Expressive Writing and Mental Health of College Freshmen at 1-Month Follow-Up: The Role of Forgiveness

An essay submitted in partial fulfillment of
the requirements for graduation from the

Honors College at the College of Charleston

with a Bachelor of Science in
Psychology

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MAY 2016

Advisor: Dr. Sarah Robertson
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Abstract

Higher levels of depression and anxiety are associated with the transition to college, during which students must adapt to an unfamiliar environment while managing new personal and academic responsibilities. The ability to forgive people and situations is crucial to dealing with adverse events like the college transition. We hypothesized that expressive writing (uncensored personal narrative) would help college freshmen make sense of their stress, with intervention efficacy varying with the capacity to forgive. For twenty minutes each day on three consecutive days, students in their first year at the College of Charleston wrote either objectively about a topic of their choice or about their deepest thoughts and feelings upon coming to college. At each visit and at 1-month follow-ups, participants completed self-assessments of their depression and anxiety levels. Symptoms decreased for all participants with time, with differences between experimental and control groups and high and low forgiveness groups. Implications for future research and interventions are discussed.

Keywords: expressive writing, depression, anxiety, college transition, forgiveness
Expressive Writing and Mental Health of College Freshmen at 1-Month Follow-Up:

The Role of Forgiveness

Ages 18-25 mark a life phase characterized by independence, exploration, and profound change. This season of development was recently dubbed “emerging adulthood,” distinct from adolescence and young adulthood in its challenges and events (Arnett, 2000). Whereas previous generations typically got married and settled down after high school or college, emerging adults today generally choose to explore different careers, pursue further education, or travel after attending college (Arnett, 2000). While this allows young people much more freedom, it also generates an atmosphere of uncertainty and instability, and this life phase is associated with poor mental health. Of all age groups over 18, young adults (age: 18-25 years) demonstrated the greatest percentage of major depressive episodes (MDEs) in the last year, and they were the only age group with a significant increase in percentage with MDEs in 2014 as compared to MDEs in 2006-2011 (Center for Behavioral Health Statistics and Quality, 2015). College students are especially at risk of experiencing severe stress, as they must adapt to an unfamiliar environment in the midst of accepting newfound independence and responsibilities (Ruberman, 2014). A survey of 74,438 college students at 108 different campuses regarding their health in the last 12 months indicated that 13.2% of undergraduates were diagnosed with or treated for depression, and 35.3% felt so depressed that it was difficult to function at least once (American College Health Association, 2015). Additionally, 15.8% of undergraduates were diagnosed with or treated for anxiety, and 57.7% experienced overwhelming anxiety at least once (American
Moreover, 9.8% of students seriously considered suicide at least once, and 1.6% \( (n = 1,004) \) attempted suicide at least once (American College Health Association, 2015). Undergraduate students at Franciscan University indicated that their top sources of stress were the pressure to succeed (particularly academically), plans for life after graduation, money, sleep quality, and relationships with friends and family (Beiter et al., 2015).

Homesickness, a potentially debilitating distress caused by separation from home, is widely experienced by college students (Thurber & Walton, 2012). Students face all the challenges of their newfound independence while having less contact with their primary caregiver, experiencing self-doubt, questioning their values, and striving to belong in an unfamiliar environment (Thurber & Walton, 2012). Some students have a relatively smooth transition and only experience positive aspects of homesickness, such as strengthened coping skills and renewed appreciation for relationships with people at home (Thurber & Walton, 2012). However, about 7% of students experience homesickness so severe that it causes depression, anxiety, inability to concentrate, withdrawn behavior, insomnia, immune deficiencies, and/or digestive issues; students with severe homesickness are 3 times more likely to drop out of college (Thurber & Walton, 2012). Factors such as young age, inexperience being away from home, and low self-efficacy exacerbate the risk of homesickness, but colleges can aid students by reassuring them that homesickness is normal, creating a welcoming atmosphere on campus, and encouraging self-compassion and overall health (Thurber & Walton, 2012). Self-compassion promotes coping through mindfulness (as opposed to avoidance), self-kindness, and common
humanity (recognizing failure as part of the experience; Terry, Leary, & Sneha, 2013; Thurber & Walton, 2012).

Mindfulness is a vital component of adaptive coping, especially because college students are prone to avoidance coping strategies (e.g., substance abuse, denial, self-distraction, and behavioral disengagement), which cause stress to accumulate and can lead to increased depression and anxiety (Lee, Catherine, Dickson, Conley, & Holmbeck, 2014). In a study of college students, 57.44% of the sample was found to be low in mindfulness, and the low mindfulness group had more negative emotional symptoms than the high mindfulness group (Pearson, Lawless, Brown, & Bravo, 2015). Interestingly, a study of 508 college students (age 18-24) found that adaptive coping style was not a predictor of stress, depression, or anxiety, but maladaptive coping was the main predictor (Mahmoud, Staten, Hall, & Lennie, 2012). Bell and Bromnick (1998) found high levels of self-disclosure to be related to low levels of homesickness, and high self-disclosers experienced a greater reduction in homesickness over 6 weeks than low self-disclosers. Therefore, strategies that reduce maladaptive coping by promoting awareness of one’s thoughts and emotions may be effective treatments for homesickness and general mental health issues experienced by college students.

Expressive writing (EW), the written disclosure of a person’s deepest thoughts and feelings regarding a traumatic experience, has positive, long-lasting effects on physical and mental health (Pennebaker & Beall, 1986). A meta-analysis of 146 randomized studies on experimental disclosure (expressive writing or talking) found a positive, significant average r-effect size of .075 (Cohen’s $d = .151$) (Frattaroli, 2006). Although this could be interpreted as a
small effect size, that there is an effect at all is of interest given that the studies in Frattaroli’s analysis assessed so many different outcomes: subjective impact, general functioning, health behaviors, physiological functioning, psychological health, and reported health. Numerous benefits have been reported: fewer illness-related health center visits; decreased depression, PTSD, anxiety, ulcers, high blood pressure, acne, and upper respiratory symptoms; increased work attendance; higher GPA; improved immune functioning; and improved overall health of college students with anxiety (Frattaroli, 2006).

Although a plethora of studies have demonstrated the positive effects of EW, researchers have not reached a consensus regarding why or how it works. It is suggested that EW acts as a form of exposure therapy and facilitates understanding and the disinhibition of emotions (Frattaroli, 2006). Freud’s disinhibition theory would suggest that EW is a cathartic process that allows one to “let go.” King’s self-regulation explanation indicates that EW restores people’s confidence in their ability to regulate their emotions, while Boontz applies exposure theory: repeated exposure to negative events written about lessens the intensity of associated feelings (Frattaroli, 2006). Pennebaker, a pioneer of EW, postulates that the act of disclosing thoughts and feelings in writing encourages social integration. That is, after engaging in EW, people are more likely to share their emotions with friends and family, allowing them to cope with stress in a more positive way (Frattaroli, 2006). However, Pennebaker initiated EW studies based on the disinhibition theory: he put forth that avoidance of discussing a traumatic experience is a form of inhibiting your actions and emotions, causing stress to accumulate and to take serious tolls on mental and physical health (Pennebaker & Beall, 1986). Pennebaker believed that experimental
disclosure would reduce the stress and work of emotional inhibition (Pennebaker & Beall, 1986). Participants described how EW helped them: “I was finally able to deal with it, work through the pain instead of trying to block it out. Now it doesn’t hurt to think about it;” “I had to think and resolve past experiences… One result of the experiment is peace of mind, and a method to relieve emotional experiences. To have to write emotions and feelings helped me understand how I felt and why” (Pennebaker & Beall, 1986, p. 279). According to the inhibition-confrontation approach to coping, failure to talk about a traumatic experience prevents the cognitive assimilation of the event into existing schemas (Pennebaker, Colder, & Sharp, 1990). Therefore, the process of translating stressful emotions into language is beneficial for anyone, especially those that tend to suppress the desire to talk about traumas (Pennebaker, Colder, & Sharp, 1990). EW may benefit young people going through the college transition through the promotion of self-compassion, active confrontation of stressors, and increased emotional and cognitive awareness (Lee et al., 2014; Terry et al., 2013).

The literature suggests that EW has positive long-term effects, but these effects vary in reported length and characteristics. Some participants report high blood pressure, arousal, and negative moods immediately after writing (Pennebaker & Beall, 1986; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). This phenomenon is likely due to recent exposure to traumatic memories, thoughts, and emotions. However, this effect is fleeting, and long-term effects are generally positive. In a meta-analysis of EW outcomes at least one month after the treatment, Smyth (1998) found a significant positive effect on psychological well-being ($d = 0.661$, $p < 0.0001$). Measures of psychological well-being included positive and negative affect, sadness,
anxiety, adjustment to college and high school, and general temperament (Smyth, 1998). In an EW study with first-year college student participants, the EW group had a significantly greater decrease in depression scores at a 2-month follow-up session ($F(2, 65) = 3.05, p < .05, d = .43$), although this effect was not sustained at 4- and 6-month follow-ups (Sloan, Marx, Epstein, & Dobbs, 2008). Another study found that the engagement in EW sessions was associated with lower depression and PTSD scores 4 weeks after writing in women that had undergone a traumatic experience (Sloan & Marx, 2004).

It is not clear how long the benefits of EW last. Gortner, Rude, and Pennebaker (2006) found EW to lower depression symptoms in college students at a 6-month follow-up, but this effect was only observed for participants with high scores on the Suppression subscale of the Emotion Regulation Questionnaire. Conversely, Niles, Haltom, Mulvenna, Lieberman, and Stanton (2014) observed reduced anxiety in participants with high emotional expressivity and increased anxiety in those with low emotional expressivity at a 3-month follow-up. Pennebaker and Beall (1986) found that participants who wrote about their emotions regarding a trauma (as compared to those who wrote nonemotional accounts of a traumatic or non-traumatic experience) exhibited the greatest health benefits at a 4-month follow-up: they had the least number of days in which their activities were restricted by illness and fewer health problems in general (e.g., ulcers, high blood pressure, migraines, acne). In another study, subjects that wrote about a trauma (as compared to control subjects) exhibited improved immune response and fewer health center visits 6 weeks after writing and reported being significantly happier 3 months after writing (Pennebaker, Kiecolt-Glaser, & Glaser, 1988). Moreover, high disclosers in the trauma condition
(those who wrote about topics they had actively held back in discussion previously) had significantly greater improvement in immune responses and rated essays as more personal than low disclosers in the trauma condition (Pennebaker et al., 1988).

Frattaroli (2006) and Pennebaker (2004, as cited in Frattaroli, 2006) argue that the most important aspect of expressive writing research today is to investigate who receives the greatest benefit from EW. As mentioned above, there are varying reports regarding the effect of participant characteristics on the efficacy of EW. In one study, scores on a temperament and personality questionnaire did not moderate effects of mental health outcomes of EW (Baikie, Geerligs, & Wilhelm, 2012). A study of undergraduate students found that expressive writing led to greater improvements in physical symptoms and depression for participants that exhibited alexithymia and splitting, but there was not a differential effect for participants with a repressive coping style (Baikie & McIlwain, 2008). Similarly, dispositional coping strategies (emotion-focused, active, and maladaptive) do not seem to be significant moderators on physical or mental health outcomes (Baikie et al., 2012). Further, individuals with greater baseline ambivalence regarding emotional expression exhibit more improvement in physical symptoms and negative affect than those with low ambivalence over emotional expression (Lu & Stanton, 2010). Participants with higher mindfulness scores exhibited a greater decrease in physical and psychological symptoms and negative affect and a greater increase in positive affect and sleep quality after expressive writing than participants low in mindfulness (Poon & Danoff-Burg, 2011). Although women tend to show a greater decrease in physical symptoms than men, males exhibit greater mental health benefits than females, perhaps because males are less likely to
disclose their emotions in regular social interactions (Manier & Olivares, 2005; Hijazi, Tavakoli, Slavin-Spenny, & Lumley, 2011). In one study, individuals with mild to moderate baseline distress experienced greater improvement than those with severe baseline distress, perhaps due to ceiling effects (Manier & Olivares, 2005). Conversely, an EW intervention with international students indicated a positive relationship between baseline acculturative stress and increase in positive affect (Hijazi et al., 2011). Further investigation as to when and for whom expressive writing works best is critical.

We were curious as to the role of forgiveness in the expressive writing intervention, as the capacity to forgive plays a significant role in mental and physical well-being as well as social interactions. A meta-analysis found self-forgiveness to be associated with positive relationship outcomes and strongly correlated with physical health ($r = .32$) and psychological health ($r = .45$; Davis, Ho, Griffin, Bell, Hook, Tongeren, DeBlare, Worthington, & Westbrook, 2015). Macaskill (2012) also found self-forgiveness to be a predictor of life satisfaction and mental health, although no such link was found for other-forgiveness. Crowley (2014) argues that expressive writing aids forgiveness through Freud’s aforementioned disinhibition theory (1917; Frattaroli, 2006), because it encourages people to release thoughts and emotions they’ve previously avoided putting into words or sharing with others. Crowley (2014) further cites the aforementioned self-regulation theory of King (2002) as a connection between forgiveness and expressive writing: because EW encourages the regulation of negative emotions related to a traumatic conflict or event, it allows people to respond to negative events in logical, productive ways. Numerous studies have found that EW facilitates interpersonal forgiveness (Landry, K. C.
Rachal, W. S. Rachal, & Rosenthal, 2005; Stratton, Dean, Nonneman, Bode, & Worthington, 2008; Leach, Greer, & Gaughf, 2010; Crowley, 2014; Romero, 2008; Barclay & Saldanha, 2015), but the writing prompts in these studies were generally forgiveness-specific (e.g., empathizing with offender, writing about benefits of conflict and forgiveness, writing about constructive solutions) as opposed to writing broadly about thoughts and feelings. Further, forgiveness has not been examined as a moderator of EW’s effects on mental health.

We wished to examine the moderating effect of forgiveness on the mental health benefits of expressive writing. We used the traditional expressive writing paradigm (Pennebaker & Beall, 1986; Pennebaker, 1997) to examine the effect of EW on well-validated measures of depression and anxiety in first-year College of Charleston students one month after the initial writing task, investigating the capacity for self- and other-forgiveness as a potential moderator.

**Hypothesis.** Participants assigned to the expressive writing condition (versus those in the control group) will demonstrate a decrease in anxiety and depression symptoms after the expressive writing task that will be maintained one month and six months afterward. This decrease in anxiety and depression will be moderated by participants’ capacity to forgive; specifically, expressive writing may not be as effective at reducing depression and anxiety scores for participants with low forgiveness levels as compared to those with high forgiveness levels.

**Method**

**Overview of Study**

We recruited Psychology 103 students in their first year at the College of Charleston to examine the effect of expressive writing on the ease of the college transition. Participants wrote
for twenty minutes each day on three consecutive days. They were randomly assigned to write either objectively about a topic of their choice or about their deepest thoughts and feelings upon coming to college. At each visit and at 1-month and 6-month follow-ups, participants completed self-report measures of psychological and physiological health, social support, compassion, and college adjustment.

Participants

Our sample consists of $N = 90$ (78 female, 12 male) first-year College of Charleston students, aged 17-22 years ($M = 18.07$, $SD = 1.98$). Most participants ($n = 67, 74.4\%$) completed their first session in the fall, while the rest ($n = 23, 25.6\%$) completed their first session in the spring. Participants were predominantly Caucasian ($n = 67, 74.4\%$); other participants were African American ($n = 13, 14.4\%$), Latino ($n = 7, 7.8\%$), Asian or Pacific Islander ($n = 1, 1.1\%$), American Indian or Alaskan native ($n = 1$), and other ($n = 1$). All participants were unmarried.

Recruitment. Undergraduate students enrolled in Introduction to Psychological Science (PSYC 103) at the College of Charleston are required to complete 12 hours of participation in psychological research studies on campus. We offered 6 research credit hours in exchange for participation in our study, and students signed up for research sessions online. Only students in their first year at the College of Charleston (freshmen or transfer students) were accepted as participants. Participants received 3 credits after the third writing session and received the remaining 3 credits after the 1-month follow-up. As incentive to complete the study, participants received a $5.00 check after their 6-month follow-up.

Procedure
Writing sessions (Times 1, 2, 3). Participants were randomly assigned to the experimental (expressive) group \((n = 45)\) or the control group \((n = 45)\). At the first session, participants gave written, informed consent and completed the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996), Beck Anxiety Inventory (Beck & Steer, 1993), and Heartland Forgiveness Scale (Thompson et al., 2005) as well as other self-report measures of mental and physical health. Then, they received their writing prompt and were instructed to write continuously for 20 minutes in response. Our writing paradigm was adapted from Pennebaker’s basic writing paradigm (Pennebaker & Beall, 1986; Pennebaker, 1997). After writing, participants received debrief information. Writing sessions 2 and 3 were identical to writing session 1, except participants did not complete a consent form. At the end of the third session, the 1-month follow-up was scheduled.

**Experimental (expressive) writing instructions.** The writing instructions for the experimental group were as follows:

For all three writing days of this experiment, your task is to write about your very deepest thoughts and feelings about coming to college. In your writing, try to let yourself go and write continuously about your emotions and thoughts related to leaving home, coming to college, and preparing for the future. You can write about leaving your friends, family, or high school, or about adjusting to a new social and academic world here. You could also focus on your classes, your future, your parents’ or your own expectations. The primary task, however, is for you to reflect on your most basic thoughts and emotions about coming to college. You have 20 minutes to complete the task.
**Control writing instructions.** The writing instructions for the control group were as follows:

For all three writing days of this experiment, your task is to describe in writing any particular object or event as objectively and as dispassionately as you can, without mentioning your emotions, opinions, or beliefs. You have 20 minutes to complete this task.

**One-month follow-up (Time 4).** At the 1-month follow-up, participants completed the BDI, BAI, and HFS. Then, they received debrief information.

**Six-month follow-up (Time 5).** The 6-month follow-up session was scheduled by email or text 1-2 weeks in advance. This session was identical in procedure to the 1-month session, except participants completed a payment authorization form to receive their $5.00 compensation.

**Debrief information.** The debrief slip received by each participant differed slightly depending on which session had just been completed. However, each slip included contact information for Dr. Robertson as well as the Counseling and Substance Abuse Services Office on campus in case a participant wished to seek a mental health resource. As an example, the debrief from the final session (6-month follow-up) is as follows:

Thank you so much for your participation in our study. As you know, the primary goals of this study are to assess the effects of writing on academic performance, physical health, and emotional health. Half of the participants in this study were asked to write intensely about their transition to college, and the other half of the participants served as a control group and wrote about an unemotional topic. Ultimately, from this data, we will
be able to determine if writing about the emotional process of transitioning to college reduces the likelihood of experiencing difficulties in one’s academic, social, and emotional lives. Thank you very much for your participation. If you would like to receive information on the results of the study, please provide your email address below.

If you have any questions, problems, or would like to talk, please feel free to contact Dr. Robertson at 843.953.8227 or robertsonsm@cofc.edu. You may also contact the Counseling and Substance Abuse Services Office at 175 Calhoun Street, or 843.953.5640.

**Measures**

**Beck Depression Inventory®-II (BDI-II).** The BDI-II (Beck et al., 1996) is a 21-item self-report survey that measures depressive symptoms experienced in the last two weeks based on DSM-IV criteria. The BDI-II measures depressive symptoms such as sadness, loss of pleasure, worthlessness, agitation, and concentration difficulty on a scale of 0 to 3, with higher scores indicated greater depression. For example, response options for the “agitation” item are as follows: “I am no more restless or wound up than usual” (0); “I feel more restless or wound up than usual” (1); “I am so restless or agitated that it’s hard to stay still” (2); and “I am so restless or agitated that I have to keep moving or doing something” (3).

The BDI-II is accepted as a valid, reliable measure of depressive symptoms. Steer and Clark (1997) found the coefficient alpha of the BDI-II to be .89 in a sample of 160 college students, indicating high internal consistency. They also found correlations between the BDI-II and the BAI (r = .56, p < .001) and the Sociotropy and Solitude subscales (r = .35, p < .001; and r
= .32, p < .001, respectively) of Sociotropy and Autonomy Scales (SAS), indicating convergent validity of the BDI-II with self-reported anxiety and personality traits, sociotropy and solitude.

**Beck Anxiety Inventory® (BAI).** The BAI (Beck & Steer, 1993) is a 21-item self-report survey that measures the extent to which different anxiety symptoms (based on DSM-IV criteria) were experienced in the last two weeks. The BDI-II measures symptoms such as inability to relax, terror, heart pounding, indigestion, and dizziness on a scale of 0 to 3, with higher scores indicated greater severity of symptoms. Response options are as follows: “NOT AT ALL” (0); “MILDLY: It did not bother me much” (1); “MODERATELY: It was very unpleasant, but I could stand it” (2); and “SEVERELY: I could barely stand it” (3).

The BAI is accepted as a valid and reliable measure of anxiety in adolescent and adult populations. A study of the BAI in adolescent psychiatric inpatients (N = 240) found sufficient internal-consistency reliability (α = .92), test-retest reliability (α = .71), and convergent-discriminant validity with the Minnesota Multiphasic Personality Inventory for Adolescents (MMPI-A) (Osman, Hoffman, Barrios, Kopper, Breitenstein, & Hahn, 2002).

**Heartland Forgiveness Scale (HFS).** The HFS (Thompson et al., 2005) is an 18-item self-report measure of dispositional forgiveness. The directions are as follows:

In the course of our lives negative things may occur because of our own actions, the actions of others, or circumstances beyond our control. For some time after these events, we may have negative thoughts or feelings about ourselves, others, or the situation. Think about how you TYPICALLY respond to such negative events. Next to each of the following items write the number (from the 7-point scale below) that best describes how
you TYPICALLY respond to the type of negative situation described. There are no right or wrong answers. Please be as open as possible in your answers.

Possible responses are numbered 1 through 7, with (1) indicating “Almost always false of me,” (3) indicating “More often false of me,” (5) indicating “More often true of me,” and (7) indicating “Almost always true of me.” Some sample statements are as follows: “I hold grudges against myself for negative things I’ve done,” “With time, I am understanding of others for the mistakes they’ve made,” and “I eventually make peace with bad situations in my life.” Six studies of HFS were reviewed and demonstrated that forgiveness had positive correlations with cognitive flexibility, distraction, and positive affect and negative correlations with hostility, rumination, and vengeance (Thompson et al., 2005). Moreover, forgiveness levels predicted life satisfaction, anxiety, anger, and depression (components of psychological health).

Results

Mixed between-within subjects ANOVAs were conducted to assess the impact of two different writing conditions (expressive writing, control) on participants’ BAI and BDI scores across four time periods (writing sessions 1, 2, and 3 and 1-month follow-up). Six-month follow-up data were not included, because some participants had not completed their six-month session at the time of analysis. We investigated participants’ HFS scores at the beginning of the study as a potential moderator: participants were split at the median to create groups of high forgiveness (high HFS) and low forgiveness (low HFS).
The 3-way interaction between writing assignment, time, and forgiveness was not significant, Wilks’ Lambda = .96, $F(3, 73) = 1.14, p = .34$, partial eta squared = .05. There was not a significant interaction between time and forgiveness [Wilks’ Lambda = .95, $F(3, 73) = 1.25, p = .30$, partial eta squared = .05] or time and assignment [Wilks’ Lambda = .98, $F(3, 73) = .57, p = .64$, partial eta squared = .02], either. The main effect comparing the two writing assignments was not significant, $F(1, 75) = 1.93, p = .17$, partial eta squared = .03, indicating that the expressive and control groups did not have significantly different BDI scores when averaged across the four time points. However, there was a substantial main effect for time, Wilks’ Lambda = .81, $F(3, 73) = 5.61, p = .002$, partial eta squared = .19, with all participants showing a reduction in BDI scores across the four time periods. There was also a substantial between-subjects effect for forgiveness, $F(1, 75) = 24.17, p < .0001$, partial eta squared = .24, with low HFS participants having higher BDI scores than high HFS participants. See Table 1 for descriptive statistics of depression scores for expressive writing and control groups and Table 2 for descriptive statistics of depression scores for low and high forgiveness groups. See Figure 1 for a depiction of depression scores for expressive writing and control groups over time and Figure 2 for a depiction of depression scores for low and high forgiveness groups over time.

The Influences of Writing Assignment, Time, and Forgiveness on Anxiety

The 3-way interaction between writing assignment, time, and forgiveness was not significant, Wilks’ Lambda = .99, $F(3, 76) = .38, p = .77$, partial eta squared = .02. There was not a significant interaction between time and assignment either, Wilks’ Lambda = .99, $F(3, 76) = .23, p = .87$, partial eta squared = .01. However, there was a trend for an interaction between
time and forgiveness, Wilks’ Lambda = .92, \( F(3, 76) = 2.11, p = .11 \), partial eta squared = .08, with the low HFS group having a different change in anxiety over time than the high HFS group. Specifically, the high HFS group exhibited a steady decline in symptoms, while the low HFS group demonstrated a steeper decline in symptoms between writing sessions 1 and 3 with a rebound in symptoms at 1-month follow-up. There was a substantial main effect for time, Wilks’ Lambda = .71, \( F(3, 76) = 10.35, p < .0001 \), partial eta squared = .29, with all participants showing a reduction in BAI scores across the four time periods. However, as with forgiveness groups, the pattern of symptom reduction differed between writing groups: the control group declined in symptoms from writing session 1 to 1-month follow-up, while the EW group declined in symptoms between writing sessions 1 and 3 with an increase in symptoms between writing session 3 and 1-month follow-up. The main effect comparing the writing groups was significant, \( F(1, 78) = 5.13, p = .03 \), partial eta squared = .06, indicating a difference in anxiety symptoms between the EW and control groups when averaged across the four time points. The main effect comparing the forgiveness groups was also significant, \( F(1, 78) = 31.68, p < .0001 \), partial eta squared = .02; the low HFS group demonstrated higher levels of anxiety than the high HFS group throughout the study. See Table 3 for descriptive statistics of anxiety scores for expressive writing and control groups and Table 4 for descriptive statistics of anxiety scores for low and high forgiveness groups. See Figure 3 for a depiction of anxiety scores for expressive writing and control groups over time and Figure 4 for a depiction of anxiety scores for low and high forgiveness groups over time.

**Discussion**
Our hypothesis that the expressive writing group would show a greater decrease in depression and anxiety symptoms over time (as compared to the control group) was partially supported. The EW group decreased in depression and anxiety symptoms from the first writing session to 1-month follow-up, but the control group also decreased in symptoms over time. While we believe the EW group decreased in symptoms at least partially due to the writing intervention, both groups likely decreased in symptoms for other reasons as well. For example, students probably adjusted to their new environment and decreased in homesickness with the passage of time, leading to improved mental health. Furthermore, the control group reported lower depression and anxiety symptoms than the expressive writing group before the intervention even began. This initial difference in symptoms between groups, although not statistically significant, likely masked the effects of the writing intervention as well.

As forgiveness is a predictor of health and well-being (Macaskill, 2012; Davis et al., 2015), it was not surprising that the high forgiveness group was significantly less depressed and anxious than the low forgiveness group. Our prediction that the capacity to forgive would impact the effects of the expressive writing intervention was not supported with statistical significance, but the trend for an interaction between the effects of time and forgiveness on anxiety is promising. Whereas the high forgiveness group exhibited a steady decline in symptoms, the low forgiveness group exhibited a more pronounced decline between writing sessions 1 and 3, with a rebound at 1-month follow-up. This pattern could indicate that participants in the high forgiveness group used coping mechanisms already in their possession to adjust to their new
environment, whereas the low forgiveness group relied upon the writing intervention to cope with anxiety, with symptoms increasing again when the intervention ended.

Limitations

Non-significant results may be due to one of several limitations. First, physiological benefits of expressive writing are generally more pronounced than psychological benefits (Smyth, 1998), perhaps due to the often-subjective nature of psychological health. For example, a study in which undergraduate students wrote about trivial topics (control group) or an interpersonal conflict (experimental group) found that each group displayed objective benefits from writing (e.g., decreased rumination and negative affect and increased positive affect), but only the experimental group reported a subjective benefit of a positive change in their offense-related thoughts and feelings (Landry et al., 2005).

Second, our sample lacked gender and ethnic diversity, as the majority of our participants were white females. Although our sample was basically consistent with the population of College of Charleston students, which is also mostly female and Caucasian, it may not be an accurate reflection of the general U.S. population (College Profile: College of Charleston, 2015). Moreover, there is evidence that males show greater mental health benefits after expressive writing, likely because males are more likely to suppress emotional expression in everyday life (Manier & Olivares, 2005; Hijazi et al., 2011). If males were better represented in our sample, mental health benefits of EW may have been more pronounced.

Third, we did not control for essay content or participant dedication. Based on Pennebaker’s cognitive processing theory, expressive writing works best for people that use
causation and insight words, which indicate mental organization and integration of the negative event (Frattaroli, 2006). We did not analyze word use or qualitative content of the essays, which likely varied between participants. We did not control for how seriously the participants took the study or how closely they followed the writing instructions. The expressive writing intervention probably worked better for participants who did more cognitive processing in their essays, and participants in the control group that did not remain objective and dispassionate in their writing may have experienced unexpected benefits.

Future Outlook

At the time of this report, 6-month follow-ups were not complete and were therefore excluded from data analysis. When analyzing 6-month follow-up data, it will be interesting to see if the effects and interactions seen for 1-month follow-up data continue to be demonstrated and whether any trends become statistically significant. Also, although participants’ HFS scores from the first writing session did not prove to have a moderating effect on anxiety or depression, an investigation of the change in HFS scores (forgiveness levels) over time may provide evidence for an interaction between forgiveness, mental health, and expressive writing. In other words, expressive writing interventions may be more effective if they cause people to increase in their capacity to forgive, so change in forgiveness over time may prove to play a moderating role in EW-related mental health benefits.

Future studies should delve further into moderators of the effects of expressive writing and the role of forgiveness in intervention efficacy and mental health in general. Our results indicate that the capacity to forgive is a buffer against mental health symptoms, but it is still
unclear how forgiveness and expressive writing are related. Several studies facilitated interpersonal forgiveness through expressive writing (Landry et al., 2005; Stratton et al., 2008; Leach et al., 2010; Crowley, 2014; Romero, 2008; Barclay & Saldanha, 2015), but none of these studies attempted to facilitate forgiveness of self or difficult situations. Furthermore, these studies focus on conflict resolution, rather than the individual’s broad thoughts and feelings regarding the event. Expressive writing interventions that encourage reflection of thoughts and feelings and specifically promote forgiveness of difficulties during the college transition should be studied; college students with low capacity to forgive and/or mental health symptoms should be targeted for these interventions. Given the extraordinary amounts of stress and homesickness college students face (Beiter et al., 2015; Thurber & Walton, 2012; Arnett, 2000) and the high rates of mental illness within their demographic (American College Health Association, 2015; Center for Behavioral Health Statistics and Quality, 2015), it is absolutely vital to identify factors that put individuals at risk of mental health issues as well as interventions that reduce mental health issues.
References


doi:10.1016/j.beth.2006.01.004


doi:10.1016/j.paid.2009.09.005


Lu, W., & Stanton, A. L. (2010). How benefits of expressive writing vary as a function of


outcomes: Identifying subgroups of college students using latent profile analysis.  

_Personality and Individual Differences, 76_, 33–38. doi:10.1016/j.paid.2014.11.009


doi:10.1080/07448481.2012.673520
Table 1.

*BDI Scores by Writing Assignment*

<table>
<thead>
<tr>
<th>Time</th>
<th>Expressive (n = 41)</th>
<th>Control (n = 38)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Writing Session 1</td>
<td>10.76</td>
<td>9.17</td>
</tr>
<tr>
<td>Writing Session 2</td>
<td>9.22</td>
<td>8.45</td>
</tr>
<tr>
<td>Writing Session 3</td>
<td>8.93</td>
<td>9.25</td>
</tr>
<tr>
<td>1-Month Follow-Up</td>
<td>7.83</td>
<td>8.41</td>
</tr>
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</table>
Table 2.

**BDI Scores by Forgiveness Level**

<table>
<thead>
<tr>
<th>Time</th>
<th>Low HFS ($n = 45$)</th>
<th>High HFS ($n = 34$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Writing Session 1</td>
<td>15.69</td>
<td>9.03</td>
</tr>
<tr>
<td>Writing Session 2</td>
<td>13.84</td>
<td>8.93</td>
</tr>
<tr>
<td>Writing Session 3</td>
<td>13.58</td>
<td>9.86</td>
</tr>
<tr>
<td>1-Month Follow-Up</td>
<td>12.62</td>
<td>9.68</td>
</tr>
</tbody>
</table>
Table 3.

**BAI Scores by Writing Assignment**

<table>
<thead>
<tr>
<th>Time</th>
<th>Expressive (n = 42)</th>
<th>Control (n = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Writing Session 1</td>
<td>9.14</td>
<td>6.75</td>
</tr>
<tr>
<td>Writing Session 2</td>
<td>7.00</td>
<td>6.03</td>
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<td>Writing Session 3</td>
<td>5.52</td>
<td>5.49</td>
</tr>
<tr>
<td>1-Month Follow-Up</td>
<td>6.40</td>
<td>8.15</td>
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</table>
Table 4.

*BAI Scores by Forgiveness Level*

<table>
<thead>
<tr>
<th>Time</th>
<th>Low HFS (n = 47)</th>
<th>High HFS (n = 35)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Writing Session 1</td>
<td>14.53</td>
<td>9.91</td>
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<tr>
<td>Writing Session 2</td>
<td>11.70</td>
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<tr>
<td>Writing Session 3</td>
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</tr>
<tr>
<td>1-Month Follow-Up</td>
<td>11.04</td>
<td>10.78</td>
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</table>
Figure 1. BDI scores before writing sessions 1, 2, and 3 and at 1-month follow-up. The expressive writing group is shown in blue, and the control group is shown in green.
Figure 2. BDI scores before writing sessions 1, 2, and 3 and at 1-month follow-up. The low HFS group is shown in blue, and the high HFS group is shown in green.
Figure 3. BAI scores before writing sessions 1, 2, and 3 and at 1-month follow-up. The expressive writing group is shown in blue, and the control group is shown in green.
Figure 4. BAI scores before writing sessions 1, 2, and 3 and at 1-month follow-up. The low HFS group is shown in blue, and the high HFS group is shown in green.