressful or traumatic experiences. They also hypothesized that, individuals who do

not or cannot disclose traumatic or upsetting experiences would have relatively high skin conductance levels. In the study, participants were classified as high or low disclosers, depending on the ratings of their depth of disclosure. Results showed that compared to low discloser participants, high disclosers had lower skin conductance levels when talking about traumatic experiences than when talking about trivial topics. Pennebaker et al. (1987) proposed that talking about traumatic events is associated with a reduction in inhibition. Also, Pennebaker et al. (1988) indicated that individuals who wrote about traumatic experiences showed better cellular immune system functioning, namely heightened T-lymphocyte responses than those who wrote about superficial topics. Esterling et al. (1994) found that college students who wrote about their traumatic experiences had significantly better cellular immune control over a latent herpes virus (Epstein-Barr) than those who wrote about trivial topics. Other findings have been more equivocal. There is no finding to support the theory that decreases in inhibition mediates the relationship between disclosure through writing and improved health. The study conducted by Greenberg and Stone (1992) indicated that individuals who wrote about traumatic events that they had previously disclosed to others benefited equally from writing as people who disclosed traumatic events that they had kept secret. However, the findings of Greenberg and Stone (1992) might be reflecting the important difference between superficially talking about the traumatic event with others and disclosing deep thoughts and feelings about that traumatic experience throughout the writing procedure.

On the whole, there has not been much support for the emotional inhibition theory as the sole underlying mechanism of the expressive writing paradigm.

Cognitive Adaptation

The second explanation for the beneficial effects of writing is that emotional expression requires a person to confront stressful thoughts and feelings related to the traumatic experiences. This confrontation might facilitate cognitive processing of the traumatic experience (Smyth, 1998) by integrating it into already existing schemas and making of meaning regarding the trauma (Park and Blumberg, 2002).

Traumatic or stressful experiences lead negative emotions and thoughts to arise (Foa and Kozak, 1986; Foa, Steketee and Rothbaum, 1989). People may avoid these thoughts because the emerging negative emotions are very painful. Although in the short run avoidance may have a protective function; in the long run, it may prevent the confrontation and processing of the event and cause chronic stress (Zakowski, et al. 2004). In order to make meaning of the event and to recover from a trauma, one needs to resolve the discrepancy between the inner models, schemas, and the information provided by the traumatic experience. The discrepancy is resolved through changing the inner models (Horowitz, 1986; as cited in Sloan and Marx, 2004b). Through expressing their thoughts and feelings related to that experience, people may confront the stressful experience and integrate it into their existing schemas (Zakowski et al., 2004).

Moreover, writing about a traumatic event may lead a person to provide a structure, cohesion and organization to the traumatic memory (Pennebaker, 1997). Traumatic memories are found to be more perceptual and emotional in nature (Terr, 1993; van der Kolk, Blitz, Burr and Hartmann, 1984; as cited in Smyth, 1998), and they are not “integrated into a personal narrative” (Christianson, 1992; van der Kolk, 1994; as cited in Smyth, 1998). Writing about traumatic memories may convert sensory-affective components of such a memory into an organized, linguistic format

(Pennebaker, Mayne and Francis, 1997). Transforming emotions and images into words helps a person to integrate thoughts and feelings regarding the traumatic memory, because communication of ideas requires coherence, self-reflection, use of multiple perspectives and ordered sequence (Esterling, L'Abate, Murray and Pennebaker, 1999). Through writing, the person can construct a coherent narrative of his/her experience more easily. Once the narrative is formed, it is simplified. Hence, it can be summarized, stored and “forgotten” more efficiently (Pennebaker and Seagal, 1999, p. 1248).

The cognitive changes associated with the writing paradigm has generally been tested through examining the linguistic characteristics of the participants' writings (Klein and Boals, 2001). Words are divided into two broad categories: Emotion category and cognitive category. The emotion category is divided into two, namely, negative emotion words and positive emotion words. The cognitive category is also divided into two: causal words and insight words. Causal words are thought to indicate that people are attempting to bring together causes and reasons for the events and emotions that they were describing. Insight words were assumed to reflect cognitive processes related with thinking (Smyth and Pennebaker, 1999). It was suggested that there are three linguistic factors that reliably predict improved physical health associated with writing: First, it was found that the more a person uses positive emotion words, the more their health improves. Second, a moderate use of negative emotion words was associated with health improvements. Both very low and very high use of negative emotion words were associated with poorer subsequent health. Third, an increase in both insight and causal words over time was positively related with subsequent health. (Esterling et al., 1999; Smyth and Pennebaker, 1999). Building a narrative through using causal and insight words seems to be important

for reaching an understanding. In fact, people who started the writing study with a coherent story about a past traumatic experience did not benefit from writing (Smyth and Pennebaker, 1999).

It is difficult to evaluate the cognitive theory empirically. Evidence from aforementioned studies, like the changes in word usage, is correlational and it is possible that, some other mechanism of change other than linguistic characteristics, might be effective in health improvements (Sloan and Marx, 2004b). A study that directly tests the cognitive adaptation hypothesis as the mechanism of change in the expressive writing paradigm is that of Park and Blumberg (2002). They proposed that cognitive adaptation hypothesis would be supported if the changes in the appraisals of the traumatic or distressing events were positively related with health improvements. Results indicated that for the disclosure group, appraisal of the traumatic event improved from pre-writing to follow-up time. Moreover, intrusions and avoidance decreased in the writing group from pre-writing to follow-up. However, the cognitive variables were not given to a control group and for this reason, it is not possible to compare trauma-writing and non-trauma writing groups on these cognitive dimensions. Hence, it is not clear whether the appraisal changes occurred as a result of experimental manipulation.

Emotional Processing/Exposure

Another hypothesis for the effectiveness of written disclosure paradigm is that this procedure serves as a context that facilitates exposure to aversive conditioned stimuli that had been previously avoided (Sloan, Marx and Epstein, 2005).

Mowrer's two-factor theory (1960, as cited in Kloss and Lisman, 2002), which is a learning theory and influential in the treatment of anxiety disorders, is

proposed to be helpful in understanding the mechanisms underlying emotional disclosure (Kloss and Lisman, 2002). This theory suggests that an aversive unconditioned stimulus (UCS) elicits unconditioned fear response. When the neutral stimulus becomes paired with the UCS, that stimulus (CS) also begins to elicit fear, the conditioned response. This conditioned response is thought to have reinforcing properties. In order to avoid the situations that elicit conditioned fear response, other behaviors occur. This process prolongs fear and arousal since the avoidance behavior terminates CS and prevents person from realizing that CS may no longer be followed by the aversive stimulus. However, repeated exposure to the same stimulus may lead to the negative emotional associations between UCS and CS (Sloan and Marx, 2004b). Based on this theory, it is proposed that inhibition can be regarded as avoidance behavior and disclosure as an exposure behavior. The writing procedure allows individuals to be exposed to the aversive stimuli that may have been avoided. In this way, individuals confront their emotional reactions through disclosing their thoughts and emotions during the writing sessions. By engaging in exposure through writing in successive sessions, people may feel more in control of their emotional reactions and eventually experience a decrease in avoidance and stress (Kloss and Lisman, 2002).

Moreover, Foa and Kozak (1986) theorized that fear reductions during exposure are mediated by cognitive changes. This theory is based on the bioinformational theory of emotion (Lang, 1979; as cited in Foa and Kozak, 1986), which states that pathological fear is built up as a cognitive structure that includes incorrect information about stimuli, responses and their meanings. According to Foa and Kozak (1986), during exposure, fear structure is activated and corrective information about the stimuli, responses and their meanings is provided. As an

exposure process, the written disclosure paradigm may help individual to process emotional material and eventually may lead to diminished distress through overcoming avoidance and suppression of distressing memories and emotions (Hayes, Wilson, Gifford, Follette and Strosahl, 1996).

In order to understand whether exposure is the underlying mechanism of written disclosure paradigm, changes in intrusive thoughts and avoidance behavior were examined in some studies. The findings of these studies are equivocal: Some studies reported reductions in intrusive thoughts (Klein and Boals, 2001; Schoutrop et al., 2002) and some studies did not indicate any changes in intrusive thoughts at follow-up (Lepore 1997; Stroebe, Stroebe, Schut, Zech, van der Bout, 2002; Walker, Nail, Croyle, 1999). Results have been more mixed for avoidance behaviors: Two studies found beneficial effects of writing on avoidance at follow-up (Klein and Boals, 2001; Schoutrop et al., 2002), two studies indicated null effects (de Moor, Sterner, Hall, Warnoke, Gilani and Amato, 2002; Stroebe et al., 2002) and three studies indicated more avoidance behavior after the written disclosure trials at follow-up (Gidron, Peri, Connonly and Shalev, 1996; Greenberg, Wortman and Stone, 1996; Smyth, True and Souto, 2001). These different results might be explained by different sample sizes, number of writing sessions and follow-up periods of the studies.

According to the exposure hypothesis, confronting traumatic experiences first leads to activation of negative emotions and after repeated exposures, it leads to decreases in negative emotion reactivity, as a result of habituation. In line with this notion, Kloss and Lisman (2002) studied the emotional reactions of participants after each writing session. As stated before, they divided subjects into three groups, namely, trauma writing group, positive emotion writing group and control group that

wrote about a neutral topic. Positive emotion writing group was used in order to control the effect of emotional arousal. In order to see whether emotional activation associated with written disclosure initially increased and then gradually decreased both within and across the writing sessions, participants completed a state anxiety measure, namely State-Trait Anxiety Scale (Spielberger, 1983; as cited in Kloss and Lisman, 2002) immediately before and after the writing sessions. Also, they were asked to complete questionnaires assessing physical and psychological functioning both at baseline and at follow-up. No significant group differences were found on any of the physical and psychological functioning measures. Also, contrary to expectations, state anxiety was found to increase from pre- to post writing and it did not decrease across the writing sessions. Hence, the results of this study did not support exposure hypothesis. However, this study relied solely on self-report method to assess emotional activation and extinction. It is possible that more objective, physiological measures of emotional activation could yield different results.

In order to test exposure hypothesis, another written disclosure study was conducted with trauma survivors who reported high levels of psychological distress (Sloan and Marx, 2004a). It was hypothesized that the therapeutic exposure principles account for the positive outcomes of the emotional disclosure paradigm, namely the procedure provides a context for exposure to aversive conditioned stimuli that lead to intense negative affect and the affect decreases gradually. Emotional activation associated with writing sessions was examined both by self-report and physiological (salivary cortisol level) measures. Results supported exposure hypothesis, indicating that participants in the written disclosure condition showed significantly greater emotional activation in the first writing session compared to control participants but that activation was not observed in the last writing session.

Moreover, compared to control participants, those assigned to the disclosure group reported fewer psychological and physical health complaints at one month follow-up.

Self-Regulation

Lepore, Greenberg, Bruno and Smyth (2002) proposed that expressive writing can enhance regulation of emotional experience, physiological responses and behaviors, which, in turn, improve physical and psychological health. They suggested that these beneficial outcomes occur in three regulatory mechanisms: 1) attention, 2) habituation and 3) cognitive structuring.

As the first mechanism, writing about deepest thoughts and feelings regarding a traumatic experience can direct one's attention to the source of this experience and its negative consequences. Through making an individual focus on various aspects of a traumatic experience, expressive writing can facilitate other emotion regulation processes and can lead to a decrease in avoidance and other over-regulation strategies (e.g: inhibition, suppression). Habituation is the second mechanism proposed in this model. It is proposed that increased attention to negative thoughts and feelings leads to habituation, i.e. decreased response to repeated stimulation. Confronting to the same stimuli over three or four writing sessions is thought to lead to habituation. The third mechanism is cognitive restructuring, which adopts its main components from Cognitive Adaptation model that was explained above. Lepore and colleagues (2002) propose that expressive writing can facilitate changes in how people think about and evaluate their traumatic experiences. It is proposed that expressive writing provides a sense of mastery as people become habituated and more tolerant of their thoughts and feelings throughout the writing procedure. To conclude, Self Regulation model proposes a useful framework about

the impact of expressive writing on emotion-regulation processes, which is part of self-regulation process (Lepore et al., 2002).

All these explanatory models have been proposed in order to account for the effectiveness of emotional disclosure paradigm. There are data supporting each of these theories but there are also contradictory findings for each theory. A single theory may not adequately explain the effects of emotional disclosure paradigm. Instead, these theories are likely to complement and overlap with each other.

Although numerous studies have assessed the effects of expressive writing on health, relatively little attention has been paid to understand the effects of individual differences on the beneficial impact of expressive writing paradigm. There are studies (e.g: Epstein et al., 2005; Greenberg and Stone, 1992; Park and Blumberg, 2002) stating the need to investigate individual differences in order to understand for whom the expressive writing works best.

Expressive Writing and Individual Differences

Repressive Defensiveness and Alexithymia

As emotional disclosure paradigm has been found to have positive outcomes, some researchers started to question how individual differences in awareness, comprehension and expression of emotions influence the effects of expressive writing on physical and psychological outcomes. Repressive defensiveness and alexithymia are two concepts that have been studied by researchers using the expressive writing paradigm in order to investigate such individual differences.

People with repressive defensiveness, called *repressors*, can be defined as people who typically deny negative aspects of the self, especially negative emotions and motivations, without any conscious intention (Lumley et al., 2002). According to Freud (1940, as cited in Weinberger, 1990), a person represses an idea when he feels

an incompatibility between an unbearable idea and his ego. Repression is used as a strategy to reduce the discomfort felt when internal ideas or external threats contradict the beliefs that are strongly held about the self. Eysenck (1997) proposed that repressors try to ignore four sources of information, namely their own behaviors, physiological activity, stimuli coming from external world and information that is stored in long-term memory. If they attend to these sources of information, they try to perceive them in a nonthreatening way (Eysenck, 1997) so that they can keep their positive self-image (Weinberger, 1990). Weinberger (1990) stated that repressors avoid awareness of negative emotions even though they respond physiologically and behaviorally in a manner that indicates high levels of perceived threat.

Weinberger, Schwartz and Davidson (1979) provided an influential approach to the measurement of repression. In this approach, they made use of self-report measures of trait anxiety and social desirability or defensiveness as assessed by Taylor Manifest Anxiety Scale (Taylor, 1953) and the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1964). They proposed a four dimensional classification of individuals according to their coping styles: high anxious (high trait anxiety; low social desirability); low anxious (low trait anxiety; low social desirability); repressors (low trait anxiety; high social desirability) and defensive high anxious (high trait anxiety, high social desirability). They argued that the low anxious individuals score low on trait anxiety because they are truly non-anxious and calm whereas repressors score low on trait anxiety because they are controlled and do not want to give the impression that they are threatened and thus use repression against threat. While low-anxious, nondefensive individuals described themselves as flexible, spontaneous and lively, repressors emphasized rationality, planning and

self-control. The repressors described themselves in such a way that often excludes the experience of negative affect (Weinberger et al., 1979).

Weinberger et al. (1979) supported this classification in a study on high anxious, low anxious and repressor groups in which subjects were presented with a phrase association task that consisted of sexual, aggressive and neutral words. The repressors had low self-reported anxiety after the stressful task even though their physiological (heart rate, forehead muscle tension) and behavioral (verbal interference, reaction time and avoidance) measures of anxiety indicated that they were at least as stressed as the high anxious subjects. This was taken as an indication of the fact that the repressors were unconsciously threatened but they repressed their anxiety. In contrast, low anxious subjects had low scores on all measures of anxiety.

Weinberger (1989; cited in Weinberger and Schwartz, 1990) has employed this four dimensional classification in the development of an inventory, namely Weinberger Adjustment Inventory (WAI) that assesses two central aspects of social-emotional adjustment. Weinberger (1989; as cited in Weinberger and Schwartz, 1990) redefined repressive defensiveness with regard to distress and restraint. Distress refers to individual's tendencies to feel dissatisfied with themselves and their ability to achieve desired outcomes. In the inventory, anxiety, depression, low self-esteem and low well-being are sub-dimensions of distress. Restraint refers to limiting immediate egoistic desires for the benefit of maintaining long-term goals and sustaining relationships with others. The sub-dimensions of restraint are impulse control, suppression of aggression, consideration of others and responsibility (Weinberger and Schwartz, 1990).

Weinberger and Schwartz (1990) created six dimensions to describe personality structure with regard to distress and restraint. This is derived by

intersecting high versus low levels of subjective distress with low, moderate and high levels of restraint. People who are low in distress and moderate in restraint are called self-assured in that they are well-adjusted, have an identity, which tends to cope well with others and can maintain healthy relationships. Individuals who are moderate in restraint but high in distress are defined as sensitized who are prone to distress related adjustment problems and have a diffused anxiety. They have difficulty coping with anxiety thus experience negative affect. Those who are high in distress and low in restraint are called reactive who have a style that they cannot control their anxiety, they are particularly characterized by emotional and interpersonal instability and use immature defenses. Individuals who are low in distress and low in self-restraint are called undersocialized. These people are not concerned about others but possess high self-esteem and are confident about their ability to meet their own needs. People who are high in distress and high in restraint are defined as oversocialized. They have difficulty expressing their own needs thus they are shy, unassertive and guilt prone. Finally, those who are low in distress and high in restraint are called repressive individuals (Weinberger and Schwartz, 1990).

To clarify the distinction between repressor and self-assured groups who both report low-distress, two additional subscales were created for the Weinberger Adjustment Inventory (Weinberger, 1990). One scale is called the denial of distress scale, which measures the extent to which even occasional negative states are denied. The repressive defensiveness scale includes items in which virtually all instances of weak restraint are denied. Repressors are defined as people who score low in distress and high on a composite of repressive defensiveness and restraint (Weinberger, 1990).

Alexithymia refers to difficulty in identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal (Taylor, Bagby and Parker, 1999). Because alexithymic people are unable to identify their own subjective feelings accurately, they communicate emotional distress to other people very poorly. For this reason, they have difficulty in receiving help from other people for soothing themselves (Taylor et al., 1999). Alexithymia may be conceptualized as part of the repressive coping style but they are two different constructs. Although repressors experience a disconnection between subjective emotional awareness and physiological arousal, repression is basically an unconscious defense mechanism utilized to keep thoughts and feelings, that are incompatible with self-concept of the person, away from awareness. Alexithymia, on the other hand, is a deficit to process and regulate emotional states through using cognitive mechanisms like introspection, imagination and fantasy (Taylor et al., 1999). People with alexithymia are more likely to have medical and psychiatric illnesses, especially somatoform disorders, substance abuse problems, eating disorders, anxiety disorders, hypertension and pain (Lumley et al., 2002).

In a study that investigates how repression and differential disclosure responses that are indicative of emotional repression are related to EBV antibody response, college students who were seropositive for the Epstein-Barr virus (EBV) completed a personality inventory, namely Millon Behavioral Health Inventory (Millon, Green and Meagher, 1982; as cited in Esterling, Antoni, Kumar and Schneiderman, 1990) and were asked to write about a stressful experience, that they had not fully disclosed to others, for one 30-minute session. Then, immediately after the writing session, their blood samples were collected in order to examine titers of the EBV capsid antigen, indicating their immune status (high antibody titers to EBV

suggests poorer immune function). Based on the personality inventory, participants were classified as repressive individuals, sensitizers (people with low frustration tolerance who express their negative feelings quickly) and neither. Also, they were classified into high, middle and low discloser groups on the basis of percentage of emotional word usage. Compared to people with sensitizer styles, repressive people had higher levels of antibody to EBV. Also, people in low discloser group had higher antibody titers as compared to those in high disclosure group. Moreover, an interaction was found between personality style and level of disclosure in the prediction of EBV titers. Regardless of disclosure level, repressive people had relatively high EBV antigen titers. On the other hand, people from sensitizer group who engaged in high level of emotional disclosure showed the lowest EBV antibody titers (Esterling et al., 1990). These results suggest that emotional writing was not beneficial for people with repressive personality, while it was beneficial for sensitizer people with high levels of disclosure. However, the lack of a nondisclosing control group precludes the conclusion that repressive individuals do not benefit from emotional disclosure paradigm.

In an unpublished master's thesis, Habbal (1999; as cited in Lumley et al., 2002, p. 82, p.85.) asked older women with personal or family history of cancer to write about either their stressful experiences or daily events, once a week for four weeks. Participants also completed Weinberger Adjustment Inventory to assess repressive defensiveness and Toronto Alexithymia Scale to assess level of difficulty about describing their feelings at baseline. Self-reported incidence of colds, mood and physical symptoms were also measured at 1 and 3 months follow-ups. Results indicated that compared to low defensive women, women with high repressive defensiveness used a lower number of negative emotion words in their writings.

Moreover, women with low defensiveness were less likely to have cold at one month follow up period, while high defensive women were similar to controls regarding incidence of colds. With regard to alexithymia, people with higher alexithymia levels used significantly fewer negative emotion words in their writings. Also, participants in the disclosure group with low levels of alexithymia had reduced physical symptoms at follow- up; whereas disclosure participants with high level of alexithymia did not show any benefits.

Paez, Velasco and Gonzalez (1999) randomly assigned university students to conditions in which they wrote either intensively for 20 minutes on three days or briefly for 3 minutes on one day about either disclosed traumatic events or undisclosed traumas. They also completed Toronto Alexithymia Scale. It was found that participants with higher levels of alexithymia had fewer positive emotional words and fewer self-references in their writings. Also, in brief writing condition, participants with higher levels of alexithymia experienced increases in negative affect in two months follow-up; whereas in intensive writing condition, high levels of alexithymia was associated with decreased negative affect in two months follow-up.

Several studies mentioned above indicate that people who have difficulty in awareness and understanding of their emotions are less likely to benefit from disclosure. Instead, emotional disclosure paradigm has beneficial outcomes mostly for people who can recognize their emotions but ambivalent about expressing these emotions to other people, who attempt to inhibit them. Expressive writing seems to work best for people who experience social constraint, rather than for those who have inner constraint.

Negative Affect

Negative affect is a subjective distress dimension that includes various aversive mood states, such as anger, contempt, disgust, guilt, depression and fear (Watson, Clark and Tellegen, 1988). Watson and Clark (1984) proposed that negative affect represents an affective state dimension and it is associated with trait dimension of negative emotionality, termed negative affectivity (Tellegen, 1982; as cited in Watson and Clark, 1984). People with high negative affectivity are found to experience more stress, dissatisfaction (Watson and Clark, 1984) and health complaints (Watson and Pennebaker, 1989).

Norman, Lumley, Dooley and Diamond (2004) conducted a study in order to investigate the role of negative affect as an individual difference variable on the effects of emotional disclosure paradigm among women with chronic pelvic pain. Women with chronic pelvic pain completed Positive and Negative Affect schedule, Expanded Version (Watson and Clark, 1994) as a measure of trait negative affect. They were randomly divided into two groups, either disclosure group that required participants to write about stressful consequences of their pain or control group that required women to write about positive events unrelated to chronic pelvic pain for three days. Results indicated that participants in disclosure group with higher baseline negative affect experienced less daily disability and improved positive affect at two month follow-up.

Negative Mood Regulation Expectancies

Mood regulation refers to set of processes by which enduring mood is adjusted, primarily through regulation of the subjective state and in some circumstances through manipulation of external events. One assumption of mood regulation is that people are motivated to do things in order to feel good, to approach

things that make them feel better and avoid those things that make them feel bad (Larsen, 2000). Mood regulation strategies are the efforts aimed to change currently experienced mood. These strategies include distractions, suppression, expression, cognitive reappraisal, problem solving, withdrawal, socialization and so on (Larsen and Prizmic, 2004). According to Larsen (2000), people differ from each other in regulation needs and mood-regulation strategies. He stated the importance of considering individual differences while studying mood-regulation (Larsen, 2000).

Catanzaro and Mearns (1990) proposed negative mood regulation expectancies as an important individual differences variable which is relevant to predict the success of coping behavior and mood regulation strategies. Negative mood regulation expectancies (NMR expectancies) are hypothesized as beliefs that some behavior or cognition will alleviate or terminate a negative mood state (Catanzaro and Mearns, 1990). A person with a high level of mood regulation expectancy believes that his/her efforts to improve his/her mood will be successful; whereas a person with low mood regulation expectancy believes that his/her behaviors and cognitions will have little effect on improving his/her mood (Kirsch, Mearns and Catanzaro, 1990).

Rotter's social learning theory and the concept of secondary appraisal proposed by Lazarus are two theoretical constructs on which mood regulation expectancies depend (Kirsch et al., 1990). According to social learning theory, the occurrence of a behavior is a function of the expectancy that the behavior will lead to a particular reinforcement or a group of reinforcements and the value of these reinforcements (Rotter 1954; as cited in Kirsch et al., 1990). Secondary appraisal refers to an individual's evaluation about what can be done in response to an environmental stressor. There are two kinds of expectancies involved in secondary

appraisal: outcome expectancies and self-efficacy expectancies. Outcome expectancies are beliefs about the result of specific behaviors. Self-efficacy expectancies are the beliefs that the person can manage to engage in behaviors required to create the desired outcome (Lazarus and Folkman, 1984). Mood regulation expectancies are generalized outcome expectancies regarding the beliefs that an individual will succeed to alleviate negative mood through engaging in appropriate mood regulation strategies (Kirsch et al., 1990).

Kirsch and colleagues (1990) proposed that two theories, namely response expectancy theory of Kirsch and social learning theory of Rotter, explain the relationship between mood regulation expectancies and coping responses. In social learning theory, expectancy about the outcomes of a behavior and the value of these outcomes predict the occurrence of that particular behavior (Rotter 1954, as cited in Kirsch et al., 1990). Thus, an individual's expectancy about the effectiveness of coping responses predicts the extent to which he/she engages in those responses (Kirsch et al., 1990). According to Kirsch (1985), "response expectancies are expectancies about the occurrence of nonvolitional responses, either as a function of behavior (R-R expectancies) or as a function of specific stimuli (S-R expectancies)" (p.1189). Nonvolitional responses occur automatically, without any volitional effort. They include emotional reactions (e.g: sadness, anxiety), sexual arousal, pain and so on. Since nonvolitional responses have positive or negative reinforcement value, expectancies for the occurrence of those responses influence the probability that a person will engage in particular behaviors. Following that, mood regulation expectancies are proposed to be generalized response expectancies (Kirsch et al., 1990) about the ability to alleviate negative emotional states.

Kirsch, Mearns and Catanzaro (1990) investigated the role of negative mood regulation expectancies in the coping process among a large number of college students. Stressful life events, personality dispositions, somatic symptoms, family support, coping strategies as well as negative mood regulation expectancies were assessed. The results showed that among other variables, mood regulation expectancies were the best predictors of coping strategies among other variables. Expectancies for the negative mood regulation were found to be positively associated with the use of active, problem-focused coping strategies and negatively associated with avoidance strategies. Negative mood regulation expectancies also predicted the occurrence of dysphoria. Kirsch et al. (1990) concluded that the belief that one can regulate negative mood has a direct effect on one's mood state.

Mearns (1991) conducted three studies in order to assess the impact of negative mood regulation expectancies on the severity of depression individuals experience following the end of a romantic relationship. The Negative Mood Regulation Scale (NMR) was used to measure expectancies. Results indicated that people with high negative mood regulation expectancies became less depressed following a distressing experience than did people with low expectancies. Results also showed that individuals with high expectancies for regulating negative moods used active coping strategies more than those with low expectancies. Moreover, people with high NMR levels were found to have greater mood regulation capabilities after a distressing event (Mearns, 1991).

A series of studies (Catanzaro 1993, Catanzaro 1996; Catanzaro and Mearns, 1990; Kirsch et al., 1990; Mearns, 1991) have indicated that negative mood regulation expectancies are positively related with use of active coping responses and

expected emotional recovery from stressors; whereas negatively related with avoidant coping responses and symptoms of emotional distress.

To date, there have not been any studies investigating the relation between negative mood regulation expectancies and the effects of expressive writing paradigm. However, based on the findings of Kirsch et al. (1990), it was expected that people with high mood regulation expectancies, who use active coping strategies and have greater mood regulation capabilities more than those with low mood regulation expectancies, can confront and process their feelings about stressful experiences more easily, thus they can construct coherent stories of their negative experiences in their everyday lives. On the other hand, those with low mood regulation expectancies may need a safe environment and additional tools and resources to be able to confront and process their feelings about their stressful experiences. Emotional writing paradigm was expected to provide a mechanism in order to help people confront and process their upheavals and the setting was expected to create a feeling of safety. Therefore, participants with low negative mood regulation expectancies were expected to benefit from emotional writing paradigm more than those with high negative mood regulation expectancies.

The Present Study

The aim of the present study was to examine the individual differences on effects of emotional disclosure regarding depressive symptomatology, physical symptomatology, level of intrusion and avoidance and intensity of negative and positive emotions regarding the written traumatic experience in a sample of undergraduate students. Beck Depression Inventory (Beck, 1961) was used to measure depressive symptomatology, while physical symptomatology, intrusive thoughts and avoidance behavior, and intensity of emotions were measured by the

scales prepared for this study. Previous studies conducted with university students indicated that students who engaged in emotional disclosure experienced decreases in physical symptoms (Greenberg and Stone, 1992; Pennebaker, Colder and Sharp, 1990; Pennebaker and Francis, 1996). Considering these findings, it was predicted that individuals who were assigned to the emotional disclosure group would have less physical symptoms at the one month follow-up. Moreover, previous studies examining the changes in intrusive thoughts and avoidance related to these intrusions have equivocal findings, some have indicated decreases while some did not report any significant changes. As stated before, these equivocal findings may have various explanations. In this study, intrusive thoughts about the stressful topic written in the study and avoidance related to these intrusive thoughts were expected to decrease after emotional disclosure, as it was indicated in the study of Klein and Boals (2001). In addition, Sloan and Marx (2004a) showed that people assigned to the disclosure condition had lower levels of distress, measured by Beck Depression Inventory, at follow-up compared to control group. It was predicted that individuals in the emotional disclosure group would have lower levels of distress at follow-up.

As explained above, individual differences have recently begun to be examined in studies using the emotional disclosure paradigm. In this study, the effects of negative mood regulation expectancies on the benefits of emotional disclosure paradigm was investigated through using Negative Mood Regulation Expectancies Scale. Examining Negative Mood Regulation Expectancies is proposed to be important because written emotional disclosure procedure is proposed to facilitate emotion regulation processes (part of self-regulation). Therefore, how people with varying degrees of emotion-regulation capabilities would benefit from emotional disclosure might differ. It was expected that individuals with lower

negative mood regulation expectancies would experience beneficial outcomes of emotional disclosure more because, as it was stated above, these individuals who were found to have lower emotion-regulation capabilities and to use avoidant coping strategies were expected to confront and process their negative experiences through successive writing sessions. People with higher negative mood regulation expectancies, on the other hand, are expected to benefit less because these people with greater self-regulation capabilities and active coping strategies, might have processed their past traumatic experiences prior to the writing procedure.

Hypotheses

1. At follow-up, experimental group participants with lower negative mood regulation expectancies will have significantly lower Beck Depression Inventory scores, lower Current Health Complaints scores, lower frequency of illnesses, doctor visits and less days sick compared to both experimental group participants with higher negative mood regulation expectancies and control group participants.
2. Participants in the emotional disclosure group will have significantly lower Current Health Complaints scores, lower Beck Depression Inventory scores, lower Intrusion and Avoidance scores and less intense negative emotions about the written traumatic event, and more intense positive emotions about the written traumatic event at follow-up, compared to their baseline scores.

METHOD

Sample

One hundred and nineteen undergraduate students (72 females, 47 males) between the ages of 17 and 28 ($M=19.86$, $SD=1.46$) who were enrolled in an introductory psychology course took part in this study for five extra course credits. Sixty of the participants were in the experimental group, while 59 were in the control group. All participants attended all of writing sessions as well as the 1 month follow-up session. Therefore, analyses included 119 participants.

Materials

Demographic Data Form

The form contained questions about the participant's gender, age, number of siblings, parents' education levels, and questions asking where the participant lives, with whom he/she lives, the place (village, town or city) he/she has lived for the longest duration (Appendix A).

Life Events Inventory

The inventory contained a list of stressful events asking subjects to indicate which of these negative events they experienced during their lives. For each recorded event, a) they were also asked to indicate when they experienced it on six age intervals (0-6, 7-11, 12-15, 16-19, 20 and later, and now) and b) how much they were affected by the event on a 5-point scale with 1 indicating "not at all" and 5 indicating "extremely". The list was constructed for this study, based on the modification of the Life Events Scale prepared by Kaymakçioğlu (2001). (Appendix B)

Health Questionnaire

Based on Pennebaker's Inventory of Limbic Languidness (PILL, Pennebaker, 1982) and Southern Methodist University Health Questionnaire (SMU-HQ, Watson

and Pennebaker, 1989) a list of illnesses and physical symptoms was prepared for this study. Psychological problems, like panic attack and social phobia, that were not included in PILL or SMU-HQ were included in this list. Also, some items of PILL and SMU-HQ like breast cancer and skin cancer were not included because they are thought to be very specific; rather cancer was included in order to cover all types of cancer. Subjects were asked to indicate which of these problems they have experienced. Apart from symptoms, participants were also asked about frequency of illnesses and doctor visits, number of sick days since the beginning of the term and whether the participants got vaccination against flu. Moreover, there was a list of health complaints (6 items; e.g., headache, nausea/indigestion) asking subjects to indicate on a five point scale which of these complaints they have experienced for the last month, 1 indicating “never” and 5 indicating “very frequently”. Health questionnaire is composed of three separate group of variables: 1. Based on the total number of illness categories reported, *total number of medical problems*, which was a sum score; 2. *Current health complaints measure* which summed the ratings of the six health complaint items 3. Questions regarding frequency of illnesses, number of sick days, number of doctor visits and status for vaccination against flu are involved in the third category. Each of these three questions is considered as separate variable (Appendix C). Health questionnaire was given without the items of total number of medical problems measure at follow-up. One modification that was done on the items for the follow-up measure is that instead of asking subjects to report about the past month regarding the symptoms, subjects were asked to report about the occurrences of those symptoms in the last two weeks due to the short interval between baseline and follow-up dates. The Cronbach alpha reliabilities for current health complaints measure were .71 for both baseline and follow-up.

Beck Depression Inventory (BDI)

BDI was developed by Beck (1961) in order to measure the cognitive, affective, motivational and physiological symptoms of depression. It is a 21-item self-report measure with four statements on each item reflecting the severity level. Individuals are requested to select the statement that best describes their feelings for the last week. BDI has high levels of reliability and validity. Turkish adaptation was done by Teğin (1980, cited in Öner, 2006) and test-retest reliability coefficient of the Turkish version was between .74 and .86. (Appendix D).

Negative Mood Regulation Expectancies Scale

NMR scale, developed by Catanzaro and Mearns (1990), is a measure of generalized expectancies for alleviating negative moods. Subjects are asked to respond to 30 items pertaining to how likely they are to do the given statement when they are upset through completing the stem, “When I’m upset, I believe that...” rating the given statement on a five-point scale (1 = strongly disagree to 5 = strongly agree). Items tap cognitive strategies, behavioral strategies and general beliefs. Higher scores indicate stronger beliefs that one can alleviate negative moods. Internal consistency of the scale was .89 (Catanzaro and Mearns, 1990). NMR scale was translated into Turkish by Kaymakçioğlu (2001) and the alpha coefficient was found to be .88. (Appendix E). In the present study, the reliability analysis of NMR scale revealed an alpha reliability coefficient of .86.

Measures Related to the Writing Procedure

Measures Given to the Experimental Group

Impact of Stressful Experience Questions

Individuals were asked four questions in order to rate the impact of the stressful life experience they wrote about on a five point scale. Items were prepared

for this study in order to investigate the impact of the experience both in the past and in the present and also to learn how reactions of the individuals have changed in time. Scores of three items (impact in the past, present impact and how much this experience has changed the person) were summed and averaged, higher scores indicate more powerful impact. (Appendix F). The Cronbach alpha reliability of the three questions regarding impact of stressful experience was .60.

Social Constraint Scale

Eleven questions were constructed based on the Social Constraints scale of Lepore et al. (1996) in order to measure the degree to which individuals have been constrained in talking about stressful experience they write in the study (e.g., How easy has it been for you to talk about what you experienced?). Participants were asked to answer two questions in a yes/no format (Did you talk to anyone about the experience?, Did you write about the experience?). These questions were kept outside of the scale scores. An additional question asked subjects to rate their experience of telling to someone else about the experience on a four point scale, (1= I felt worse and 4=I felt much better). This question was also not part of the social constraint measure which was used for the analyses. There was also a question asking participants when they talked about their experience for the first time and participants were asked to write an approximate time. If they have never talked about their experience, they were asked to skip the following questions regarding their experience of talking with other people. The remaining 7 questions were asked on a 5 point scale (e.g: to what extent did you satisfy your need to talk about your experience?), 1 indicating either “never” or “not at all” and 5 indicating “always” or “extremely”. The 7 items were factor analyzed using principle components. Only 1-factor solution was meaningful. Therefore the 7 items were taken in a single scale in

which ratings of items were summed and averaged. Higher scores indicate more social constraint. The Cronbach alpha reliability of the seven questions regarding social constraint was .74. (Appendix G).

Intrusion and Avoidance Scale

A 7-item scale was developed in order to assess the frequency of intrusive thoughts and avoidance of these thoughts, based on the modification of the Intrusive Thoughts Scale of Lepore et al. (1996). Participants were asked to answer on a 5-point scale (1 = never to 5 = always) how often they have had thoughts about the stressful experience in question and how often they have tried to avoid these thoughts, both in the past and recently (Appendix H).

A factor analysis was performed for the items of the Intrusion and Avoidance scale. Two factors emerged from this analysis and explained %71.87 of the variance. Items regarding recent intrusions and avoidance loaded on the first factor. This factor had an eigenvalue of 3.06 and explained %43.68 of the variance, and was labeled *Recent Intrusion/Avoidance*. Items regarding intrusions and avoidance in the past loaded on the second factor, which had an eigenvalue of 1.97 and explained %28.20 of the variance. The second factor was labeled *Past Intrusion/Avoidance*. The reliability analysis conducted using the four items related to Recent Intrusion/Avoidance revealed an alpha reliability coefficient of .88 for baseline and .83 for follow-up. The reliability analysis conducted using the 3-items related to Past Intrusion/Avoidance revealed an alpha reliability coefficient of .75 for baseline and .73 for follow-up. Item scores were summed and averaged both for Recent Intrusion/Avoidance and Past Intrusion/Avoidance. Higher scores indicate more frequent intrusive thoughts and avoidance.

Intensity of Emotions Scale

This scale included eighteen negative and four positive emotions, that have the potential to be elicited by the event the participants write about, using a 10-point scale (1= not at all, 10= extremely) (Appendix I). Participants completed the scale before they started writing on the first day and were asked to fill it again at 1-month follow-up. The Cronbach alpha reliabilities of the *negative emotions* were .93 both at baseline and follow-up. The Cronbach alpha reliabilities of the *positive emotions* were .96 at baseline and .95 at follow-up.

Last Day of the Writing Questionnaire

A brief questionnaire prepared to assess participants' general attitudes and moods about the experiment was given on the last day of the writing procedure (Appendix K). Six measures were constructed based on these items: a) *Openness* related to the writing which averaged the ratings given to items related to how personal the essays were and how much they felt they reflected their deepest emotions in the essays for 3 days. The reliability analysis revealed an alpha reliability coefficient of .63; b) *Emotional impact of writing*, which summed ratings given to 3 items (how sad have you felt during the last three days, how happy have you felt during the last three days, and how much have you thought about this study since the day it started). The Cronbach alpha reliability of the emotional impact of writing measure was .68; c) *Overall disclosure measure* was constructed based on a single item which asked the participants "in the past how much did you refrain from talking with other people about what you wrote in this study"; d) *Disclosure in the past measure* was constructed based on a single item that questioned to what degree they disclosed the things they had written down to other people before they participated in the study; e) *Overall difficulty of writing measure* was based on the

single item asking participants how difficult it had been difficult for them to write for three days; f) *Overall meaningfulness of writing measure* was developed on the basis of the item that asked participants how meaningful it was for them to participate in this study apart from taking five extra credits.

Measures given to all subjects during and at the end of writing procedure

Post-Writing Questions

Participants were asked to rate each item on a 10-point scale (1=not at all, 10=extremely) which covered arising symptoms, level of constraint and openness regarding the writing experience (Appendix J). Three scales were constructed out of the 9 items asked immediately following the writing episode: a) *Daily symptoms subscale*: Participants were asked to rate the degree of discomfort symptoms (e.g: dizziness) and emotions (e.g: tired, guilty). The item related to how relieved they felt after the writing was left outside of the daily symptoms measure for two reasons: Firstly, all of the remaining 11 items were items capturing negative feelings or distress symptoms and simply reversing the “relief” item would not have fitted the scale conceptually. Secondly, the amount of relief felt after the writings derived to be conceptually important to use in analyses independently as a single indicator. The Cronbach alpha reliabilities of the daily symptoms subscale for the first, second and third days of writing were .86, .85 and .80, respectively. b) Additionally, questions asking how personal, how meaningful and how revealing the writing was, were summed and averaged, and formed the subscale of *daily openness* in writing. The reliability analyses of this subscale for the first, second and third writing days revealed alpha reliability coefficients of .84, .90 and .82, respectively. c) Also, three questions investigating participants’ previous disclosure and constraint (e.g: to what extent would you like to have said the things that you wrote today to someone in the

past?) were summed and averaged, forming the *disclosure subscale*. The Cronbach alpha reliabilities of the self-constraint subscale for the first, second and third days of writing were .74, .71 and .73, respectively.

Procedure

Baseline Procedure

This study followed the typical emotional disclosure procedure. The data were collected in the psychology department of Boğaziçi University. Sign-up sheets that explain the requirements of the study were posted. Five credits were given to students who complete the study at the follow-up session. Before they attended to the study, each subject was greeted by the supervisor of the study in order to inform about the nature of the study. The participant was asked to fill out the consent form (Appendix L) containing general information about the study and contact information of the researcher and the supervisor. After signing the informed consent, each participant was asked to complete a package of questionnaires, including Demographic Data Form, Life Events Inventory, Health Questionnaire, BDI, and NMR.

Depending on Negative Mood Regulation Expectancies (NMR) scores, participants were divided into three groups, namely low negative mood regulation expectancies group (minimum NMR score = 52, maximum NMR score = 95, mean = 85), middle negative mood regulation expectancies group (minimum = 98, maximum = 116, mean = 106.65) and high negative mood regulation expectancies group (minimum = 117, maximum = 148, mean = 123). After they were divided into three groups depending on their NMR scores, participants from each group were randomly assigned to either a written emotional disclosure condition or a control writing condition. A participant that would be placed in the experimental group was matched

with another participant to be in control group based on gender and NMR scores. Amongst the same gender participants with close NMR scores, the pairs were randomly matched, one of whom belonged to the experimental group while the other was placed in the control group. There were 20 pairs in both low NMR and high NMR groups while there were 19 pairs in middle NMR group. Only one pair in low NMR group and two pairs in middle NMR group could not be matched according to their gender.

For all participants, the writing sessions took place usually across 3 consecutive days (within a week at most), with all participants writing alone in the laboratory for 20 minutes each session. Before starting to write, participants in the experimental group completed the Impact of Stressful Experience Questions, Social Constraints Scale, Intensity of Emotions Scale and Intrusion and Avoidance Scales. Then, they wrote for 20 minutes. The writing procedure was adapted from Pennebaker and Beall (1986) and writing instructions are outlined in Appendix M for emotional disclosure group and Appendix N for control group. Participants in the written emotional disclosure group were asked to write about the most distressing experience of their lives for the next 3 days with as much emotion as possible. Those in the control group were asked to write about non-emotional topics (e.g. describe your room, describe the campus, describe your plans for tomorrow). The experimenter informed the participant when 20 minutes was over and participant was asked to complete post-writing questions. Then, the participant placed questionnaires and writing sheet into an envelope and sealed it. The participants were asked not to put their names on this envelope and other questionnaires and instead they were given a three digit code for identification.

The same writing procedure occurred on the second and the last day of the study with the exceptions that a) participants did not fill the Impact of Stressful Experience Questions, Social Constraints Scale, Intensity of Emotions Scale and Intrusion and Avoidance Scales again, and that b) on the last day, after the writing session, participants were asked to complete The Last Day of Writing Questionnaire.

Follow-Up Procedure

The participants were scheduled to attend the final session of the experiment by coming to the laboratory of the psychology department thirty days after their last writing session. The following questionnaires were completed at the following session: Current Health Complaints Measure, Beck Depression Inventory was filled out by all participants, while Intensity of Emotions Scale, Intrusion and Avoidance Scale were completed only by experimental group participants.

Pilot Study

A pilot study with 12 participants was conducted in order to see whether the writing procedure works successfully or not. In this pilot study, participants were asked to complete questionnaires and to write about the most stressful experience of their lives, as the emotional disclosure procedure required. No control or follow-up procedure was tested in the pilot study as the aim of the pilot was to test the disclosure aspect of the writing paradigm, especially in relation to how participants responded to being asked to write about the most traumatic life event. The supervisor of this study interviewed each participant to go over the procedure in order to understand the impact of the task and whether the task was suitable for the Turkish student population. The overall indication was that participants reported no negative reactions related to the task while many reported positive gains from having

participated in the study. Thus, the procedure was deemed to be relatively safe to use in the Turkish university student population.

RESULTS

Participant Characteristics

When asked about where and with whom they live, %31.9 of the participants reported that they live with their families, while %41.2 live in the dormitory, %16.2 live with their friends, %1.7 live alone and %4.2 live with their relatives. %4.2 of the participants marked the “other” option.

Regarding the item “the place you have lived for the longest duration”, %52.1 of the participants stated that they had lived in a big city; %41.2 had lived in a city, %4.2 in a town and %2.5 in a village. Also, %59.7 of the participants’ families live in another city while the percentage of families that live in Istanbul was %40.3. Moreover, %15.1 of the participants reported that they did not have any siblings, while %52.9 have one sibling, %21 have 2 siblings. %10.8 of the participants have 3 or more siblings.

Participants were also asked about mothers’ and fathers’ education level. %4.2 of the participants reported that their mothers had no education. Percentages of mothers who were graduated from elementary school, middle school, high school, university and graduate school were %20.2, %2.5, %32.8, %29.4 and %2.5, respectively. Moreover, %1.7 of the participants’ mothers dropped out of middle school, %5 dropped out of high school and %0.8 dropped out of university. %0.8 marked the “other” option. Regarding their fathers’ education level, %13.4 stated that their fathers were primary school graduates, %5 reported that their fathers were graduated from middle school. %16 were graduated from high school, %47.9 were graduated from university and %6.7 had master’s degree. Percentages of fathers who dropped out of middle school, high school and university were %3.4, %1.7 and %3.4, respectively. %2.5 of the participants marked the “other” option.

Initially, analyses were carried out to see whether there were any significant differences in demographic, health, trauma related variables or baseline BDI and current health complaints scores between experimental and control groups, using t tests or chi-square analyses as appropriate. Results indicated that participants in the experimental group and control group did not significantly differ on any of the variables, including age, gender, where and with whom they live, the place they have lived for the longest duration, where their parents live (in Istanbul or in another city), number of siblings, mothers' and fathers' education levels and total number of medical problems. Also, although a large percentage of participants reported more than one traumatic event, two groups did not differ on total number of traumatic experiences and total impact of the experienced traumas. Moreover, there were not any significant differences between experimental and control groups on baseline BDI and current health complaints scores.

Descriptive Statistics

Means and standard deviations of NMR Scale, BDI Scale –both for baseline and follow-up-, total number of traumas experienced, baseline and follow-up Current Health Complaints, Total Number of Medical Problems, baseline and follow-up frequency of illnesses, number of sick days, frequency of doctor visits for each group are presented in Table 1.

Table 1. Means and standard deviations of NMR scores, baseline BDI and follow-up BDI scores, number of baseline health complaints, number of follow-up health complaints, number of medical problems, baseline and follow-up frequency of illnesses, baseline and follow-up number of sick days, baseline and follow-up frequency of doctor visits for each group.

Variable	Low NMR Experimental (N=20)	Low NMR Control (N=20)	Middle NMR Experimental (N=20)	Middle NMR Control (N=19) ^a	High NMR Experimental (N=20)	High NMR Control (N=20)	Total (N=119) ^b	<i>F</i>	<i>p</i>
Total NMR	85.20 (7.54)	84.80 (10.11)	106.55 (5.97)	106.84 (6.12)	122.75 (4.81)	123.25 (7.33)	104.88 (17.20)	112.57	<.01
Pre-BDI	13.80 (7.96)	14.65 (7.9)	12.25 (8.72)	9.28 (4.24)	7.4 (7.1)	12 (8.82)	11.60 (7.91)	2.54	.03
Post-BDI	13.90 (8.26)	16.15 (7.94)	12.6 (7.35)	13.16 (12.78)	9.6 (8.13)	10.6 (6.95)	12.66 (8.82)	1.44	.21
Total Trauma	6.2 (2.75)	6 (2.7)	5.8 (3.02)	5.58 (2.67)	4.7 (2.41)	5.85 (2.16)	5.69 (2.62)	.80	.55
Pre-Health Complaints	8.05 (4.49)	10.2 (4.12)	7.65 (5.29)	6.85 (3.82)	7.35 (4.43)	7.20 (4.21)	7.91 (4.47)	1.45	.21
Post-Health Complaints	8.55 (4.77)	9.4 (4.35)	7.95 (5.6)	7.37 (4.1)	6.95 (4.45)	7.6 (4.42)	7.97 (4.62)	.72	.61
Total Number of Medical Problems	5.1 (4.06)	4.1 (4.14)	4.15 (3.77)	3.74 (3.21)	2.9 (2.57)	2.7 (1.75)	3.78 (3.39)	1.39	.24
Pre-Frequency of Illnesses	1.78 (2.23)	1.9 (2.53)	2.1 (1.45)	1.87 (2.22)	1.65 (1.4)	1.9 (2.02)	1.87 (1.98)	.11	.99
Post-Frequency of Illnesses	1.28 (1.68)	1.18 (1.14)	1.23 (1.2)	0.79 (0.8)	1.15 (0.88)	0.88 (0.94)	1.08 (1.14)	.59	.71
Pre-Number of Sick Days	11.88 (20.7)	6.15 (7.0)	7.53 (8.25)	5.82 (6.77)	4.7 (4.95)	5.05 (4.33)	6.86 (10.38)	1.32	.26
Post-Number of Sick days	8.75 (16.29)	4.13 (3.98)	4.98 (4.87)	5.42 (9.1)	3.83 (3.84)	6.63 (13.58)	5.62 (9.83)	.68	.64
Pre-Frequency of Doctor Visits	1.75 (3.29)	1.13 (2.03)	1.45 (1.61)	1.42 (2.14)	0.35 (0.75)	0.88 (1.19)	1.16 (2.01)	1.23	.30
Post-Frequency of Doctor Visits	0.71 (1.28)	0.65 (0.99)	1.15 (1.35)	0.32 (0.48)	0.15 (0.37)	0.50 (0.89)	0.58 (1.0)	2.59	.03

Variable	Experimental (N=60)	Control (N=59) ^c	<i>F</i>	<i>p</i>
Total NMR	104.83 (16.67)	104.93 (17.87)	.001	.98
Pre-BDI	11.15 (8.29)	12.07 (7.54)	.40	.53
Post-BDI	12.03 (8.00)	13.31 (9.62)	.62	.43
Total Trauma	5.57 (2.76)	5.81 (2.48)	.26	.61
Pre-Health Complaints	7.68 (4.68)	8.14 (4.27)	.30	.58
Post-Health Complaints	7.82 (4.77)	8.14 (4.32)	.14	.71
Total Number of Medical Problems	4.05 (3.59)	3.51 (3.19)	.76	.39
Pre-Frequency of Illnesses	1.84 (1.72)	1.9 (2.23)	.02	.90
Post-Frequency of Illnesses	1.22 (1.27)	0.95 (0.97)	1.66	.20
Pre-Number of Sick Days	8.03 (13.29)	5.67 (6.05)	1.55	.22
Post-Number of Sick days	5.85 (10.12)	5.39 (9.61)	.07	.80
Pre-Frequency of Doctor Visits	1.18 (2.21)	1.14 (1.81)	.02	.90
Post-Frequency of Doctor Visits	0.67 (1.15)	0.49 (0.82)	.94	.34

Note. Total NMR= Total Negative Mood Regulation Expectancies Scale Score, Pre-BDI= Baseline Beck Depression Inventory Score, Post-BDI= Follow-up Beck Depression Inventory Score, Total Trauma= Total number of traumatic experience, Pre-Health Complaints= Number of health complaints at baseline, Post-Health Complaints= Number of health complaints at follow-up, Pre-Frequency of Illnesses: Frequency of Illnesses reported at baseline, Post-Frequency of Illnesses: Frequency of Illnesses reported at follow-up, Pre-Number of Sick Days: Number of sick days reported at baseline, Post-Number of Sick days: Number of sick days reported at follow-up, Pre-Frequency of Doctor Visits: Frequency of doctor visits reported at baseline, Post-Frequency of Doctor Visits: Frequency of Doctor Visits reported at follow-up. The values in paranthesis represent the standard deviations. ^a.N=18 in Pre-BDI and Pre-Health Complaints scores for Middle NMR Control Group. ^b.N=118 in Pre-BDI and Pre-Health Complaints scores for Total Sample. ^c. N=58 in Pre-BDI and Pre-Health Complaints scores for Control Group

Means and standard deviations of the scales and subscales regarding the traumatic experience written by experimental group participants for each experimental group are presented in Table 2.

For each group, means and standard deviations of measures regarding three writing days –daily symptoms, daily openness in writing, daily disclosure and relief- are presented in Table 3.

Means and standard deviations of the six measures of the last day of the writing questionnaire, namely, openness related to writing, emotional impact of writing, overall disclosure, disclosure in the past, overall difficulty of writing, overall meaningfulness of writing, for each experimental group are presented in Table 4.

Proportions of participants' stressful life experiences and proportions of the age period of each experience as reported in the Life Events Inventory are presented in Table 5.

Table 2. Means and standard deviations of impact of event, total social constraint experienced by participant, past intrusion level at baseline, recent intrusion level at baseline, past intrusion level at follow-up, recent intrusion level at follow-up, negative emotions about the experience at baseline, positive emotions at baseline, negative emotions at follow-up, positive emotions at follow-up for each experimental group.

Variable	Low NMR Experimental	Middle NMR Experimental	High NMR Experimental	Total	<i>F</i>	<i>p</i>
Impact of Event	2.52 (0.82) (N=20)	2.18 (0.83) (N=20)	2.2 (0.7) (N=20)	2.3 (0.79) (N=60)	1.14	.33
Social Constraint	1.31 (0.8) (N=15)	1.21 (0.64) (N=18)	0.95 (0.52) (N=19)	1.15 (0.66) (N=52)	1.49	.24
Pre-Intrusion Level in the Past	2.35 (1.03) (N=20)	2.07 (0.68) (N=20)	2.05 (0.92) (N=20)	2.16 (0.89) (N=60)	.72	.49
Pre-Intrusion Level-recent	1.43 (1.11) (N=20)	1.56 (0.9) (N=20)	1.04 (0.97) (N=20)	1.34 (1.00) (N=60)	1.50	.23
Post-Intrusion Level in the Past	2.37 (0.84) (N=20)	2.08 (0.82) (N=20)	2.05 (0.69) (N=20)	2.17 (0.78) (N=60)	.98	.38
Post-Intrusion Level-recent	0.93 (0.85) (N=20)	1.09 (0.88) (N=20)	0.80 (0.85) (N=20)	0.94 (0.85) (N=60)	.56	.57
Pre-Negative Emotions	3.14 (2.18) (N=19)	3.01 (1.68) (N=20)	1.98 (1.92) (N=20)	2.70 (1.97) (N=59)	2.15	.13
Pre-Positive Emotions	1.04 (1.86) (N=20)	1.03 (1.98) (N=20)	2.21 (2.70) (N=20)	1.43 (2.25) (N=60)	1.90	.16
Post-Negative Emotions	1.92 (1.5) (N=20)	1.78 (1.61) (N=20)	1.55 (1.54) (N=20)	1.75 (1.53) (N=60)	.29	.75
Post-Positive Emotions	2.65 (2.27) (N=20)	2.49 (2.62) (N=20)	2.81 (2.42) (N=20)	2.65 (2.40) (N=60)	.09	.92

Note. Pre—at baseline, Post—at follow-up. The values in parantheses represent the standard deviations and number of participants, respectively.

Table 3. Means and standard deviations of symptoms after each day's writing session and participant's evaluation of his/her level of disclosure and openness in each day's writing for each group

Variable	Low NMR Experimental (N=20)	Low NMR Control (N=20)	Middle NMR Experimental (N=20)	Middle NMR Control (N=19)	High NMR Experimental (N=20)	High NMR Control (N=20)	Total (N=119)
Day1-Symptoms	2.47 (1.73)	1.68 (1.68)	1.88 (1.14)	0.87 (1.17)	1.33 (1.55)	1.00 (0.87)	1.54 (1.47)
Day2-Symptoms	1.89 (1.54)	1.18 (1.35)	1.60 (1.00)	0.97 (1.71)	1.27 (1.25)	0.64 (0.67)	1.26 (1.33)
Day3-Symptoms	1.23 (0.94)	1.07 (1.17)	0.96 (0.90)	0.57 (0.78)	0.89 (1.23)	0.65 (0.80)	0.90 (0.99)
Day1-Disclosure	3.87 (1.93)	0.97 (1.26)	3.5 (2.35)	1.77 (2.04)	3.02 (2.33)	1.77 (1.76)	2.49 (2.20)
Day2-Disclosure	3.88 (1.81)	0.68 (0.96)	3.78 (2.13)	1.11 (1.02)	3.12 (2.45)	1.05 (1.18)	2.28 (2.15)
Day3-Disclosure	3.22 (1.98)	1.05 (1.43)	3.75 (2.03)	1.05 (1.57)	3.45 (2.08)	1.15 (1.23)	2.29 (2.10)
Day1-Openness	7.8 (1.3)	3.6 (2.28)	6.98 (1.36)	4.74 (2.72)	6.97 (1.64)	4.53 (2.4)	5.78 (2.51)
Day2-Openness	7.18 (1.85)	2.42 (1.68)	6.72 (1.97)	2.96 (2.52)	6.98 (1.48)	3.33 (2.35)	4.95 (2.84)
Day3-Openness	6.95 (1.64)	3.7 (1.92)	6.82 (2.09)	3.54 (2.36)	6.9 (1.5)	4.12 (1.88)	5.35 (2.44)
Day1-Relief	3.35 (2.46)	3.40 (2.16)	3.80 (2.82)	4.68 (2.73)	2.45 (2.68)	4.55 (3.05)	3.70 (2.72)
Day2-Relief	3.45 (2.33)	2.10 (2.07)	4.30 (2.77)	3.32 (2.81)	4.25 (2.42)	3.80 (3.29)	3.54 (2.69)
Day3-Relief	3.75 (2.40)	2.05 (1.82)	4.80 (2.91)	3.21 (2.59)	4.45 (2.46)	3.25 (2.84)	3.59 (2.64)

Note. The values in paranthesis represent the standard deviations

Table 4. Means and standard deviations of six measures of overall assessment of writing procedure for each experimental group

Variable	Low NMR Experimental (N=20)	Middle NMR Experimental (N=20)	High NMR Experimental (N=20)	Total (N=60)	<i>F</i>	<i>p</i>
Total Openness	7.25 (1.34)	7.03 (1.82)	7.00 (1.62)	7.09 (1.58)	.15	.86
Emotional Impact	5.18 (1.67)	4.27 (1.57)	3.92 (2.13)	4.46 (1.86)	2.62	.08
Overall Disclosure	3.80 (3.11)	3.45 (2.48)	2.05 (2.35)	3.10 (2.73)	2.41	.10
Disclosure in the Past	4.25 (2.61)	4.15 (2.32)	5.75 (2.81)	4.72 (2.65)	2.40	.10
Difficulty of Writing	5.65 (2.23)	4.00 (2.45)	4.40 (2.41)	4.68 (2.43)	2.65	.08
Meaningfulness of Writing	5.95 (1.56)	6.35 (2.62)	5.85 (2.46)	6.05 (2.33)	.25	.78

Note. The values in paranthesis represent the standard deviations

Table 5. Proportions of participants' stressful experiences reported in Life Events Inventory

Stressful Experience	Proportion of participants	Age Groups					
		0-6	7-11	12-15	16-19	20-	Recently
Death of mother	%0.8			%0.8			
Death of father	%1.7		%0.8				%0.8
Death of a sibling	%1.7	%0.8					%0.8
Death of a close friend	%6.7		%0.8	%2.5	%3.4	%0.8	%0.8
Death of a close relative	%6.3	%6.7	%1.3	%1.8	%2.9	%4.2	%1.7
Other loss	%15.1	%0.8	%1.7	%3.4	%8.4		%0.8
Divorce/Separation of parents	%7.6	%1.7	%0.8	%2.5	%3.4		
Health problem of a family member	%5.5	%2.5	%14.3	%15.3	%22.7	%5.8	%6.7
Financial problems in the family	%3.5	%3.4	%6.7	%1.2	%2.0	%5.8	%1.2
Severe disagreement with parents	%4.4	%1.7	%6.7	%17.6	%25.2	%5	%9.2
Significant injury/illness	%3.1	%5	%8.4	%4.2	%14.3	%4.2	%2.5
Physical abuse/harrassment	%1.7	%6.7	%12.6	%2.5	%3.4	%0.8	%0.8
Traumatic sexual experience	%1.9	%1.7	%3.4	%3.4	%2.5	%0.8	
Exposure to burglary	%1.3		%2.5	%2.5	%12.6	%1.7	%0.8
Earthquake/Flood	%2.9	%0.8	%5.9	%35.3	%10.1	%1.7	
Failure in Education	%2.7	%0.8	%1.7	%5	%7.6	%2.5	%7.6
Problems with close friends	%4.6		%0.8	%1.0	%35.3	%5	%4.2
Problems with boyfriend/girlfriend	%5.7			%3.4	%45.4	%10.9	%1.0
End of a romantic relationship	%5.3			%0.8	%44.5	%6.7	%4.2

Note. Proportion of age groups may be higher than proportion of participants because participants who reported to have a stressful experience had chance to sign more than one age group for the occurrence of that stressful experience.

Analyses of the Hypotheses

Hypothesis I

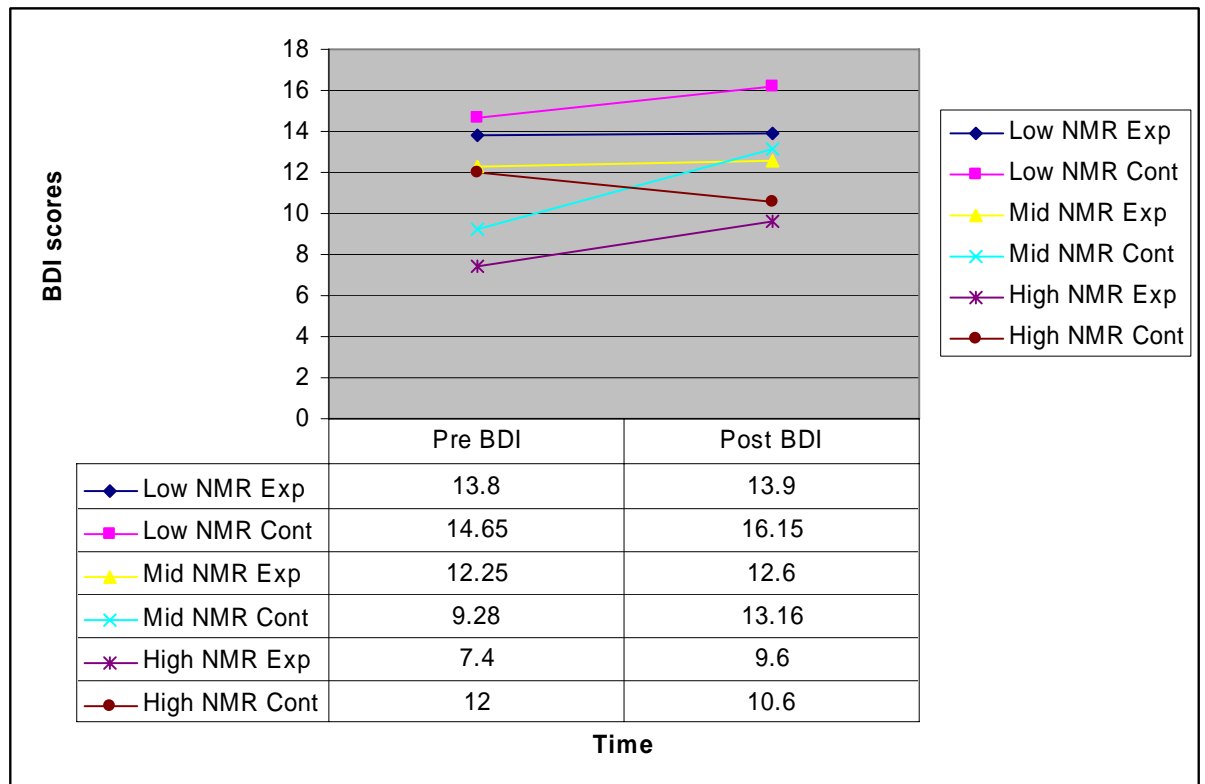
BDI scores obtained at baseline were subtracted from those obtained at follow-up in order to obtain *BDI-Difference* scores. Also, health complaints scores obtained at baseline were subtracted from the scores regarding health complaints at follow-up so as to have *difference health complaints* scores. Frequency of illnesses reported at baseline is subtracted from that reported at follow-up and in this way difference scores for frequency of illnesses were obtained. Number of sick days reported at baseline was subtracted from number of sick days reported at follow-up and difference scores were obtained. Finally, frequency of doctor visits reported at baseline was subtracted from that reported at follow-up in order to obtain difference scores for frequency of doctor visits.

BDI Scores

A 2 (experimental vs control) x 3 (NMR Groups: Low NMR, Middle NMR, High NMR) Analysis of Variance (ANOVA) was conducted on difference BDI scores. While there were no significant main effects [for experimental vs control condition $F(1,112)=.21$, $p=.65$, $\eta^2=.002$ and for NMR groups, $F(2,112)=.73$, $p=.48$, $\eta^2=.013$] the interaction effect (exp vs. control by NMR group) approached significance [$F(2,112)=2.49$, $p=.08$, $\eta^2=.043$].

In order to understand how to interpret the interaction effect for the BDI-difference scores, pre and post BDI scores for the six groups (Low NMR Experimental, Low NMR Control, Mid NMR Experimental, Mid NMR Control, High NMR Experimental, High NMR Control) was examined (Graph 1). The overall post BDI scores were higher than pre BDI scores for all but one group (High NMR Control). As can be seen in both Graph 1 and Figure 1, those participants who were

in the Low NMR and Mid NMR experimental groups had less elevated post BDI scores than Low NMR and Mid NMR Control groups at follow-up. However, those participants who were in the High NMR experimental group had more elevated post BDI scores than High NMR Control group at follow-up. This interaction can be interpreted as the lower NMR (Low and Mid) experimental groups benefitting more from the expressive writing paradigm than the high NMR experimental group. This finding partially supports the hypothesis that those in the low NMR group will have significantly higher reduction in BDI scores compared to High NMR experimental group.



Graph 1: Baseline and follow-up BDI scores for each group

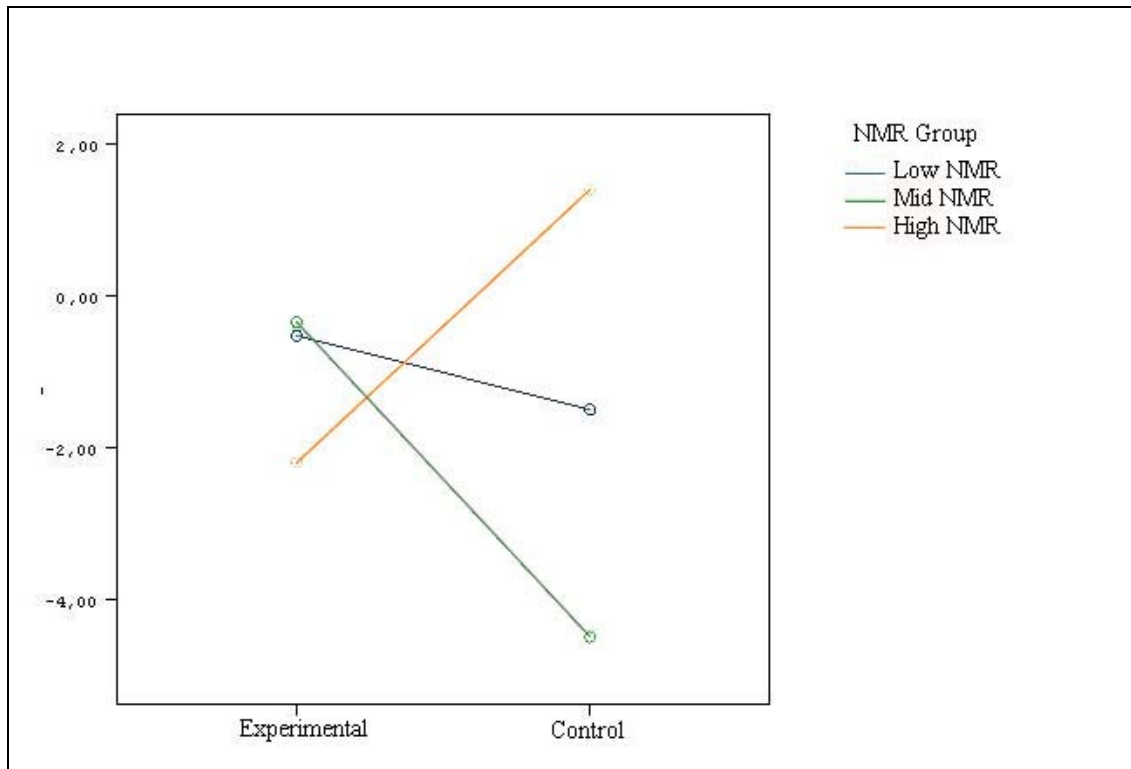


Figure 1: Interaction of Experimental condition and NMR groups on difference BDI scores

Health Variables

A one-way ANOVA was applied in order to see whether there was a significant difference between NMR groups (Low NMR, Middle NMR; High NMR) on total number of medical problems. Results approached significance, implying difference between NMR groups regarding number of medical problems [$F(2,116)=2.98, p=.055$]. Tukey's HSD test showed that the difference was between Low NMR and High NMR groups, $p=.05$. This result suggests that people with lower NMR levels are likely to have more medical problems than those with higher NMR levels.

A 2 (Experimental vs control) x 3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANOVA was performed on difference health complaints scores. Results revealed no main effects [for experimental vs control condition $F(1,112)=.11, p=.74, \eta^2=.001$ and for NMR groups, $F(2,112)=.09, p=.92, \eta^2=.002$] or interaction effects

[$F(2,112)=.09$, $p=.46$, $\eta^2=.014$]. Thus, the hypothesis predicting a difference in terms of change health complaints scores among the groups was not supported.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with total number of medical problems as a covariate, was performed on difference health complaint scores because it was assumed that total number of medical problems might have an effect on participants' health complaints. Results revealed no main effects [for experimental vs control condition $F(1,111)=.12$, $p=.73$, $\eta^2=.001$ and for NMR groups, $F(2,111)=.09$, $p=.92$, $\eta^2=.002$] or interaction effects [$F(2,111)=.79$, $p=.46$, $\eta^2=.014$]. Thus, controlling for number of medical problems, there was no significant difference between groups with regard to changes in health complaints.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANOVA was performed on difference scores for frequency of illnesses. Results revealed no main effect of experimental condition [$F(1, 113)=.84$, $p=.36$, $\eta^2=.007$], no main effect of NMR level [$F(2,113)=.37$, $p=.69$, $\eta^2=.006$] or no interaction effects [$F(2,113)=.089$, $p=.915$, $\eta^2=.002$].

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with total number of medical problems as a covariate, was performed on difference scores for frequency of illnesses because it was assumed that total number of medical problems might have an effect on participants' illness frequency. Results revealed no main effects [for experimental vs control condition $F(1,112)=.87$, $p=.35$, $\eta^2=.008$ and for NMR groups, $F(2,112)=.38$, $p=.68$, $\eta^2=.007$] or interaction effects [$F(2,112)=.08$, $p=.92$, $\eta^2=.001$], indicating no differences between groups in terms of changes in frequency of illnesses when controlled for total number of medical problems.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with status for vaccination against flu as a covariate, was performed on difference scores for frequency of illnesses since it was hypothesized that getting vaccination against flu might have an effect on illness frequency of participants. Results revealed no main effect of experimental condition [$F(1, 112)=.97, p=.33, \eta^2=.009$], no main effect of NMR level [$F(2,112)=.39, p=.68, \eta^2=.007$] or no interaction effects [$F(2,112)=.17, p=.85, \eta^2=.003$], indicating no differences between groups in terms of changes in frequency of illnesses when controlled for status for vaccination against flu.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANOVA was performed on difference scores for number of sick days. Results revealed no main effects [for experimental vs control condition $F(1,113)=1.27, p=.26, \eta^2=.011$ and for NMR groups, $F(2,113)=1.03, p=.36, \eta^2=.018$] or interaction effects [$F(2,113)=.06, p=.94, \eta^2=.001$]. Thus, there were not any differences between groups regarding changes in the number of sick days.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with total number of medical problems as a covariate, was performed on difference scores for number of sick days because it was assumed that total number of medical problems that participants reported might have an effect on total number of sick days. Results revealed no main effect of experimental condition [$F(1, 112)=1.22, p=.27, \eta^2=.011$], no main effect of NMR level [$F(2,112)=.92, p=.40, \eta^2=.016$] or no interaction effects [$F(2,112)=.06, p=.94, \eta^2=.001$], indicating that there were not any differences between groups in terms of changes in the number of sick days when controlled for total number of medical problems.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with status for vaccination against flu as a covariate, was performed on difference scores for number of sick days because it was assumed that getting vaccination against flu might have an impact on the number of days during which a person is sick. Results revealed no main effects [for experimental vs control condition $F(1,112)=1.14$, $p=.29$, $\eta^2=.010$ and for NMR groups, $F(2,112)=1.27$, $p=.29$, $\eta^2=.022$] or interaction effects [$F(2,112)=.03$, $p=.97$, $\eta^2=.001$]. Thus, there were not any differences between groups with regard to changes in the number of sick days when controlled for status of vaccination against flu.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANOVA was performed on difference scores for frequency of doctor visits. Results revealed no main effect of experimental condition [$F(1, 112)=.27$, $p=.60$, $\eta^2=.002$], no main effect of NMR level [$F(2,112)=.76$, $p=.47$, $\eta^2=.013$] or no interaction effects [$F(2,112)=1.29$, $p=.28$, $\eta^2=.023$], indicating no differences between groups in terms of changes in the frequency of doctor visits.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with total number of medical problems as a covariate, was performed on difference scores for frequency of doctor visits. Results revealed no main effects [for experimental vs control condition $F(1,111)=.34$, $p=.56$, $\eta^2=.003$ and for NMR groups, $F(2,111)=.54$, $p=.59$, $\eta^2=.010$] or interaction effects [$F(2,111)=1.26$, $p=.29$, $\eta^2=.022$], indicating no differences between groups with regard to changes in the frequency of doctor visits when controlled for total number of medical problems.

A 2 (Experimental vs control) x3 (NMR Groups: Low NMR, Middle NMR, High NMR) ANCOVA, with status for vaccination against flu as a covariate, was

performed on difference scores for frequency of doctor visits. Results revealed no main effect of experimental condition [$F(1, 111)=.24, p=.63, \eta^2= .002$], no main effect of NMR level [$F(2,111)=.60, p=.55, \eta^2= .011$] or no interaction effects [$F(2,111)=1.27, p=.29, \eta^2= .022$]. Thus, there were not any differences between groups regarding changes in the frequency of doctor visits when controlled for status of vaccination against flu.

Hypothesis II

BDI Scores

In order to see whether there is a significant difference among three experimental NMR groups (low, middle and high) in terms of changes in BDI scores from baseline to follow up, a mixed design ANOVA was carried out with time as within subjects and NMR group as between subjects variables. Results revealed no significant main effect of time [$F(1,57)=.73, p=.40, \eta^2= .013$] and no significant interaction effect between group and time [$F(2, 57)=.41, p=.66, \eta^2= .014$]. Thus, results indicated that there was not a significant change in BDI scores from baseline to follow-up among three experimental groups.

Current Health Complaints Scores

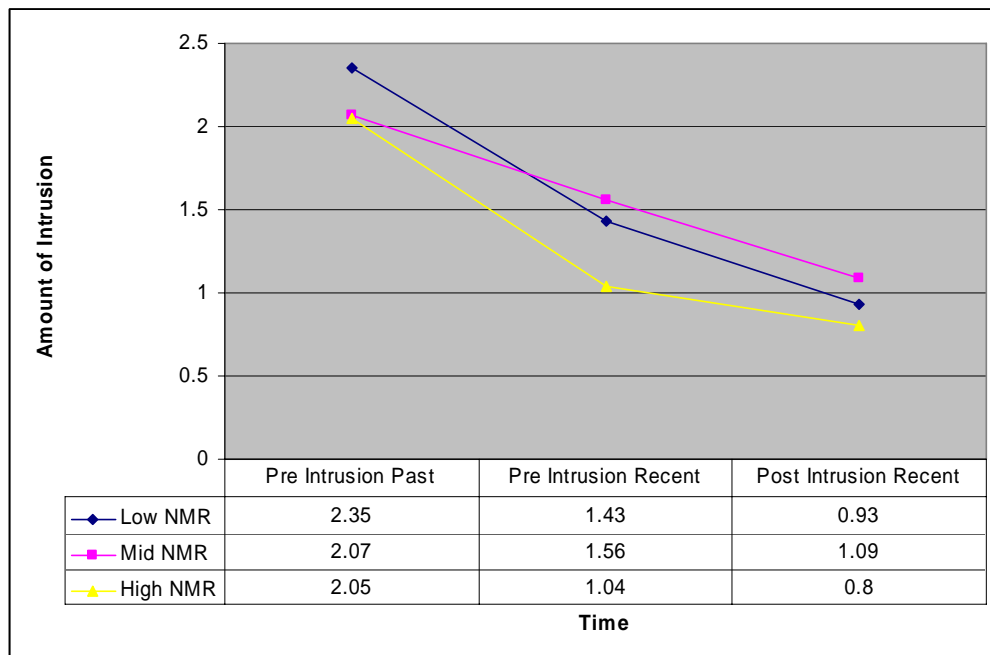
A mixed design ANOVA was carried out with time as within subjects variable and NMR group as between subjects variable, in order to see whether there is a significant difference among three experimental NMR groups (low, middle and high) regarding the changes in level of current health complaints from baseline to follow up. Results indicated that there was no significant main effect of time [$F(1,57)=.074, p=.79, \eta^2= .001$] and no significant interaction between group and time [$F(2, 57)=.310, p=.74, \eta^2= .011$]. Thus, results indicated that there was not a

significant decrease in current health complaints scores from baseline to follow-up among the three experimental groups.

Intrusion Scores

A mixed design ANOVA was carried out with time as within subjects and NMR group as between subjects variables, in order to see whether there is a significant difference among three experimental NMR groups (low, middle and high) in terms of changes in level of intrusion and avoidance of these intrusions from baseline to follow up. Results indicated that there was a significant main effect of time [F (1,57)=14.54, p<.01, $\eta^2= .203$] but there was no significant interaction between group and time [F (2, 57)=.623, p=.54, $\eta^2= .021$]. Thus, results indicated that there was a significant decrease in level of intrusion and avoidance from baseline to follow-up but this decrease did not differ among three experimental groups.

Past and recent intrusion/avoidance levels at baseline and recent intrusion/avoidance levels at follow-up are presented in Graph 3.



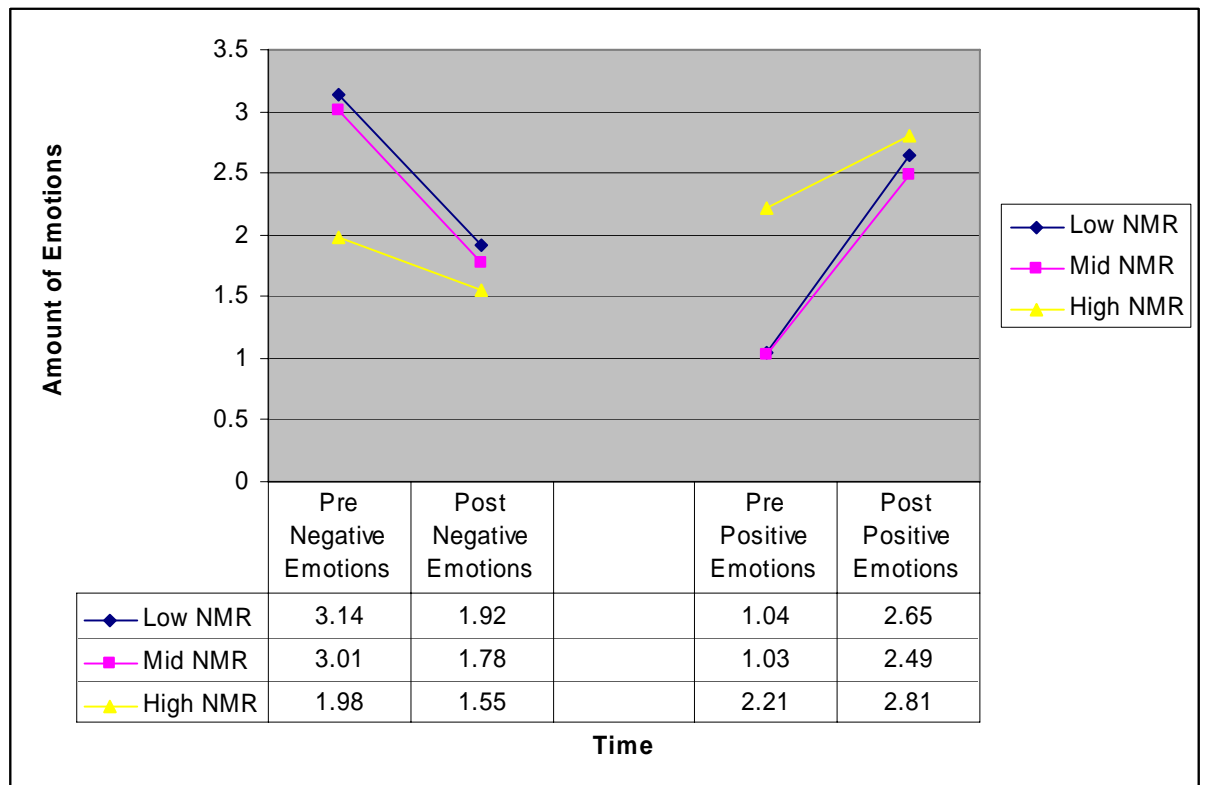
Graph 2: Past and recent intrusion levels at baseline and recent intrusion levels at follow-up

Negative and Positive Emotions Related to Written Traumatic Event

A mixed design ANOVA was carried out with time as within subjects and NMR group as between subjects variables, in order to see whether there is a significant difference among three experimental NMR groups (low, middle and high) in terms of changes in intensity of negative emotions from baseline to follow up. Results indicated that there was a significant main effect of time [$F(1,56)=14.12$, $p<.01$, $\eta^2=.201$] but there was not any significant interaction between group and time [$F(2, 56)=1.06$, $p=.35$, $\eta^2=.036$]. Thus, results indicated that there was a significant decrease in intensity of negative emotions from baseline to follow-up but this decrease did not differ among the experimental groups.

Another mixed design ANOVA was carried out with time as within subjects and NMR group as between subjects variables, in order to see whether there is a significant difference among three experimental NMR groups (low, middle and high) in terms of changes in intensity of positive emotions from baseline to follow up. Results indicated that there was a significant main effect of time [$F(1,57)=14.16$, $p<.01$, $\eta^2=.199$] but there was not any significant interaction between group and time [$F(2, 57)=.94$, $p=.40$, $\eta^2=.032$]. Thus, results indicated that there was a significant increase in intensity of positive emotions from baseline to follow-up but this increase did not differ among the experimental groups.

Intensity of negative and positive emotions at baseline and follow-up for each experimental group can be seen in Graph 3.



Graph 3: Intensity of negative and positive emotions at baseline and follow-up for three experimental groups.

Considering these findings, hypothesis predicting a decrease from baseline to follow-up BDI, Current Health Complaints, Intrusion/Avoidance scores and intensity of negative emotions, and an increase in the intensity of positive feelings from baseline to follow-up within the experimental group was partially supported.

Additional Analyses

Apart from the analyses regarding the hypotheses of the study, additional analyses were conducted in order to see the relationships among the variables regarding the characteristics of the participants, including NMR, BDI scores, current health complaints scores, number of traumatic events; the variables related with the traumatic event written by the participants, including social constraints, impact of the event, level of intrusion/avoidance, intensity of negative and positive feelings; and the variables related with the writing experience, namely daily symptoms, daily

openness, daily relief, disclosure, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing and overall meaningfulness of writing, more specifically.

In order to test whether there was a significant relationship between a) Negative Mood Regulation Expectancies, b) total number of traumas experienced by participants, c) level of social constraint, d) impact of event written by the participants, e) level of recent intrusion/avoidance at baseline to variables associated with writing experience, a series of Pearson correlational analyses were computed. The predictor variables examined were a) NMR scores, b) number of traumas, c) social constraint scores, d) impact of event scores, e) baseline recent intrusion/avoidance scores and the criterion variables used in these analyses were symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for BDI, for intensity of negative and positive emotions, and for current health complaints from baseline to follow-up. Results of the analyses for Negative Mood Regulation Expectancies, total number of traumas experienced by participants, level of social constraint, impact of event written by the participants, level of recent intrusion/avoidance at baseline are presented in Table 6, Table 7, Table 8, Table 9 and Table 10, respectively.

Variables Associated with Negative Mood Regulation Expectancies

Results of Pearson correlations revealed that there was a significant relationship between NMR and symptoms for day 1 [$r(118)=-.312, p<.01$], symptoms for day 2 [$r(118)=-.209, p=.023$], symptoms for day 3 [$r(118)=-.240, p<.01$], relief for the second writing day [$r(118)=.228, p=.013$], relief for the third writing day

[$r(118)=.213$, $p=.020$], emotional impact of writing [$r(59)=-.325$, $p=.011$], overall disclosure [$r(59)=-.332$, $p=.01$] and overall difficulty of writing [$r(59)=-.277$, $p=.032$] (Table 6). These results suggest that participants with lower levels of negative mood regulation expectancies experienced more physical and psychological discomfort after the writing sessions of three days. Moreover, those who had lower NMR levels felt less relieved right after the writing; whereas the writing sessions of three days had more impact on these people. Additionally, people with lower NMR levels disclosed more about things they had refrained from talking before the writing procedure while they had more difficulty in writing about their experiences.

Variables Associated with Total Number of Traumas

Results indicated that there was a significant relationship between total number of traumas and symptoms for day 1 [$r(118)=.376$, $p=.000$], symptoms for day 2 [$r(118)=.401$, $p=.000$], symptoms for day 3 [$r(118)=.247$, $p=.007$], emotional impact of writing [$r(59)=.267$, $p=.039$], overall meaningfulness of writing [$r(59)=.311$, $p=.016$], total openness of writing [$r(59)=.259$, $p=.046$] and difference in level of intrusion/avoidance from baseline to follow-up [$r(59)=.291$, $p=.024$] (Table 7). Thus, these results imply that those participants who experienced greater number of traumatic events were likely to have more physical and psychological discomfort after the three writing sessions. Moreover, writing experience was more meaningful for and had more impact on participants who had greater number of traumatic experiences. Also, those participants with greater number of traumatic experiences reflected their deepest thoughts and feelings during the writing procedure more than those with lower number of traumatic experiences. Besides, there is a greater reduction of intrusive thoughts at follow-up for participants who experienced greater number of traumatic events.

Table 6. Correlation Coefficients between NMR and symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for level of distress, for intensity of negative and positive emotions, and for health complaints from baseline to follow-up.

	Day 1 Symptoms N=119	Day 2 Symptoms N=119	Day 3 Symptoms N=119	Day 1 Disclosure N=119	Day 2 Disclosure N=119	Day 3 Disclosure N=119	Day 1 Openness N=119	Day 2 Openness N=119	Day 3 Openness N=119	Day 1 Relief N=119	Day 2 Relief N=119	Day 3 Relief N=119	Total Openness N=60
NMR	-.312**	-.209*	-.240**	-.018	-.056	.032	.044	.089	.076	.095	.228*	.213*	-.065
	Overall Disclosure N=60	Difficulty of Writing N=60	Meaningfulness of Writing N=60	Emotional Impact of Writing N=60	Diff-Intrusion N=60	Diff-BDI N=118	Diff-Negative Emotions N=59	Diff-Positive Emotions N=60	Diff-Health Complaints N=118				
NMR	-.332**	-.277*	-.004	-.325*	-.107	.027	-.182	.165	-.060				

Note. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level

Table 7. Correlation Coefficients between total number of traumas experienced by the participants and symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for level of distress, for intensity of negative and positive emotions, and for health complaints from baseline to follow-up.

	Day 1 Symptoms N=119	Day 2 Symptoms N=119	Day 3 Symptoms N=119	Day 1 Disclosure N=119	Day 2 Disclosure N=119	Day 3 Disclosure N=119	Day 1 Openness N=119	Day 2 Openness N=119	Day 3 Openness N=119	Day 1 Relief N=119	Day 2 Relief N=119	Day 3 Relief N=119	Total Openness N=60
Total Trauma	.376**	.401**	.247**	.072	.053	-.002	.122	.013	.091	.014	-.114	.065	.259*
	Overall Disclosure N=60	Difficulty of Writing N=60	Meaningfulness of Writing N=60	Emotional Impact of Writing N=60	Diff-Intrusion N=60	Diff-BDI N=118	Diff-Negative Emotions N=59	Diff-Positive Emotions N=60	Diff-Health Complaints N=118				
Total Trauma	.067	.136	.311*	.267*	.291*	.102	.139	.090	-.034				

Note. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level

Table 8. Correlation Coefficients between social constraint experienced by the participants and symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for level of distress, for intensity of negative and positive emotions, and for health complaints from baseline to follow-up.

	Day 1 Symptoms N=52	Day 2 Symptoms N=52	Day 3 Symptoms N=52	Day 1 Disclosure N=52	Day 2 Disclosure N=52	Day 3 Disclosure N=52	Day 1 Openness N=52	Day 2 Openness N=52	Day 3 Openness N= 52	Day 1 Relief N=52	Day 2 Relief N=52	Day 3 Relief N=52	Total Openness N=52
Social Constraint	.108	.112	.136	.356**	.269	.249	.055	-.083	.017	.131	-.023	-.279*	-.067
	Overall Disclosure N=52	Difficulty of Writing N=52	Meaningfulness of Writing N=52	Emotional Impact of Writing N=52	Diff-Intrusion N=52	Diff-BDI N=52	Diff-Negative Emotions N=51	Diff-Positive Emotions N=52	Diff-Health Complaints N=52				
Social Constraint	.322*	.165	.042	.273	.295*	-.052	.354*	-.177	-.306*				

Note. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level

Table 9. Correlation Coefficients between impact of event reported at the beginning of the writing and symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for level of distress, for intensity of negative and positive emotions, and for health complaints from baseline to follow-up.

	Day 1 Symptoms N=60	Day 2 Symptoms N=60	Day 3 Symptoms N=60	Day 1 Disclosure N=60	Day 2 Disclosure N=60	Day 3 Disclosure N=60	Day 1 Openness N=60	Day 2 Openness N=60	Day 3 Openness N=60	Day 1 Relief N=60	Day 2 Relief N=60	Day 3 Relief N=60	Total Openness N=60
Impact of Event	.430**	.477**	.549**	.314*	.114	.214	.541**	.419**	.418**	-.067	.040	0	.297*
	Overall Disclosure N=60	Difficulty of Writing N=60	Meaningfulness of Writing N=60	Emotional Impact of Writing N=60	Diff-Intrusion N=60	Diff-BDI N=60	Diff-Negative Emotions N=59	Diff-Positive Emotions N=60	Diff-Health Complaints N=60				
Impact of Event	.214	.050	.241	.263*	.358**	.349**	.027	-.174	-.030				

Note. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level

Table 10. Correlation Coefficients between Recent Intrusion/Avoidance Level at Baseline and symptoms for each writing day, openness for each writing day, disclosure for each writing day, relief for each writing day, total openness, emotional impact of writing, overall disclosure, overall difficulty of writing, overall meaningfulness of writing, and difference scores for the level of intrusion/avoidance, for level of distress, for intensity of negative and positive emotions, and for health complaints from baseline to follow-up.

	Day 1 Symptoms N=60	Day 2 Symptoms N=60	Day 3 Symptoms N=60	Day 1 Disclosure N=60	Day 2 Disclosure N=60	Day 3 Disclosure N=60	Day 1 Openness N=60	Day 2 Openness N=60	Day 3 Openness N=60	Day 1 Relief N=60	Day 2 Relief N=60	Day 3 Relief N=60	Total Openness N=60
Recent Intrusion/ Avoidance Level at Baseline	.407**	.552**	.471**	.489**	.236	.424**	.491**	.271*	.448**	.050	-.120	.141	.255*
	Overall Disclosure N=60	Difficulty of Writing N=60	Meaningfulness of Writing N=60	Emotional Impact of Writing N=60	Diff-Intrusion N=60	Diff-BDI N=60	Diff-Negative Emotions N=59	Diff-Positive Emotions N=60	Diff-Health Complaints N=60				
Recent Intrusion/ Avoidance Level at Baseline	.354**	.085	.331**	.383**	.577**	.365**	.237	-.129	-.035				

Note. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level

Variables Associated with Social Constraint

Pearson correlations between social constraint scores and variables related with writing indicated that there was a significant relationship between social constraint and disclosure for the first writing day [$r(51)=.356, p=.010$], relief for the third writing day [$r(51)=-.279, p=.046$], overall disclosure [$r(51)=.322, p=.020$], difference in level of current health complaints from baseline to follow-up [$r(51)=-.306, p=.027$], difference in intensity of negative emotions regarding the traumatic event written by participants from baseline to follow-up [$r(50)=.354, p=.011$] and difference in level of intrusion/avoidance from baseline to follow-up [$r(51)=.295, p=.033$] (Table 8). Thus, the results suggest that participants who experienced higher social constraint before the written emotional disclosure procedure disclosed more about things that they had refrained from talking prior to writing procedure. Additionally, those who had higher levels of social constraint experienced greater relief after the third writing session. Also, those participants who experienced higher levels of social constraint reported greater reduction in health complaints, in intensity of negative emotions regarding the traumatic experience as well as in level of intrusion and avoidance at follow-up.

Variables Associated with Impact of Event

Results of Pearson correlations indicated that there was a significant relationship between impact of the traumatic event written by the participants and symptoms for the first writing day [$r(59)=.430, p<.01$], symptoms for the second writing day [$r(59)=.477, p<.01$], symptoms for the third writing day [$r(60)=.549, p<.01$], openness for the first writing day [$r(559)=.541, p<.01$], openness for the second writing day [$r(59)=.419, p<.01$], openness for the third writing day [$r(59)=.419, p<.01$], disclosure for the first writing day [$r(59)=.314, p=.015$],

emotional impact of writing [$r(59)=.263, p=.042$], total openness of writing [$r(59)=.297, p=.021$] and difference in level of intrusion/avoidance from baseline to follow-up [$r(59)=.358, p<.01$] (Table 9). These results suggest that those participants for whom the traumatic experience that they wrote had more impact had more physical and psychological discomfort after the writing procedure. Moreover, the participants for whom the event had greater impact wrote about their deepest thoughts and feelings regarding the event to a greater degree than those who were affected by the traumatic experience to a lesser degree. Additionally, those participants for whom the event had greater impact experienced greater reduction in intrusion/avoidance levels at follow-up.

Variables Associated with Recent Intrusion/Avoidance Level at Baseline

Results of Pearson correlations between level of recent intrusion/avoidance at baseline and variables associated with writing experience revealed that there was a significant relationship between recent intrusion/avoidance level measured at baseline and symptoms for the first writing day [$r(59)=.407, p<.01$], symptoms for the second writing day [$r(59)=.552, p<.01$], symptoms for the third writing day [$r(59)=.471, p<.01$], openness for the first writing day [$r(59)=.491, p<.01$], openness for the second writing day [$r(59)=.271, p=.036$], openness for the third writing day [$r(59)=.448, p<.01$], disclosure for the first writing day [$r(59)=.489, p<.01$], disclosure for the third writing day [$r(59)=.424, p<.01$], emotional impact of writing [$r(59)=.383, p<.01$], overall disclosure [$r(59)=.354, p<.01$], overall meaningfulness of writing [$r(59)=.331, p=.01$], overall openness of writing [$r(59)=.255, p=.05$], difference in BDI scores from baseline to follow-up [$r(59)=.365, p<.01$] and difference in level of intrusion/avoidance from baseline to follow-up [$r(59)=.577, p<.01$] (Table 10).

Thus, the results suggest that those participants who had higher levels of intrusive thoughts and avoidance at baseline experienced more discomfort, both physically and psychologically, after the writing sessions of three days. Additionally, those with higher baseline intrusion/avoidance levels revealed their deepest emotions and thoughts to a greater extent than those with lower intrusion/avoidance levels. Also, in the first and third writing sessions, participants with higher baseline intrusion/avoidance levels disclosed more about things that they had refrained from talking prior to writing procedure. Furthermore, writing procedure was more meaningful for and had more emotional impact on participants who had higher levels of intrusion/avoidance at baseline. Finally, those with higher baseline intrusion/avoidance levels had greater reduction in depression and intrusion/avoidance scores at follow-up.

Gender Differences

Means and standard deviations of NMR scores, total number of traumatic experiences, total number of medical problems, baseline and follow-up BDI scores, baseline and follow-up Current Health Complaints scores, baseline and follow-up frequency of illnesses, baseline and follow-up number of sick days, baseline and follow-up frequency of doctor visits and measures regarding three writing days – daily symptoms, daily openness in writing, daily disclosure and relief– for male and female participants in experimental and control groups are presented in Table 11.

Table 11. Means and standard deviations of NMR scores, total number of traumatic experiences, total number of medical problems, baseline BDI and follow-up BDI scores, number of baseline and follow-up health complaints, baseline and follow-up frequency of illnesses, baseline and follow-up number of sick days, baseline and follow-up frequency of doctor visits, symptoms after each day's writing session and participant's evaluation of his/her level of disclosure and openness in each day's writing for female and male participants in experimental and control groups.

Variable	Experimental Group		Control Group	
	Male (N=24)	Female (N=36)	Male (N=23)	Female (N=36) ^a
Total NMR	102.42 (16.67)	106.44 (16.70)	101.91 (17.92)	106.86 (17.82)
Total Trauma	5.50 (2.50)	5.61 (3.00)	5.00 (2.20)	6.33 (2.54)
Total Number of Medical Problems	2.96 (3.82)	4.78 (3.28)	2.57 (3.01)	4.11 (3.20)
Pre-BDI	10.38 (7.20)	11.67 (9.00)	12.61 (8.91)	11.71 (6.61)
Post-BDI	13.00 (6.59)	11.39 (8.84)	11.57 (6.07)	14.42 (11.27)
Pre-Health Complaints	5.58 (3.55)	9.08 (4.86)	7.04 (3.57)	8.86 (4.58)
Post-Health Complaints	5.58 (3.94)	9.31 (5.00)	7.26 (4.10)	8.69 (4.41)
Pre-Frequency of Illnesses	1.73 (2.06)	1.92 (1.48)	1.78 (1.86)	1.96 (2.46)
Post-Frequency of Illnesses	0.96 (0.95)	1.39 (1.43)	0.85 (0.79)	1.01 (1.08)
Pre-Number of Sick Days	5.96 (7.28)	9.42 (16.06)	7.87 (7.73)	4.26 (4.24)
Post-Number of Sick days	4.08 (4.42)	7.03 (12.50)	6.24 (12.33)	4.85 (7.53)
Pre-Frequency of Doctor Visits	0.92 (2.02)	1.36 (2.33)	1.24 (1.96)	1.07 (1.74)
Post-Frequency of Doctor Visits	0.50 (1.10)	0.79 (1.18)	5.39 (9.61)	0.47 (0.88)
Day1-Symptoms	1.56 (1.37)	2.12 (1.62)	1.53 (1.42)	0.97 (1.22)

Variable	Experimental Group		Control Group	
	Male (N=24)	Female (N=36)	Male (N=23)	Female (N=36) ^a
Day2-Symptoms	1.32 (1.00)	1.76 (1.43)	1.19 (1.42)	0.76 (1.21)
Day3-Symptoms	0.90 (0.91)	1.11 (1.10)	1.02 (1.24)	0.60 (0.68)
Day1-Disclosure	3.50 (1.72)	3.44 (2.50)	1.42 (1.96)	1.55 (1.58)
Day2-Disclosure	3.67 (2.00)	3.55 (2.26)	0.86 (1.06)	1.00 (1.07)
Day3-Disclosure	3.11 (1.67)	3.71 (2.20)	1.07 (1.25)	1.09 (1.49)
Day1-Openness	7.11 (1.50)	7.34 (1.46)	3.59 (2.23)	4.72 (2.56)
Day2-Openness	6.75 (1.73)	7.10 (1.79)	2.58 (2.35)	3.11 (2.11)
Day3-Openness	6.43 (1.57)	7.19 (1.79)	3.13 (1.98)	4.21 (1.98)
Day1-Relief	3.58 (2.71)	2.94 (2.65)	3.83 (2.89)	4.44 (2.59)
Day2-Relief	4.04 (2.39)	3.97 (2.61)	2.78 (2.66)	3.25 (2.93)
Day3-Relief	3.33 (2.30)	5.00 (2.60)	2.70 (2.49)	2.92 (2.50)

Note. Pre-=at baseline, Post-=at follow-up. The values in parantheses represent the standard deviations. ^a.N=35 in Pre-BDI and Pre-Health Complaints scores

A 2 (experimental vs control) x 2 (gender) ANOVA was conducted in order to see whether there is a gender difference between experimental and control groups in terms of difference BDI scores. Results revealed no main effect of gender [$F(1, 114) = .17, p = .68, \eta^2 = .001$] or experimental condition [$F(1, 114) = .01, p = .91, \eta^2 = .000$] while there was an interaction effect [$F(1, 114) = 5.79, p = .02, \eta^2 = .048$] in such a way that BDI scores of female participants in the experimental group decreased while BDI scores of male participants in the experimental group increased. On the other hand, female participants in the control group had an increase in their BDI scores, while male participants of the same group had a decrease in their BDI scores. The plot of interaction for experimental condition and gender is presented in Figure 2.

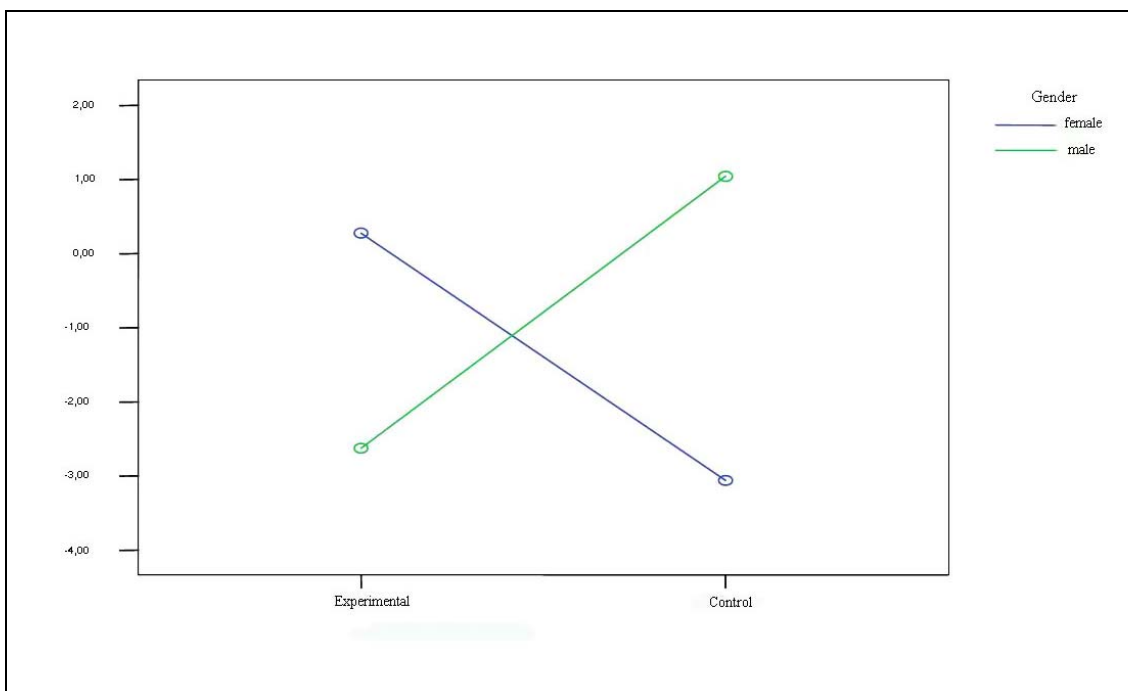


Figure 2. Interaction of Experimental condition and Gender on difference BDI scores

Another 2 (experimental vs control) x 2 (gender) ANOVA was conducted in order to see whether there is a gender difference between experimental and control groups in terms of difference current health complaints scores. Results revealed no

main effects [for experimental vs control condition $F(1,114)=.05$, $p=.82$, $\eta^2= .000$ and for gender, $F(1,114)=.05$, $p=.83$, $\eta^2= .000$] or interaction effects [$F(1,114)=.29$, $p=.59$, $\eta^2= .003$].

A t-test was conducted to see whether there were gender differences in total number of medical problems reported by participants, regardless of experimental condition. Results revealed that there was a significant gender difference [two-tailed t-test (117) =2.71, $p=.008$], in that females reported to have more medical problems compared to males. Also, t-tests were conducted in order to see whether there were gender differences in baseline and follow-up Current Health Complaints scores. Results indicated that there was a significant gender difference in baseline and follow-up Current Health Complaints scores, [two-tailed t-test (116) =3.314, $p=.001$ and two-tailed t-test (117) =3.106, $p=.002$, respectively], in that females reported to have more health complaints than males both at baseline and follow-up.

With regard to experimental group, t tests were applied in order to see whether there were gender differences in the variables related with the traumatic experience written by the experimental group participants and the variables related with the writing experience. The means and standard deviations of the variables for each gender as well as the test results are presented in Table 12.

Table 12. Means, standard deviations and t test results of impact of event, total social constraint experienced by participant, difference intrusion/avoidance scores ,difference scores for intensity of negative emotions about the experience, difference scores for intensity of positive emotions about the experience, and measures of overall assessment of writing procedure for male and female participants within the experimental group

Variable	Male	Female	<i>t</i> (58)	<i>p</i>
Impact of Event	2.21 (0.83) (24)	2.36 (0.77) (36)	.73	.47
Social Constraint	1.37 (0.74) (21)	1.00 (0.56) (31)	-2.07 ^a	.04
Diff-Intrusion	0.33 (0.61) (24)	0.45 (0.93) (36)	.55	.59
Diff-Negative Emotions	0.75 (1.59) (24)	1.05 (2.11) (35)	.59 ^b	.56
Diff-Positive Emotions	-0.49 (2.57) (24)	-1.72 (2.40) (36)	-1.89	.06
Total Openness	6.67 (1.59) (24)	7.37 (1.54) (36)	1.73	.09
Emotional Impact	2.21 (0.83) (24)	4.44 (1.91) (36)	-.06	.96
Overall Disclosure	2.71 (2.69) (24)	3.36 (2.76) (36)	.91	.37
Difficulty of Writing	4.58 (2.45) (24)	4.75 (2.45) (36)	.26	.80
Meaningfulness of Writing	5.58 (2.47) (24)	6.36 (2.22) (36)	1.27	.21

Note. Diff-Intrusion= Difference intrusion/avoidance scores, Diff-Negative Emotions= Difference scores for intensity of negative emotions about the experience, Diff-Positive Emotions= Difference scores for intensity of positive emotions about the experience. The values in parantheses represent the standard deviations and number of participants, respectively. ^a.df=50. ^b.df=57

Results indicated that there was a significant gender difference in Social Constraint scores [two-tailed t-test (50) = -2.07, $p = .04$], in that males reported to have experienced more social constraint than females with regard to talking about the traumatic event around the time of the incident. Also, gender differences in Difference Positive Emotions scores approached significance [two-tailed t-test (58) = -1.89]. That is, females experienced a greater increase in the intensity of positive emotions regarding the traumatic event than males.

Summary of the Findings:

The first hypothesis of the present study was partially supported. There was an interaction effect of experimental condition and NMR levels on difference in depressive symptomatology. Participants in the disclosure group with lower NMR levels experienced a lower increase in their BDI scores compared to those in the control group with lower NMR levels. On the other hand, participants in the disclosure group with higher NMR levels experienced a greater increase in their BDI scores than those participants in the control group with higher NMR levels. Moreover, contrary to expectations, neither experimental condition nor NMR level had effect on differences in health complaints, number of sick days, frequency of illnesses, frequency of doctor visits.

The second hypothesis was also partially supported: While there was no significant difference between baseline and follow-up depressive symptomatology and health complaints of emotional disclosure group, there was a significant difference between baseline and follow-up level of intrusion/avoidance, intensity of negative emotions and intensity of positive emotions for emotional disclosure group.

Furthermore, results revealed that while female participants of experimental group had a decrease in their depressive symptomatology, female participants of control group experienced an increase. On the other hand, male participants of the experimental group experienced an increase in their depression levels while male participants of the control group had a decrease. Also, regarding the gender differences, male participants reported to have had higher levels of social constraint compared to female participants. Besides, female participants experienced a greater increase in intensity of positive emotions related with the experience they wrote during the study.

DISCUSSION

The aim of the present study was to examine particularly the effects of individual differences (NMR expectancies) on the outcomes of written emotional disclosure procedure with regard to depressive symptomatology, physical symptomatology, level of intrusion and avoidance and intensity of negative and positive emotions regarding the written traumatic experience in a sample of undergraduate students. The first hypothesis tested the interaction effect of individual differences variable and the writing paradigm on depressive symptomatology. It was expected that at follow-up, experimental group participants with lower negative mood regulation expectancies will have significantly lower Beck Depression Inventory scores and lower Current Health Complaints scores, compared to both experimental group participants with higher negative mood regulation expectancies and control group participants. It was partially supported in the sense that experimental group participants with lower NMR levels had less elevated follow-up BDI scores than those in the control groups; whereas experimental group participants with high NMR levels had more elevated follow-up BDI scores than the participants in the high NMR control group. Although the increase detected in depression scores was contrary to the expectations, in lower NMR groups, the increase was lower for participants who engaged in emotional disclosure than those who wrote about trivial topics. Thus, this finding suggests that emotional disclosure experience may have protective effects on emotional well-being of participants with low NMR levels. Catanzaro (1993) proposed that NMR expectancies are related with the outcomes of mood regulation attempts and in the study of Mearns (1991), people with high NMR levels were found to have greater mood regulation capabilities after a distressing event. Thus, people with low NMR levels may need additional resources for mood

regulation and emotional disclosure may create an opportunity for those people to regulate their emotions better after a stressful experience. Moreover, Kirsch et al (1990) indicated that NMR expectancies were positively associated with the use of active coping strategies and negatively associated with avoidant coping strategies. People with low NMR expectancies who were found to use avoidant coping strategies may need additional tools in order to be able to confront and process their feelings about stressful experiences. Results of this study suggest that emotional disclosure may provide these additional tools for people with low NMR expectancies, and consequently lead to a lower increase in their depression levels as compared to participants who wrote about trivial topics. Additionally, the timing of the procedure of the present study showed that as the academic term went by, participants in five of the six groups had increased levels of depressive symptomatology. In this context, the interaction effect can be seen as revealing the protective effect of the written emotional disclosure for those with lower levels of NMR in terms of shielding them from increased BDI scores as the term went by. On the other hand, written emotional disclosure may not have any beneficial effects on people with high NMR levels because these people have greater mood regulation capabilities and they utilize active coping strategies and they may not need the facilitating role of written emotional disclosure for processing a traumatic experience. This proposition is in line with the finding that people who start the written disclosure procedure with a coherent story about a past experience did not benefit from writing (Smyth and Pennebaker, 1999). That is, people who have processed their thoughts and feelings about a traumatic experience and formed a narrative of that experience did not have beneficial outcomes of written emotional disclosure procedure.

Previous studies on written emotional disclosure have emphasized the need to investigate individual difference variables in order to better understand for whom the written emotional disclosure works. As far as known, this is the first study that examines NMR expectancies as an individual difference variable – a variable that is proposed to be related with mood regulation (Catanzaro, 1993) – within the written emotional disclosure paradigm and for this reason, these results are intriguing given that the written emotional disclosure may have positive impact on emotion regulation processes as proposed by Lepore et al. (2002). In the current study, the finding with regard to the interaction effect on depression scores was nearing significance which shows a trend that may be meaningful in the context of emotional processes initiated in the written emotional disclosure procedure. Further written emotional disclosure studies are required to be able to better evaluate the effect of NMR expectancies level on depression.

The results of the study by Norman et al. (2004), indicating that disclosure group participants with higher baseline negative affect experienced improved positive affect at two month follow-up, can be considered as corroborating with findings of the current study. It is likely that there is an association between NMR expectancies and negative affectivity, such that people with lower NMR levels may be higher in negative affectivity. It is possible that people with lower NMR levels are higher in negative affectivity since these people have lower mood regulation capabilities and written emotional disclosure procedure is more beneficial for these people because this procedure has positive impact on emotion regulation processes.

Results of the present study suggested that people with lower levels of NMR had more medical problems compared to those with higher levels of NMR. This finding is in line with the finding of Kirsch et al (1990), indicating that NMR

expectancies were negatively associated with avoidant coping strategies and the finding of Pennebaker and O'Heeron (1984), indicating that people who have experienced trauma and have not talked about their experiences (who inhibited their experiences) were more prone to a variety of illnesses. Thus, it can be proposed that people with low NMR expectancies who do not engage in active coping strategies are more likely to have medical problems compared to those with high NMR expectancies. However, because the present study did not ask participants about their medical problems at follow-up (since the follow-up interval was short), it was not possible for this study to examine the effect of written emotional disclosure procedure on medical problems. Future studies can examine how emotional disclosure affects people's medical problems.

Contrary to expectations, results showed no effect of experimental condition or of level of NMR expectancies on differences in physical health complaints, frequency of illnesses, frequency of doctor visits and number of sick days of the participants from baseline to follow-up. The same findings were obtained when the analyses were controlled for total number of medical problems and status for vaccination against flu. Previous studies usually indicated that participants in the emotional disclosure group reported fewer physical symptom complaints, fewer health center visits and fewer days sick compared with the participants in the control group (e.g: Pennebaker and Beall, 1986; Pennebaker and Francis, 1996; Sloan and Marx, 2004a). However, there are also studies that did not find any beneficial effects of emotional disclosure on physical health. For example, in a study by Greenberg and Stone (1992), no significant physical symptom differences occurred between trauma writing groups and control group at follow-up. However, when writings were evaluated depending on the severity of traumas, it was found that even though there

were not significant differences between groups in terms of illness visits (obtained from student health center), participants who wrote about more severe traumas reported fewer physical symptoms at follow-up, compared with low severity trauma participants (Greenberg and Stone, 1992). Evaluating the severity of traumatic events written by participants was beyond the scope of the present study but it is possible that the experiences written by the emotional disclosure participants were not severe enough to create changes in physical well-being. Also, even though not all participants might use school health center when they have medical problems, taking the record of participants' school health center visits could have provided more objective data regarding doctor visits. Moreover, data obtained by more objective measures, such as heart rate, blood pressure and skin conductance, might give a better understanding of the effects of disclosure on health.

The second hypothesis predicted that participants in the emotional disclosure group will have significantly lower Current Health Complaints scores, lower Beck Depression Inventory scores, lower Intrusion and Avoidance scores, less intense negative emotions about the written traumatic event, and more intense positive emotions about the written traumatic event at follow-up, compared to their baseline scores. This hypothesis was also partially supported by the results showing that while there was no expected reduction in depressive or physical symptomatology experienced by experimental group at follow-up, participants in the experimental group revealed significant reductions in the level of intrusion/avoidance scores related to the traumatic event they wrote about as well as significant reductions in the intensity of negative emotions evoked by the traumatic event. Lastly, there was a significant increase in positive emotions evoked by traumatic event at follow-up. Also, there were not any significant differences between emotional disclosure groups

with different levels of NMR expectancies in any of these variables. The finding that emotional disclosure groups with different NMR levels did not differ from each other with regard to the changes in depression symptomatology highlights the interaction between NMR levels and the writing procedure reported above because it implies that the interaction between NMR levels and written emotional disclosure disappears without inclusion of control group that did not write about their traumatic experiences. Participants with lower NMR levels who wrote about trivial topics had greater increase in their depressive symptomatology compared to those participants with lower NMR levels who wrote about traumatic experiences. On the other hand, participants with higher levels of NMR who wrote about traumatic experiences had increase in their depression levels while those participants with higher NMR levels who wrote about trivial topics had a decrease in their depressive symptomatology. Thus, it is likely that the beneficial and/or protective effects of written emotional disclosure procedure are revealed in comparison with effects of writing about more trivial and non-emotional topics. Moreover, this finding implies the importance of examining the effect of individual difference variables on written emotional disclosure procedure because every individual may not react to emotional disclosure in the same way and this procedure may not be beneficial for every individual.

Regarding the effect of written emotional disclosure on level of intrusion and avoidance, the findings indicated that at one month follow-up, individuals who engaged in emotional disclosure about a traumatic experience had decreased levels of intrusion and avoidance about the experience they described during the writing sessions. Previous studies had equivocal findings about changes in level of intrusion/avoidance: while some studies (Klein and Boals, 2001; Park and Blumberg, 2002; Schoutrop et al., 2002) found reductions in intrusive thoughts and avoidance,

some studies (Lepore, 1997; Paez et al., 1999; Zakowski et al., 2004) did not report any differences in level of intrusions and avoidance at follow-up. The present study suggests that through confronting people with stressful thoughts and feelings related to the traumatic experience, written emotional disclosure may facilitate cognitive integration of the traumatic experience and thus reduce the number of intrusive thoughts and cognitive avoidance. It is also possible that, as exposure theory proposes, written emotional disclosure provides a context that facilitates exposure to aversive conditioned stimuli that had been previously avoided (Sloan and Marx, 2004b) and consequently, through repeated exposure to the stressful stimuli across writing sessions, people become habituated to the intrusive thoughts. Therefore, after emotional disclosure sessions, individuals do not have as much as intrusive thoughts related with the traumatic experience and hence they do not have the need to avoid these thoughts. These findings are interesting because the writing protocol of the current study instructed participants to write about the same traumatic experience during the three writing sessions. It is possible that writing about the same experience across all three days has augmented exposure. On the other hand, the standard writing instructions provide the participants with the opportunity to choose to write about the same or different traumatic experiences at each writing session. Findings regarding the level of intrusion and avoidance might be different with the employment of the standard writing instructions of the emotional disclosure. A future study may examine the effects of systematical variations in the writing instructions of the written emotional disclosure procedure.

However, the results indicating a decrease in intrusive thoughts and cognitive avoidance from baseline to follow-up may be obtained due to the effect of time, not due to the effect of written emotional disclosure procedure. All but one (Park and

Blumberg, 2002) of the aforementioned studies examining the impact of written emotional disclosure on intrusive thoughts and avoidance requested both experimental and control group participants to fill out the questionnaire about intrusion and avoidance both at baseline and at follow-up. Therefore, it was possible for these studies to compare the difference between experimental and control groups in level of intrusion/avoidance from baseline to follow-up. These studies can attribute the findings to the effect of writing procedure in a more confident way. On the other hand, in the present study, only the participants in the experimental condition were asked to fill out the questionnaire about intrusion and avoidance. For this reason, comparison of level of intrusive thoughts and avoidance between experimental and control groups was not possible. Therefore, it is likely that the decrease in level of intrusion and avoidance at follow-up is due to the effect of time rather than the effect of writing procedure. Future studies can be conducted in order to test the difference between experimental and control groups with regard to changes in level of intrusive thoughts and avoidance.

Results of the present study indicated that individuals who engaged in emotional disclosure about a traumatic experience had a significant decrease in intensity of negative emotions regarding their experience and they had a significant increase in intensity of the positive emotions related with the event they wrote about during the sessions. These findings imply that written emotional disclosure facilitates individuals to process their emotions related with the traumatic experience they write during the sessions. Repeated exposure to the stressful stimuli during three writing days may help individuals habituate to the emotions evoked through remembering their negative experience. Besides, it is possible that as individuals reveal and process their emotions through writing, many aspects of the traumatic experience are

organized into a coherent narrative. Within this constructed story, individuals start to think about positive aspects of having such a life experience and consequently feel more positively about their negative experience. Although previous studies of written emotional disclosure procedure have not examined the participants' positive and negative emotions specifically about the traumatic event written in the sessions, there have been studies that examined participants' mood after the writing sessions and at follow-up sessions (Greenberg and Stone, 1992; Kloss and Lisman, 2002; Paez et al., 1999; Schoutrop et al., 2002). All but one (Schoutrop et al., 2002) of these studies measured mood by PANAS, which tests self-reported positive or negative mood by 20 items. Results of these studies, with one exception (Paez et al., 1999) revealed no effect of emotional disclosure on mood as measured at follow-up. However, Paez et al. (1999) found that individuals who wrote about traumas intensively (20 minutes for three days) experienced lower negative mood and higher positive mood at follow-up and these findings, even though they are not specifically related with the traumatic experience, are in line with the findings of the current study.

However, as might be the case with regard to the findings about decreases in level of intrusion and avoidance, it is possible that findings that indicate a decrease in intensity of negative emotions and an increase in intensity of positive emotions are due to the effect of time not to the effect of written emotional disclosure. Because the Intensity of Emotions scale was not filled out by control group participants, it was not possible to compare changes in intensity of negative and positive emotions between experimental and control group. Further studies can be conducted with a design that requests both experimental and control group participants to fill Intensity of Emotions scale both at baseline and follow-up and in this way these studies can compare two groups with regard to changes in intensity emotions.

The findings about gender differences in depression scores suggest that written emotional disclosure might have protective functions especially on females' emotional well-being since the depression scores of female participants in the control group increased while those of female participants in the experimental group slightly decreased. It is possible that written emotional disclosure as a self-regulatory process was more helpful for female participants. Also, written emotional disclosure might have been a better tool for female participants to process their thoughts and feelings regarding stressful experiences. Through facilitating self regulation and emotional processing, it is possible that written emotional disclosure has prevented female emotional disclosure participants from increasing depression symptomatology.

Although there were not significant gender differences in terms of changes in health complaint scores, the findings of the present study revealed that female participants have more medical problems and more health complaints compared to male participants. It is possible that females are more prone to environmental stressors and the symptoms that might occur as a result of these stressors as well as to medical problems. However, it is also possible that males are less sensitive towards their bodily sensations and for this reason male participants might not have reported as many physical complaints as females did. Self-report characteristics of health measures might have prevented detection of symptoms that might have occurred in male participants' bodies. A more objective measure might have revealed a different finding with regard to gender differences in physical symptomatology.

Moreover, the results indicated that males experienced more social constraint more than females did. This finding is in line with the results of the meta-analysis by Dindia and Allen (1992), which indicated that men disclose less than do women. It is possible that men disclose less than women because they experience higher levels of

social constraint compared to women. These findings of the present study are in line with the sex roles that make it less likely for males to disclose a trauma (Smyth, 1998). Buhrmester (1996) propose that female friendships encourage intimate self-disclosure whereas style of male friendships discourage building of intimate connections (pp. 171-172). It is likely that men experienced higher levels of social constraint because of these expectations in interpersonal relationships. Men might have felt that people around them had discomfort or avoided the subject when they attempted to talk about their traumatic experience and for this reason, refrained from disclosing their thoughts and feelings regarding the traumatic experience. Also, results of the current study indicated that one month after the emotional disclosure procedure, female participants had greater increase in the intensity of positive emotions regarding the traumatic experience they disclosed in the writing sessions than male participants did. These findings suggest that after written emotional disclosure procedure, females had a more positive reappraisal of their experience than males. It is possible that while they were constructing the narratives of their traumatic experiences through writing, female participants were able to acknowledge the positive aspects of their experience more than male participants. However, since there were not any gender differences regarding the differences in the intensity of negative emotions about the traumatic experience, there might be other reasons for the different intensity of positive emotions between males and females. In this context, content analysis of the essays might give a better understanding about males' and females' appraisals of their experiences. Future studies can analyze the content of the essays and in this way how language processes affect the outcomes of written emotional disclosure can be evaluated.

The results of the current study suggest that as level of NMR decreases, symptoms that occur after the writing sessions of three days and reflect lower physical and psychological state, increase. Moreover, as level of NMR decreases, relief felt right after the writing also decreases, whereas the emotional impact of writing that reflects emotional intensity of writing sessions of three days increases. Additionally, as NMR decreases, difficulty of writing as well as the level of disclosure about the experience that the participants had refrained from talking before the study, increases. These results are in line with the finding that people with high NMR levels have greater mood regulation capabilities after a distressing event (Mearns, 1991). It is possible that people with low NMR expectancies have difficulty in regulating their emotions and for this reason experience greater physical and psychological discomfort and less relief when they confront with thoughts and feelings related with traumatic experiences. In line with this, writing is possibly more intense and difficult for individuals with low NMR expectancies because for these people, who were found to use avoidant coping strategies more (Kirsch et al., 1990), confronting and thinking about negative feelings and thoughts may be more difficult than it is for people who use active coping strategies. Following this, it is possible that written emotional disclosure creates a facilitating and safe environment for people with low NMR expectancies and in this way these people can disclose thoughts and feelings that they previously refrained from talking.

Additionally, the findings revealed that as the number of traumas experienced by the participants increase, symptoms reported after the three writing sessions increase. Moreover, as the number of traumas experienced by the participants increase, emotional impact of writing, meaningfulness of writing and openness of writing increase. Also, as the number of traumas experienced by the participants

increase, difference scores for the level of intrusion/avoidance from baseline to follow-up increase. It is possible that as the number of traumatic events that the individuals experience increase, they may become sensitive about thoughts and feelings related with those experiences and for this reason they may experience more physical and emotional discomfort when they have to confront with these thoughts and feelings during the writing sessions. Also, confronting with trauma related thoughts and emotions might have greater impact on people who have experienced greater number of traumatic experiences. However, the safe environment provided by written emotional disclosure procedure might help these people to reveal their deepest feelings and thoughts related with a traumatic experience. Therefore, written emotional disclosure procedure might be more meaningful as the number of traumas experienced by people increase. Moreover, processing trauma related thoughts and feelings through emotional disclosure may facilitate cognitive adaptation as well as habituation to stressful stimuli. Thus, people with greater number of traumatic experiences, who reveal their deepest emotions and thoughts, may have greater declines in level of intrusive thoughts and avoidance.

The results of the present study suggest that as social constraint experienced by participants increase, level of disclosure about the experience that the participants had refrained from talking before the study, as well as the relief felt after the third writing day, increases. Also, as degree of social constraint increases, decrease in the level of current health complaints as well as decrease in level of intrusion/avoidance from baseline to follow-up increases. Moreover, as degree of social constraint increases, change in intensity of negative emotions regarding the traumatic event written by participants from baseline to follow-up increases. It is very possible that people who experienced high social constraint can find emotional

disclosure as an opportunity to reveal thoughts and emotions related with the event they write during the sessions. However, these people may need time to process and to fully disclose trauma related thoughts and emotions since they did not have a lot of opportunity for disclosure before the writing procedure. Maybe for this reason they feel relieved only after the last writing session.

With regard to impact of the event that participants wrote about during the sessions, results imply that as the impact of event increase, symptoms that reflect physical and psychological discomfort right after the writing sessions increase for three days. Moreover, as the impact of event increases, the degree of openness of writings increases. Additionally, as the impact of event increases, the change in intrusion/avoidance levels increases as well. These findings suggest that as the impact of event on people's lives increase, people experience more discomfort as they remember and think about that negative event during the writing sessions. However, as the traumatic experience has more impact on people's lives, they may have difficulty as well as need to process their thoughts and feelings about that experience and for this reason they reveal their deepest emotions about that experience during the writing sessions in order to be able to make meaning of this experience. As they process the thoughts and feelings about that experience, it is possible that they have greater declines in intrusions and avoidance one month after the writing.

The results suggest that as recent intrusion/avoidance level measured at baseline increases, symptoms reported right after the writing sessions increase for three days. Additionally, as recent intrusion/avoidance level measured at baseline increases, openness in writings increase as well. Also, as recent intrusion/avoidance level measured at baseline increases, the level of disclosure about the experience that

the participants had refrained from talking before the study increases for the first and the third writing days. Furthermore, as recent intrusion/avoidance level measured at baseline increases, emotional impact, meaningfulness of writing experience, as well as degree of disclosure in writings increase. Finally, as recent intrusion/avoidance level measured at baseline increases, difference in BDI scores and in level of intrusion/avoidance from baseline to follow-up increase. Intrusions are defined as repeated, uncontrollable thoughts or images about stressful experiences (Kennedy-Moore and Watson, 2001) and since these thoughts are likely to be disturbing, people try to avoid these thoughts and images. It is possible that people who have high levels of intrusive thoughts in the beginning of the study have to deal with these unprocessed thoughts during the writing sessions. For this reason, people with high intrusion/avoidance levels may have felt physical and psychological discomfort after the sessions. Also, people with high levels of intrusive thoughts may need to process these thoughts in order to be able to achieve psychological adjustment and written emotional disclosure procedure is likely to provide the safe environment to confront and process these thoughts without having the need to avoid them. Therefore, it is possible that people with high intrusion levels revealed their thoughts and deepest emotions related with the traumatic event they wrote about. Additionally, it is possible that people with high levels of intrusive thoughts refrained from talking about their traumatic experience since they needed to avoid the disturbance brought about intrusions. The safe environment created during writing sessions might have facilitated for these people to reveal what they needed to refrain from talking before the study. Since they could reveal their deepest emotions, it is possible that writing procedure has impact on and becomes meaningful for these people. Also, they have greater declines in their depression levels as well as levels of intrusive thoughts,

probably because they needed more to process their traumatic experience in order to be able to decrease the burden of intrusions.

Limitations and Suggestions for Future Studies

As it was indicated above, the writing instructions of the current study asked participants to write about the same traumatic experience in all sessions. However, Pennebaker (1997) proposed that the most robust effects of written emotional disclosure occur when participants are given opportunity to choose the topic they would write about at each session. However, the findings of the present study regarding the changes in intrusion/avoidance levels, in intensity of negative and positive emotions related with the traumatic experiences written by participants imply that instructions asking participants to write about the same experience may facilitate positive outcomes of the written emotional disclosure to occur as a result of repeated exposure to the same aversive stimuli. Future research may systematically vary the writing instructions in order to see how this variation would effect the outcomes of written disclosure.

Future studies can analyze the content of the essays written by the participants in order to evaluate which language processes across the writing sessions have effect on the physical and psychological health outcomes. Previous studies (Pennebaker and Francis, 1996; Pennebaker et al., 1997) indicated that use of positive emotion words and increases in the use of causal and insight-related words predict positive health outcomes. Also, it was found that cognitive change and flexibility has an important impact on the positive outcomes of written emotional disclosure. Analyses of the essays written in Turkish in terms of emotion words, causal words and insight-related words in future studies could reveal language and cognitive processes that influence the beneficial effects of writing.

Moreover, future studies can utilize more objective physiological measures like heart rate, skin conductance and blood pressure in order to examine people's short-term responses to written emotional disclosure.

In summary, the findings of the present study suggest that written emotional disclosure may be a helpful tool in helping people with low negative mood regulation expectancies for emotional regulation after a stressful event and for their emotional well-being. Moreover, findings imply that, through confrontation with thoughts and emotions related with traumatic experiences, written emotional disclosure facilitates individuals to process their experiences and results in lower levels of intrusion/avoidance, less intense negative emotions and more positive emotions about their traumatic experiences. Future studies should examine the underlying mechanisms of the effects of writing about traumatic experiences and examine other individual differences variables that may have impact on beneficial outcomes of written emotional disclosure.

APPENDICES

APPENDIX A:
Demographic Data Form

Demografik Bilgiler:

Yaş: _____

Cinsiyet: _____

Kiminle beraber yaşıyorsunuz?

- a. Ailemle
- b. Yurtta
- c. Ev arkadaşı(ları)
- d. Yalnız
- e. Akrabalarla
- f. Diğer: _____

Hayatınızda en uzun yaşadığınız yer:

- a. Köy
- b. Kasaba
- c. Şehir
- d. Büyükşehir (İstanbul, Ankara, İzmir, Bursa, Adana)
- e. Türkiye dışı

Aileniz nerede yaşıyor?

- a. İstanbul
- b. İstanbul dışı

Ailenizin eğitim durumu:

Annemiz

Babanız

- Öğrenimi yok
- İlkokul terk
- İlkokul mezunu
- Ortaokul terk
- Ortaokul mezunu
- Lise terk
- Lise mezunu
- Üniversite terk
- Üniversite mezunu
- Lisansüstü
- Diğer

APPENDIX B:
Life Events Inventory

Aşağıda, insan yaşamını etkileyen bazı olaylar sıralanmıştır. Siz bu olaylardan herhangi birini yaşadınız mı? Eğer yaşadıysanız, yaşadığınız her olay için, maddelerin altında yer alan yaş aralıklarından hangisinde yaşadığınızı yuvarlak içine alarak belirtiniz. Olayları şimdi de yaşıyorsanız şimdi şikkını da yuvarlak içine alınız. Bu olayın yaşamınızı ne kadar etkilediğini belirtmek için 1 ile 5 arasında bir puan veriniz (1=hiç etkilemedi, 5= son derece etkiledi). Eğer yaşadığınız olay, bir yaş aralığından daha fazla süreyi kapsıyorsa, lütfen olayı yaşadığınız tüm yaş aralıklarını belirtiniz ve her birinin yanına etkilenme derecesini yazınız. Aşağıdaki maddelerde yer almayan, ancak yaşamınızı etkileyen başka bir olay varsa lütfen “Diğer” seçeneğinde açıklayınız ve yine olayı yaşadığınız yaş aralığını ve yaşamınızı etkileme derecesini belirtiniz.

- Ciddi bir kayıp (ölüm) yaşadınız mı? (Kim yada kimler olduğunu işaretleyiniz)

-Anne

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

-Baba

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

-Kardeş

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

-Yakın Arkadaş

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

-Yakın Akraba

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

-Diğer kayıp (Kim olduğunu belirtiniz)

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

- Anne ve babanız arasında ayrılık/boşanma oldu mu?

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5
	Hiç				Son derece

- Aile üyelerinizden birinin önemli bir sağlık sorunu oldu mu?

0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası	Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5

	Hiç					Son derece
▪ Ailenizde ekonomik problemler ya da gelir durumunda ciddi azalmalar, iş kaybı, uzun süreli işsizlik oldu mu?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Ebeveynlerinizle aranızda önemli anlaşmazlıklar yaşandı mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Önemli bir kişisel yaralanma, hastalık veya sağlık sorunu yaşadınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Hayatınızda hiç fiziksel istismar, dayak gibi şiddete maruz kaldınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Travmatik bir cinsel deneyime (tecavüz, taciz, vs.) maruz kaldınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Terör, hırsızlık, kapkaç gibi olaylara maruz kaldınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Hayatınızda şiddetli bir deprem, sel, heyelan, su baskını, yangın gibi afetler yaşadınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Eğitim hayatınızda ciddi başarısızlıklar yaşadınız mı?						
0-6 yaş	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Yakın arkadaşlıklarınızda üstesinden gelmekte zorlandığınız sorunlar yaşadınız mı?						
	7-11 yaş	12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece
▪ Romantik ilişki(ler)inizde üstesinden gelmekte zorlandığınız sorunlar yaşadınız mı?						
		12-15 yaş	16-19 yaş	20 ve sonrası		Şimdi
Sizi ne kadar etkiledi?	1	2	3	4	5	
	Hiç					Son derece

APPENDIX C:
Health Questionnaire

Sağlık soruları:

Aşağıda çeşitli sağlık sorunları ya da hastalıklar sıralanmıştır. İçlerinden geçmişte ya da şimdi şikayetçi olduğlarınızı işaretleyiniz.

- | | |
|---|---|
| <input type="checkbox"/> Diyabet | <input type="checkbox"/> Sosyal fobi |
| <input type="checkbox"/> Astım | <input type="checkbox"/> Obsesif-kompulsif bozukluk (takıntılar) |
| <input type="checkbox"/> Migren | <input type="checkbox"/> Travma sonrası stres bozukluğu |
| <input type="checkbox"/> Gastrit/Ülser | <input type="checkbox"/> Psikoz |
| <input type="checkbox"/> Reflü | <input type="checkbox"/> Madde bağımlılığı (sigara, alkol de dahil) |
| <input type="checkbox"/> Kolit | <input type="checkbox"/> Uyku bozukluğu |
| <input type="checkbox"/> Alerji | |
| <input type="checkbox"/> Hemoroit | <input type="checkbox"/> Adet düzensizliği/sorunları |
| <input type="checkbox"/> Epilepsi/Sara nöbeti | <input type="checkbox"/> Cinsel işlev bozukluğu |
| <input type="checkbox"/> Romatizma | <input type="checkbox"/> Diğer: _____ |
| <input type="checkbox"/> Fıtık | |
| <input type="checkbox"/> Kanser | |
| <input type="checkbox"/> İyi huylu (benign) tümör | |
| <input type="checkbox"/> Kist/Miyom | |
| <input type="checkbox"/> Kalp rahatsızlığı | |
| <input type="checkbox"/> Akciğer rahatsızlığı | |
| <input type="checkbox"/> Karaciğer rahatsızlığı | |
| <input type="checkbox"/> Böbrek rahatsızlığı | |
| <input type="checkbox"/> Cilt hastalıkları (Sedef hastalığı, akne gibi) | |
| <input type="checkbox"/> İdrar yolu enfeksiyonu | |
| <input type="checkbox"/> Bağırsak ile ilgili problemler (kabızlık, ishal) | |
| <input type="checkbox"/> Cinsel yolla bulaşan enfeksiyonlar | |
| <input type="checkbox"/> Göz hastalıkları (miyop, hipermetrop, astigmat -- dışında) | |
| <input type="checkbox"/> İşitme sorunları | |

- | |
|---|
| <input type="checkbox"/> Kansızlık |
| <input type="checkbox"/> Yüksek tansiyon/düşük tansiyon |
| <input type="checkbox"/> Yüksek kolesterol |
| <input type="checkbox"/> Çarpıntı |
| <input type="checkbox"/> Tiroid bozukluğu |
| <input type="checkbox"/> Hormonal bozukluk |
| <input type="checkbox"/> Hipoglisemi (düşük kan şekeri) |
| <input type="checkbox"/> Uzun süreli baş ağrıları |
| <input type="checkbox"/> Diş sıkma/Gıcırdatma |
| <input type="checkbox"/> Kulak çınlaması |
| <input type="checkbox"/> Kronik ağrı |
| <input type="checkbox"/> Tik(ler) |
| <input type="checkbox"/> Obezite |
| <input type="checkbox"/> Depresyon |
| <input type="checkbox"/> Mani |
| <input type="checkbox"/> Panik atak |
| <input type="checkbox"/> Yeme bozukluğu |

Geçtiğimiz yıl içinde grip aşısı oldunuz mu? Evet ____ Hayır ____

Birinci dönemin başından beri:

Kaç kez hastalandınız? _____

Bu hastalıklarınız toplam kaç gün sürdü? _____

Kaç defa hastalık sebebiyle revire ya da doktora gittiniz? _____

Geçen ay boyunca ne sıklıkta aşağıda belirtilen şikayetleriniz oldu?

-Uyku sorunları (uykuya dalmakta ya da uykuyu sürdürmekte sorun)

1	2	3	4	5
hiç		bazen		çok sık

-Baş ağrısı

1	2	3	4	5
hiç		bazen		çok sık

-Mide yanması/hazımsızlık/mide bulantısı

1	2	3	4	5
hiç		bazen		çok sık

-Kabızlık/ishal

1	2	3	4	5
hiç		bazen		çok sık

-Soğuk algınlığı/üst solunum yolu enfeksiyonu

1	2	3	4	5
hiç		bazen		çok sık

-Halsizlik

1	2	3	4	5
hiç		bazen		çok sık

APPENDIX D:
Beck Depression Inventory

Aşağıda gruplar halinde bazı cümleler yazılmıştır. Her gruptaki cümleleri dikkatle okuyunuz. Bugün dahil son bir hafta içinde kendinizi nasıl hissettiğinizi en iyi anlatan cümleyi seçiniz. Seçtiğiniz cümlenin yanındaki numarayı daire içine alınız. Bir grupta durumunuzu tanımlayan birden fazla cümle varsa, her birini daire içine alarak işaretleyiniz.

Seçiminizi yapmadan önce her gruptaki cümlelerin hepsini dikkatle okuyunuz.

- A. 0 Kendimi üzüntülü ve sıkıntılı hissetmiyorum.
1 Kendimi üzüntülü ve sıkıntılı hissediyorum.
2 Hep üzüntülü ve sıkıntılıyım. Bundan kurtulamıyorum.
3 O kadar üzüntülü ve sıkıntılıyım ki artık dayanamıyorum.
- B. 0 Gelecek hakkında umutsuz ve karamsar değilim.
1 Gelecek hakkında karamsarıyım.
2 Gelecekte beklediğim hiçbir şey yok.
3 Geleceğim hakkında umutsuzum ve sanki hiçbir şey düzelmeyecekmiş gibi geliyor.
- C. 0 Kendimi başarısız bir insan olarak görmüyorum.
1 Çevremdeki birçok kişiden daha çok başarısızlıklarım olmuş gibi geliyor.
2 Geçmişime baktığımda başarısızlıklarla dolu olduğunu görüyorum.
3 Kendimi tümüyle başarısız bir insan olarak görüyorum.
- D. 0 Birçok şeyden eskisi kadar zevk alıyorum.
1 Eskiden olduğu gibi her şeyden hoşlanmıyorum.
2 Artık hiçbir şey bana tam anlamıyla zevk vermiyor.
3 Her şeyden sıkılıyorum.
- E. 0 Kendimi herhangi bir şekilde suçlu hissetmiyorum.
1 Kendimi zaman zaman suçlu hissediyorum.
2 Çoğu zaman kendimi suçlu hissediyorum.
3 Kendimi her zaman suçlu hissediyorum.
- F. 0 Kendimden memnunum.
1 Kendi kendimden pek memnun değilim.
2 Kendime çok kızıyorum.
3 Kendimden nefret ediyorum.
- G. 0 Başkalarından daha kötü olduğumu sanmıyorum.
1 Zayıf yanlarım ya da hatalarım için kendi kendimi eleştiririm.
2 Hatalarımdan dolayı her zaman kendimi kabahatli bulurum.
3 Her aksilik karşısında kendimi kabahatli bulurum.
- I. 0 Her zamankinden fazla içimden ağlamak gelmiyor.
1 Zaman zaman içimden ağlamak geliyor.
2 Çoğu zaman ağlıyorum.
3 Eskiden ağlayabilirdim şimdi istesem de ağlayamıyorum.
- J. 0 Şimdi her zaman olduğumdan daha sinirli değilim.
1 Eskisine kıyasla daha kolay kızıyor ya da sinirleniyorum.
2 Şimdi hep sinirliyim.
3 Bir zamanlar beni sinirlendiren şeyler şimdi hiç sinirlendirmiyor.

- K. 0 Başkaları ile görüşmek, konuşmak isteğimi kaybetmedim.
1 Başkaları ile eskisinden daha az konuşmak, görüşmek istiyorum.
2 Başkaları ile konuşmak, görüşmek isteğimi kaybettim.
3 Hiç kimseyle konuşmak, görüşmek istemiyorum.
- L. 0 Eskiden olduğu kadar kolay karar verebiliyorum.
1 Eskiden olduğu kadar kolay karar veremiyorum.
2 Karar verirken eskisine kıyasla çok güçlük çekiyorum
3 Artık hiç karar veremiyorum.
- M. 0 Aynada kendime baktığımda bir değişiklik görmüyorum.
1 Daha yaşlanmışım ve çirkinleşmişim gibi geliyor.
2 Görünüşümün çok değiştiğini ve daha çirkinleştiğimi hissediyorum.
3 Kendimi çok çirkin buluyorum
- N. 0 Eskisi kadar iyi çalışabiliyorum
1 Bir şeyler yapabilmek için gayret göstermek gerekiyor.
2 Herhangi bir şeyi yapabilmek için kendimi çok zorlamam gerekiyor.
3 Hiçbir şey yapamıyorum.
- O. 0 Her zamanki gibi uyuyabiliyorum.
1 Eskiden olduğu gibi uyuyamıyorum.
2 Her zamankinden 1-2 saat daha erken uyanıyorum ve tekrar uyuyamıyorum.
3 Her zamankinden çok daha erken uyanıyorum ve tekrar uyuyamıyorum.
- P. 0 Her zamankinden daha çabuk yorulmuyorum.
1 Her zamankinden daha çabuk yoruluyorum.
2 Yaptığım hemen her şey beni yoruyor.
3 Kendimi hiçbir şey yapamayacak kadar yorgun hissediyorum.
- R. 0 İştahım her zamanki gibi.
1 İştahım eskisi kadar iyi değil.
2 İştahım çok azaldı.
3 Artık hiç iştahım yok.
- S. 0 Son zamanlarda kilo vermedim.
1 İki kilodan fazla verdim.
2 Dört kilodan fazla verdim.
3 Altı kilodan fazla verdim.
() Daha az yiyerek kilo vermeye çalışıyorum.
() Daha az yiyerek kilo vermeye çalışmıyorum.
- T. 0 Sağlığım beni fazla endişelendirmiyor.
1 Ağrı, sancı, mide bozukluğu gibi rahatsızlıklar beni endişelendiriyor.
2 Sağlığım beni endişelendirdiği için başka şeyleri düşünmek zorlaşıyor.
3 Sağlığım hakkında o kadar endişeleniyorum ki başka hiçbir şey düşünemiyorum.
- U. 0 Son zamanlarda cinsel konulara olan ilgimde bir değişme fark etmedim.
1 Cinsel konularla eskisinden daha az ilgiliyim.
2 Cinsel konularla şimdi çok daha az ilgiliyim.
3 Cinsel konulara olan ilgimi tamamen kaybettim.

- V. 0 Bana cezalandırılmışım gibi gelmiyor.
1 Cezalandırılabilceğimi seziyorum.
2 Cezalandırılmayı bekliyorum.
3 Cezalandırıldığımı hissediyorum.

APPENDIX E:
Negative Mood Regulation Expectancies Scale

İnsanların üzücü duygularla ilgili olarak yapabileceklerine dair inanışları vardır. Aşağıdaki ifadeler sizin bu inanışlarınızı anlamaya yöneliktir. Önemli olan bu tür durumlarda ne yaptığınızdan öte, ne yapabileceğinize dair olan inancınızdır. Doğru ya da yanlış cevap yoktur. Lütfen tüm maddeleri okuyun ve size uygun olan seçeneği işaretleyin.

1-----2-----3-----4-----5
Hiç katılmıyorum Tamamen katılıyorum

Üzgün olduğumda...

1. Genellikle kendimi neşelendirecek bir yol bulabileceğime inanırım.	1	2	3	4	5
2. Daha iyi hissetmek için bir şeyler yapabileceğime inanırım.	1	2	3	4	5
3. Tüm yapabileceğim bu sıkıntı içinde yuvarlanmaktır.	1	2	3	4	5
4. Daha güzel zamanları düşünürsem kendimi daha iyi hissedeceğime inanırım.	1	2	3	4	5
5. Başka insanlarla beraber olmanın can sıkıcı olacağına inanırım.	1	2	3	4	5
6. Kendimi hoşlandığım bir şeylere yönlendirerek daha iyi hissedebileceğime inanırım.	1	2	3	4	5
7. Neden kötü hissettiğimi anladığım zaman kendimi daha iyi hissedeceğime inanırım.	1	2	3	4	5
8. Bu durumla ilgili bir şeyler yapmak için harekete geçemeyeceğime inanırım.	1	2	3	4	5
9. Durumun iyi yanını bulmaya çalışmanın beni daha iyi hissettirmeyeceğine inanırım.	1	2	3	4	5
10. Uzun bir süre geçmeden kendimi sakinleştirebileceğime inanırım.	1	2	3	4	5
11. Beni gerçekten anlayan birini bulmanın zor olacağına inanırım.	1	2	3	4	5
12. Kendi kendime, geçeceğini söylemenin sakinleşmeye yardımcı olacağına inanırım.	1	2	3	4	5
13. Başka biri için güzel bir şey yapmanın beni neşelendireceğine inanırım.	1	2	3	4	5
14. Böyle giderse gerçekten depresyona gireceğimi düşünürüm.	1	2	3	4	5
15. Olayları nasıl ele alacağımı planlamanın bana yardımcı olacağına inanırım.	1	2	3	4	5
16. Beni üzen şeyi kolayca untabileceğime inanırım.	1	2	3	4	5
17. Geri kaldığım işlerimi yetiştirmeye çalışmanın beni sakinleştireceğine inanırım.	1	2	3	4	5
18. Arkadaşlarımdan vereceği öğütlerin daha iyi hissettirmeyeceğine inanırım.	1	2	3	4	5
19. Genelde zevk aldığım şeylerden zevk alamayacağıma inanırım.	1	2	3	4	5
20. Rahatlamanın bir yolunu bulabileceğime inanırım.	1	2	3	4	5
21. Durumu kafamda çözmeye çalışmanın bu durumun bana daha kötü görünmesine neden olacağına inanırım.	1	2	3	4	5
22. Film izlemenin beni daha iyi hissettirmeyeceğine inanırım.	1	2	3	4	5
23. Arkadaşlarımla yemeğe çıkmanın yardımcı olacağına inanırım.	1	2	3	4	5
24. Uzun bir süre daha, böyle kötü hissedeceğime inanırım.	1	2	3	4	5

25. Bunu üstümden atamayacağıma inanırım.	1	2	3	4	5
26. Yaratıcı bir şey yaparak kendimi daha iyi hissedebileceğime inanırım.	1	2	3	4	5
27. Kendim hakkında kötü düşünmeye başlayacağıma inanırım.	1	2	3	4	5
28. Sonunda her şeyin daha iyi olacağını düşünmenin beni daha iyi hissettirmeyeceğine inanırım.	1	2	3	4	5
29. Durumda mizahi bir yan bulup daha iyi hissedebileceğime inanırım.	1	2	3	4	5
30. Başka insanlarla beraber olsam bile, kendimi “kalabalık içinde yalnız” hissedeceğime inanırım.	1	2	3	4	5

APPENDIX F:
Impact of Stressful Experience Questions

Sizden istediğimiz önümüzdeki dört gün boyunca sizi derinden etkilediğini düşündüğünüz olumsuz bir olay ya da durum hakkında yazmanız. Bu olay ya da durum sizi çok üzmüş, endişelendirmiş ya da sarsmış olabilir. Bu, üstünde sürekli düşünmüş olabileceğiniz gibi, uzun zaman düşünmekten kaçındığınız bir konu da olabilir.

Yazmaya başlamadan önce, yaşadığınız olay ya da durumla ilgili olarak aşağıdaki soruları cevaplayınız.

Yaşadığınız bu durum, o dönemde yaşamınızı ne derece etkiledi?

1 2 3 4 5
Hiç Son derece

Şu anda bu olayın etkilerini hangi yoğunlukta hissediyorsunuz?

1 2 3 4 5
Hiç Son derece

Yaşadığınız bu olayın sizi ne derece değiştirdiğini düşünüyorsunuz?

1 2 3 4 5
Hiç Son derece

Duygusal anlamda tepkileriniz zaman içinde nasıl değişti?

1 2 3 4 5
Çok azaldı/geçti Oldukça azaldı Aynı Kaldı Biraz arttı Çok arttı

APPENDIX G:
Social Constraint Scale

Bu olay hakkında hiç kimseyle konuştunuz mu? ___Evet ___Hayır
Eğer cevabınız hayır ise nedenini açıkla mısınız?

(Eğer cevabınız hayır ise aşağıdaki soruları cevaplamayın)

Yaşadıklarınızla ilgili olarak ilk kez olaydan ne kadar zaman sonra konuştunuz?
(Yaklaşık bir zaman belirtiniz)

Genel olarak düşündüğünüzde bu durum hakkında konuşmak sizi nasıl hissettirdi?
1 2 3 4
Daha kötü hissettirdi Bir şey değıştirmede Daha iyi hissettirdi Çok daha iyi hissettirdi

Aşağıdaki soruları bu olay hakkında en sık konuştuğunuz kişileri düşünerek cevaplayınız

Yaşadıklarınızla ilgili duygularınızı ne derece paylaşabildiniz?

1 2 3 4 5
Hiç Son derece

Olayla ilgili konuşma ihtiyacınızı ne derece giderdiniz?

1 2 3 4 5
Hiç Son derece

Yaşadıklarınızı/Hissettiklerinizi paylaşmak sizin için ne kadar kolaydı?

1 2 3 4 5
Hiç Son derece

Deneyiminizi paylaşmanın bu kişileri rahatsız ettiğini düşündünüz mü?

1 2 3 4 5
Hiçbir zaman Nadiren Bazen Çoğu zaman Her zaman

Bu kişilerin rahatsız olabileceğini düşünmek sizi deneyiminizi paylaşmaktan alıkoydu mu?

1 2 3 4 5
Hiçbir zaman Nadiren Bazen Çoğu zaman Her zaman

Bu kişilerin olayı yada sizin olaya verdiğiniz tepkileri önemsemediğini ya da küçümsediğini düşündünüz mü?

1 2 3 4 5
Hiçbir zaman Nadiren Bazen Çoğu zaman Her zaman

Siz deneyiminiz hakkında konuşmaya çalıştığınızda bu kişiler konuyu konuşmaktan kaçındı mı ya da konuyu değıştirmeye çalıştı mı?

1 2 3 4 5
Hiçbir zaman Nadiren Bazen Çoğu zaman Her zaman

Yaşadıklarınızı öğrendikten sonra bu kişilerin sizin hakkınızdaki düşüncelerinin değıştiğini hissettiniz mi?

Evet, olumlu yönde Evet, olumsuz yönde Hayır

Olayla ilgili daha önce herhangi bir şekilde yazdınız mı? (Günlüğünüze vs.)

EVET__ HAYIR__

APPENDIX H:
Intrusion and Avoidance Scale

1. Son zamanlarda kendinizi yaşadığınız olayı düşünür buluyor musunuz?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
2. Yaşadığınız olayla ilgili aklınıza gelen duygu ve düşünceleriniz geçmişte canınızı sıkıyor muydu?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
3. Olayla ilgili aklınıza gelen duygu ve düşünceleriniz son zamanlarda canınızı sıkıyor mu?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
4. Bu olayla ilgili duygu ve düşüncelerinizi geçmişte aklınızdan çıkarmaya çalışır mıydınız?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
5. Bu olayla ilgili duygu ve düşünceleri son zamanlarda aklınızdan atmaya çalışıyor musunuz?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
6. Olayla ilgili duygu ve düşünceler geçmişte aklınıza geldiğinde onları aklınızdan çıkartmayı başaramadığınız olur muydu?
- | | | | | |
|--------------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |
7. Olayla ilgili duygu ve düşünceler son zamanlarda aklınıza geldiğinde onları aklınızdan çıkartmayı başaramadığınız oluyor mu?
- | | | | | |
|--------------|---------|-------|------------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Hiçbir zaman | Nadiren | Bazen | Çoğu zaman | Her zaman |

APPENDIX I:
Intensity of Emotions Scale

Yaşadığınız olayı düşündüğünüzde ŞU ANDA aşağıdaki duyguların hangilerini ne yoğunlukta hissediyorsunuz?

Örneğin: Öfke hissediyorsanız bu hissinizi aşağıdaki çizelgeye göre 1-10 arasında bir sayıyla değerlendirin.

1	2	3	4	5	6	7	8	9	10
Hiç									Son Derece
__ kaygı/endişe					__ çaresizlik				__ incinme
__ üzüntü					__ mutluluk				__ tedirginlik
__ utanç					__ sevinç				__ reddedilmişlik
__ korku					__ keyif				__ bunalmışlık
__ mutsuzluk					__ memnuniyet				__ sinirlilik
__ öfke					__ hayal kırıklığı				__ iğrenme
__ umutsuzluk					__ sıkıntı				__ kıskançlık
__ bırakılmışlık/terkedilmişlik									

APPENDIX J:
Post-Writing Questions

1. Aşağıdaki duygu ve fiziksel semptomların hangilerini ne yoğunlukta hissediyorsunuz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

___ Üzgün

___ Sinirli

___ Yorgun

___ Suçlu

___ Rahatlamış

___ Kaygılı

___ Baş ağrısı

___ Mide bulantısı/ağrısı/yanması

___ Kalp çarpıntısı/hızlı atması

___ Ellerin terlemesi/soğuması

___ Nefes darlığı

___ Baş dönmesi

2. Bugün yazdıklarınız ne derece kişiseldi?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

3. Bugün yazdıklarınız sizin için ne kadar önemli ve anlamlıydı?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

4. Bugün yazdıklarınızda ne derece derin duygularınızı ifade ettiniz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

5. Bugün yazdıklarınızda ne derece başkalarıyla daha önce paylaşmadığınız duygu ve düşüncelerinizi yansıttınız?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

6. Bugün yazdıklarınızı ne derece geçmişte bir başkasına söyleyebilmiş olmayı isterdiniz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

7. Bugün yazdıklarınızı geçmişte başkalarıyla paylaşmamak için kendinizi ne derece durdurmuşunuz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

Bugünkü yazma deneyimizin nasıl geçtiğini kısaca anlatır mısınız?

TEŞEKKÜRLER!

APPENDIX K:
Last Day of the Writing Questionnaire

Aşağıdaki soruları üç günlük yazma deneyimini düşünerek doldurunuz.

1. Genel olarak üç gün boyunca yazdıklarınız ne derece kişiseldi?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

2. Yazdıklarınızı bu deneye katılmadan önce ne derece başkalarıyla paylaşmıştınız?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

3. Yazdıklarınızda ne derece en derin duygularınızı yansıtmış oldu?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

4. Yazdıklarınızı geçmişte başkalarıyla paylaşmamak için kendinizi ne derece durdurmuşunuz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

5. Genel olarak üç gün boyunca yazma deneyimi sizin için ne derece zordu?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

6. Son üç günde ne derece üzgün hissettiniz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

7. Son üç günde ne derece mutlu hissettiniz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

8. Deney başladığı günden itibaren kendinizi bu deneyi ne derece düşündür buldunuz?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

9. Bu deneye katılımın 5 kredi sağlaması dışında bu deneye katılmış olmanın sizin anlamlı bir yönü oldu mu?

1 2 3 4 5 6 7 8 9 10
Hiç Biraz Son Derece

10. Sizin açınızdan üç gün boyunca olumsuz olay(larla) ilgili yazmanın en iyi tarafları nelerdi?

11. Sizin açınızdan üç gün boyunca olumsuz bir olayla ilgili yazmanın en zorlayıcı tarafları nelerdi?

12. Sizce üç gün boyunca olumsuz bir olayla ilgili yazmak size yardımcı oldu mu? Eğer evet ise, neden? Eğer hayır ise, neden?

APPENDIX L:
Consent Form

BİLGİLENDİRİLMİŞ OLUR FORMU

Araştırmanın adı: Yazı yazmanın etkileri
Araştırmacıların adı: Serra Müderrisoğlu, Serap Serbest

Çalışmanın Amacı: Bu çalışmanın amacı insanın geçmişte yaşadığı sıkıntılı bir deneyimi derinlemesine yazmasının deneyimin etkisini nasıl değiştirdiğini incelemektir.

Kullanılacak Prosedür: Sizden çalışma boyunca çeşitli ölçekler doldurmanızı, sonrasında 20 dakika boyunca size verilen yönergeye göre yazı yazmanızı ve son olarak yazma deneyiminizle ilgili size sorulacak soruları cevaplamanızı isteyeceğiz. Ölçekler insan yaşamını etkilemiş olabilecek bazı olaylar, sağlık sorunları, kişinin kendisini nasıl hissettiği ve üzücü duygularla ilgili olarak yapabileceklerine dair inanışları ile ilgilidir. Size verilecek ölçeklerdeki soruların doğru ya da yanlış cevabı yoktur, bu sorularla sizin deneyim, duygu ve düşüncelerinizi öğrenmeyi amaçlamaktayız.

Katılımcılardan toplanacak bilginin niteliği, olası yararı, zararı: Katılımcıların rastgele seçilmiş bir kısmı yaşadıkları olumsuz bir deneyim üzerine, diğer kısmı ise duygu içermeyen bir konu üzerine 3 gün 20'şer dakika yazı yazacaklardır. Birinci grup için, yaşanan üzücü bir deneyimle ilgili yazmak ilk başta olumsuz duygular uyandırabilir. Bu, bu tür çalışmalarda sıklıkla ortaya çıkan ve doğal karşılanan bir durumdur. Yazmaya devam ettikçe bu duyguların genellikle azaldığı ve kişinin bu olumsuz olayla ilgili kendisini daha iyi hissettiği görülmüştür.

Çalışmanın süresi: Çalışma toplam 5 oturumu içerir. İlk gün yaklaşık 60 dakika, sonraki üç gün yaklaşık 30'ar dakika sürecektir. Bir ay sonra gerçekleşecek oturum ise yaklaşık 45 dakika sürecektir. Tüm oturumların gün ve saati sizin programlarınıza göre ayarlanacaktır.

Çalışmada isminiz ve kimliğinizi açığa çıkarabilecek diğer bilgiler hiç bir şekilde yazdıklarınız ve verdiğiniz bilgilerle eşleştirilmeyecek, verdiğiniz bilgiler isimsiz bir şekilde kullanılacaktır. Ayrıca, verdiğiniz tüm bilgiler gizlilik içinde saklanacaktır.

Ödüllendirme: Çalışmanın gerektirdiği beş günlük katılımı tamamladıktan sonra, katılımınızın karşılığında PSY 101 dersinden 5 kredi alacaksınız.

Yukarıdaki bilgileri okuduğumu ve söz konusu deneyin koşullarının bana uyduğunu teyid ederim.

___ Bu formun bir kopyasını aldım ___ Bu formun bir kopyasını almadım

Katılımcının Adı:

Adı-Soyadı

İmza

Tarih

Adres, Telefon:

E-mail:

Öğrenci no:

Bu araştırma bilimsel amaçla yapılmaktadır, bilgilerin gizliliği esas alınmıştır ve katılımcının istediği an geri çekilme hakkı mevcuttur.

Yürütücünün adı:

Adı-Soyadı

İmza

Tarih

Araştırmacının irtibat bilgileri: Serra Müderrisoğlu, serra@boun.edu.tr,

(212) 3597324

Serap Serbest serapserbest@gmail.com,

(532) 3963835

APPENDIX M:
Writing Instructions for the Emotional Disclosure Group

1. gün:

Sizden istediğimiz, üç gün boyunca yaşamış olduğunuz bu olay ya da durum ile ilgili tüm hissettiklerinizi ve düşündüklerinizi olabildiğince dürüstçe ve içtenlikle aktarabilmeniz. Yazarken kendinizi serbest bırakarak hislerinizin açığa çıkmasına izin vermeye çalışın. Aklınızdaki her şeyi sansürsüzce ve yargılamadan yazın. Yazmaya başladıktan sonra hiç durmadan ve yazım kurallarına önem vermeden yazın.

Yazarken, olayın içeriğine, üzerinizdeki etkilerine ve sizin için olan anlamına odaklanın.

Yazarken kendinize sorabileceğiniz bazı sorular:

- *Bu deneyimi yaşarken neler hissettim?*
- *Hayatımda neleri değiştirdi?*
- *Yakın aile ve arkadaşlarımla ilişkilerimi nasıl etkiledi?*
- *Bu olayın bugünkü yaşamımdaki izleri neler?*
- *Olay hakkında yazmak nasıl hissettiriyor, neler düşündürüyor?*
- *Kendime bakışım, kendimle ilgili hislerim nasıl etkilendi?*

Bu sorular deneyiminizle ilgili size **sadece** fikir vermek amaçlıdır. Bu sorulara cevap verebileceğiniz gibi bunların sizi düşündürdüğü başka noktalara da değinebilirsiniz.

2. gn:

Bugn sizden istediđimiz yařadıđınız olayla ilgili yazmaya devam etmeniz. Yine sizden kendinizi serbest bırakarak itenlikle yazmanız istenmektedir. Olayla ilgili, **ilk gn deđinmediđiniz** duygu ve dřncelere deđinmeye alıřın. İlk gnden hatırlayacađınız gibi, ařađıdaki sorular size *sadece* fikir vermek amalıdır.

- *Bu deneyimi yařarken neler hissettim?*
- *Hayatımda neleri deđiřtirdi?*
- *Yakın aile ve arkadařlarımla iliřkilerimi nasıl etkiledi?*
- *Bu olayın bugnk yařamımdaki izleri neler?*
- *Olay hakkında yazmak nasıl hissettiriyor, neler dřndrtyor?*
- *Kendime bakıřım, kendimle ilgili hislerim nasıl etkilendi?*

3. gn:

Bugn sizden istediđimiz yařadıđınız olayla ilgili yazmaya devam etmeniz. Yine sizden kendinizi serbest bırakarak itenlikle yazmanız istenmektedir. Olayla ilgili, **nceki gnlerde deđinmediđiniz** duygu ve dřncelere deđinmeye alıřın. nceki gnlerden hatırlayacađınız gibi, ařađıdaki sorular size *sadece* fikir vermek amalıdır.

- *Bu deneyimi yařarken neler hissettim?*
- *Hayatımda neleri deđiřtirdi?*
- *Yakın aile ve arkadařlarımla iliřkilerimi nasıl etkiledi?*
- *Bu olayın bugnk yařamımdaki izleri neler?*
- *Olay hakkında yazmak nasıl hissettiriyor, neler dřndrtyor?*
- *Kendime bakıřım, kendimle ilgili hislerim nasıl etkilendi?*

APPENDIX N:
Writing Instructions for the Control Group

1.gün:

Sizden istediğimiz yaşamakta olduğunuz mekanı önümüzdeki 20 dakika boyunca detaylı olarak yazmanız. Aklınıza gelen tüm detayları yazınıza katmaya çalışın. Yazmaya başladıktan sonra hiç durmadan ve yazım kurallarına önem vermeden yazın.

2.gün:

Sizden istediğimiz önümüzdeki 20 dakika boyunca üniversite kampusunu (kuzey ya da güney kampus) detaylı olarak yazmanız. Aklınıza gelen tüm detayları yazınıza katmaya çalışın. Yazmaya başladıktan sonra hiç durmadan ve yazım kurallarına önem vermeden yazın.

3.gün:

Sizden istediğimiz yarın yapmayı planladığınız herşeyi önümüzdeki 20 dakika boyunca detaylı olarak yazmanız. Aklınıza gelen tüm detayları yazınıza katmaya çalışın. Yazmaya başladıktan sonra hiç durmadan ve yazım kurallarına önem vermeden yazın.

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