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The Effect of Expressive Writing on the Health Conditions of College Students Amidst the COVID-19 Pandemic

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Abstract

Expressive writing alludes to composing in which a person depicts profound considerations and sentiments encompassing the important event, the topic, or the area. As the world suffers from the COVID-19 pandemic, school and universities changed their teaching modalities from face-to-face teaching-learning process to online classes. Students were affected especially from lower socioeconomic localities of their limited financial ability to acquire the necessary equipment for learning and internet connection. In addition, they felt social isolation, lack of interaction with fellow students and the uncertainty of when the pandemic will be over. Hence, the study aimed to determine the effect of expressive writing on the psychological and physical conditions of the college students. The study used experimental design with pre-test and post-test and randomly assigned the respondents into the control group writing about their daily activities and the experimental group using expressive writing with each group has 60 respondents. The results showed that there is a significant difference in the health conditions between the experimental group treated with expressive writing and the control group treated with neutral condition. In conclusion, using expressive writing can overcome traumas and emotional upheavals thus resolves issues and improves health conditions.

Keywords: *Expressive writing, Anxiety symptoms, Depressive symptoms, Physical symptoms, COVID-19 pandemic*

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1. Introduction

As the world suffered from the COVID-19 pandemic in 2019, the Philippines is one of the highly affected (Hemly et al., 2020) that led to the imposition of enhanced quarantine on school activities in Luzon, the country's northernmost and most populous island. Accordingly, the government closed schools and allowed some of the workforce, including professors, to work from home. Educational institutions moved from face-to-face activities to popular online learning modalities (Malolos et al., 2021). Although majority of the students are affected, those from lower class families had a greater psychological burden due to their limited financial ability to purchase the necessary equipment and internet connectivity. Given this, the information divide resulting from socioeconomic inequality may result in inequalities in student mental health during the pandemic (Cleofas & Rocha, 2021).

Dumalao-Abadilla (2022) cited the research conducted by Phinma Education network that the pandemic has severely impacted the mental health of college students, especially those from poor families. They were more concerned about tuition fees, devices, internet reliability and future job prospects compared to their wealthier peers. As the household financial status is related to student psychological well-being during the pandemic, they find that the prevalence of loneliness, anxiety and stress is increasing across socioeconomic classes. Their concerns relate to household expenses such as medical expenses, sick family benefits, adequate household income, enrollment and distance learning costs. However, those experiencing loneliness, anxiety, and stress increased across all income segments. High-income students have facilities and enough space to study, whereas low-income students have little or no technical resources, cramped spaces, inadequate lighting and ventilation, and noisy environments. They suffer from environments that are not conducive to learning, such as neighborhoods. In addition to the psychological distress, there is a high level of uncertainty about how the pandemic will affect their willingness to work. Students become distracted and unmotivated due to fast changing of the future (Dumlao-Abadilla, 2022).

The abrupt transition to online classes brought psychological effects to college students due to continuous isolation and lack of interaction with fellow students and teachers (Lim et al., 2022). According to Curtis (2020), the pandemic has a negative impact on the mental health of many students. In fact, the May 2020 survey found that 7 in 10 teens said they had mental health problems, 61% said they experienced increased loneliness, and 43% said they experienced depression. 55% said they experienced anxiety. This suggest that educators should be on the

lookout for signs that students are struggling. While Loades et al. (2020) suggest that child social isolation and loneliness are associated with increased mental health problems, people additionally want to undertake new techniques to help the social and emotional wellbeing of college students for the duration of distance learning. There are many uncertainties in the world, and many students can experience feelings of hopelessness and depression as they think about when things will return to normal. Depression actually alters the ability to think, impairs concentration and memory, and impairs information processing and decision-making. Curtis (2020) concludes that when students stop discussing in class, never finish their homework, say their work is meaningless, have a negative attitude, or report of loss of energy or are unmotivated, students develop depression and despair. The consequences of COVID-19 to the students' mental health are already visible and the most common psychological disorders emerging are anxiety and panic, obsessive-compulsive symptoms, insomnia, digestive problems, as well as depressive symptoms and post-traumatic stress (Pietrabissa & Simpson, 2020).

Psychologically, personal upheaval causes severe and prolonged emotional changes. Unforeseen phenomenon is commonly related with mental deficits such as deep thought about something and trying to comprehend what is happening and why. Trauma is said to be due to massive disruption of people's social interactions and personal relationships (Pennebaker & Chung, 2007)). Trauma due to behavioral and possibly social and psychological changes are often related with change of way of living such as smoking and drinking heavily, lack of exercise, sleep and eating habits. Each of the physical and behavioral effects is associated with different biological changes, such as elevated cortisol, immune system dysfunction, cardiovascular changes, and a cascade of neurotransmitter alterations (Pennebaker & Chung, 2007).

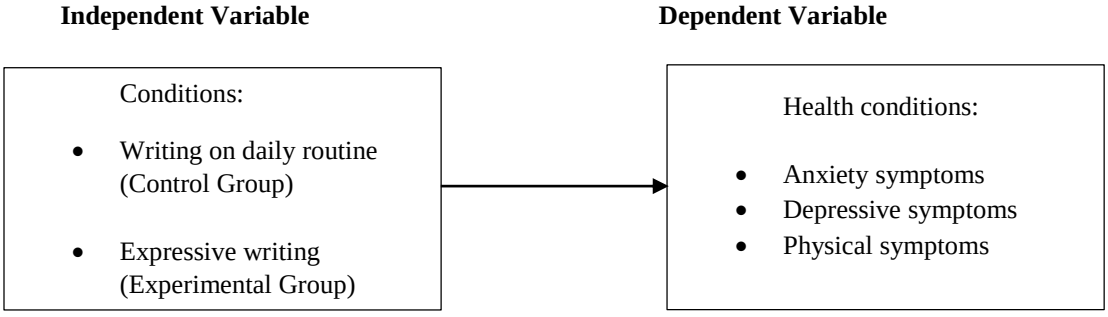
Coping with trauma from a natural and man-made disasters can present unique challenges, even if they are not directly involved in the event. Plane crashes and mass shootings are unlikely to occur even if they are the direct victim of a terrorist attack, or the COVID-19 pandemic, they are all aware of these threats on social media and news sources. They are regularly exposed to horrific images of people. Repeated viewing of these images can overload the nervous system and cause traumatic stress (Robinson et al., 2022). Mendelson (2020) suggests several ways to get past a trauma, improve health, and build resilience: relaxation techniques including yoga and meditation; strenuous exercise and improved eating habits; and rewrite one's story. In some cases, writing about own experience can be helpful.

Unlike communicative forms of writing, expressive writing is personal, free flowing, and informal, often without concern for style, spelling, punctuation, or grammar (Lepore & Kliewer, 2013). Expressive writing often contains value affirmations that are personally relevant and/or provide a useful connection between subject understanding or mastery. Expressive writing can unlock some of additional resources by facing, labeling, and organizing thoughts and feelings (Stafura, 2019). As such, expressive writing can decrease the level of stress, anxiety, and depression, improve sleep and performance, and brings focus and clarity (Siegel-Acevedo, 2021). There is reason to believe that physical and mental health often improves when people translate their feelings and thoughts about personally distressing experiences into language. However, a growing body of research indicates that people who write about trauma can lead to better health on psychological, behavioral, biological and social measures. According to Pennebaker and Evan (2014), using expressive writing to overcome traumas and emotional upheavals, resolve issues, improve health, and build resilience.

With the various arguments on expressive writing, this study determines the effect of expressive writing on the health conditions of the college students during the COVID-19 pandemic. With the results of the study, expressive writing can be integrated by teachers in their subject matter to improve the psychological well-being of their students. As such, the study argues that the independent variable (expressive writing) influences the dependent variable (health conditions) of the study as shown in figure 1. The health conditions are manifested by anxiety symptoms, depressive symptoms and physical symptoms.

Figure 1

Research Paradigm



2. Literature review

2.1. Effects of Expressive Writing

According to Baikie and Wilhelm (2018), writing about trauma, stress, or emotional events has been found to lead to improvements in both physical and mental health in nonclinical and clinical populations and those who wrote about these events this generally have significantly better physical and psychological outcomes than with those who write on neutral topics. However, in the study of Niles et al. (2014), they assessed the major effects and mediators (including emotional expressiveness, emotional processing and ambivalence over emotional expression) of the effects of expressive writing in a sample of healthy adults. It was found out that no significant effect of writing condition was evident on anxiety, depressive symptoms, or physical symptoms but emotional expressiveness emerged as a significant mediator of anxiety outcomes. In contrast, Colino (2016) found out that whether people are holding pen to paper or typing on a computer, writing about stressful experiences and emotional problems in life is good for health and emotional well-being. Expressive writing, based on putting their heart and mind into words without worrying about spelling, punctuation, grammar, or other writing conventions, is good medicine. It aids recovery from childhood sexual abuse and postpartum depression, and improves mental health in people with Parkinson's disease, cancer, and many other health conditions.

In the study conducted by Procaccia et al. (2021), participants who were treated with expressive writing resulted to significant decreased in symptoms of PTSD, depression, and global mental disorders. Their improvement was also related to age, sex, civil status, and baseline values: those who are young, male, married and have higher baseline scores resulted with decreased psychological symptoms whereas those who are female, single and have lower baseline value resulted in higher social support, and resilience. Thus, expressive writing intervention has caused positive effects according to the profile of the health workers.

Russell (2020) also examined the students' experience meaningful through expressive writing process. The impact on practice includes helping college students learn from stressful events in their academic careers, process thoughts and emotions, release fears, and develop new ideas about their goals through a process of self-reflection, such as how expressive lighting can help. gain perspective. For this, Travagin et al. (2015) suggested expressive writing as it is likely to result little but significant improvements on well-being, which highlights the relevance of

changing conventional expressive writing protocols so as to improve their effectiveness and lower possible unfavorable effects.

In another study, Krpan et al. (2013) assessed forty people diagnosed with current Major Depressive Disorder (MDD). The result showed patients diagnosed with MDD treated with expressive writing showed significant decreases in depression scores (Beck Depression Inventory and Patient Health Questionnaire-9 scores) right after the Day 5 experimental manipulation. These data suggest that expressive writing may be a useful supplement to existing interventions for depression. This is the exact findings of Wiora (2021) in a study that explores how expressive writing can help individuals process trauma, and how the introduction of expressive writing exercises into first-year writing classes in particular can benefit students. It shows that expressive writing is beneficial for both physical and mental health, and that people instinctively seek to understand themselves and their experiences, and seek understanding from others Just as students seek academic success, they seek understanding of themselves and the world, especially after a global pandemic. Thus, introducing expressive writing into first-year writing classes is a step towards helping students achieve both and achieve more.

The ANCOVA regression model of Di Blasio et al. (2015) showed that depressive symptoms and post-traumatic stress decreased in women performing expressive writing tasks than in the non-expressive writing group at three months. Furthermore, the treatment condition was significantly related with lowering of depression at high and moderate levels of baseline depression. As for Post-Traumatic Stress Disorder, the results presented that the treatment was significantly related with symptoms reduction at all levels of baseline PTSD. In large part, these results suggest that expressive writing can serve as an early, inexpensive and universal intervention to prevent postpartum stress in women. For this, Argudo (2021) concluded that writing expressive texts in their native language before the formal assessment helped participants reduce the academic stress levels caused by participating in the formal assessment. Additionally, using another strategy, such as expressive writing, aimed at reducing particular sources of stress and anxiety, may significantly reduce academic stress.

2.2. Theoretical Framework

This study was anchored on the Habituation Theory. Habituation is a decrease in response to a stimulus after repeated presentations. The American Psychological Association describes habituation that involves "growing accustomed to a situation or stimulus," thereby diminishing its effectiveness (Cherry, 2022). According to Lustbader (2022), habituation is

another way of describing adaptation. As humans, they gradually adapt to changing circumstances so that they are less affected than they were before. Reactions to stimuli diminish over time with constant exposure. One way to think about it is to compare it to building tolerance to a medicine. Habituation theories vary somewhat, but all agree that what matters is the stimulus that elicits a weaker response in the brain over time. The problem is, people tend to overestimate the impact that experiences and situations will have on them in the future. In some cases, this is good considering the grief someone feels after breaking up with a romantic partner can get used to the idea and move on (Lustbader, 2022). In addition, Mukherjee (2022) stated as people get used to repeated exposures, develop certain routines, and know it will happen again. Because the stimulus is no longer new, the response slowly and steadily diminishes over time, adapts to changing environments and situations and becomes less susceptible to them than it used to be. In this way, habituation also becomes a kind of tolerance and adaptation. Another to take note about habituation is that the decreased behavioral response is not due to motor or sensory fatigue. From this, it can conclude that the stimulus is ignored after repeated exposure (Mukherjee, 2022).

3. Methodology

This study used experimental approach, which the primary purpose was to assess the effect of the independent variable on the dependent variable. This design was used since it complies to the two criteria of experimental approach: control of the independent variable and the randomization of the samples.

The respondents of this study were the four (4) sections of third year BS Psychology students during the school year 2020-2021. The two (2) sections were assigned as the control group with sixty (60) students and the other two (2) sections were assigned as the experimental group also with sixty (60) students, with a total of one hundred twenty (120) students. The study used sample through randomization to select the respondents of the study. To randomly select which sections will be assigned to the two groups, the study used fishbowl technique. Using this technique, the researcher draws lots and the first two (2) sections drawn were assigned as the control group and the remaining two (2) sections were assigned as the experimental group.

This study utilized the following standardized tests namely: (1) Depression, Anxiety and Stress Scale (DASS) developed by Lovibond and Lovibond (1995b) to measure anxiety, depression, and stress with 42 items; (2) Beck Depression Inventory (BDI), a 21-item self-reporting questionnaire for evaluating the severity of depression in normal and psychiatric

populations created by Aaron T. Beck in 1961; (3) Center for Epidemiologic Studies Depression Scale (CES-D), published originally in 1977 by Radloff, which is composed of 20 items to rate the frequency over the past week a person experienced symptoms associated with depression, such as restless sleep, poor appetite, and feeling lonely; (4) Brief Symptom Inventory, developed by Derogatis in 1975, it represents an important standardized screening instrument that can quantitatively record mental stress and mental disorders; and (5) Pennebaker Inventory of Limbic Languidness (PILL), 54-item self-assessment test that measures people's propensity to perceive and report various physical symptoms and sensations.

The researcher distributed the consent form to the respondents which includes, the purpose of the study, the procedure on conducting the study, and its benefits. It also includes the terms regarding confidentiality, contact information, and conditions regarding their voluntary participation and consent. The researcher created the pre-test which contains: (a) the 7 items of Depression subscale of the Depression, Anxiety and Stress Scale, the 21 items of Beck Depression Inventory, and the 20 items of Center for Epidemiologic Studies Depression Scale to measure the depressive symptoms; (b) the 7 items of Anxiety subscale of the Depression, Anxiety and Stress Scale and 13 items of the Anxiety and Somatization subscales from the Brief Symptom Inventory to measure the anxiety symptoms; and (c) the 54 items of Pennebaker Inventory of Limbic Languidness (PILL)) to measure the physical symptoms. Upon acceptance, the researcher sent the link of the Google form containing the pre-test to measure their health conditions. Afterwards, their scores were tabulated and the participants with low scores were eliminated since this shows that they do not feel distress and were not affected so much of the current situation. After identifying the participants, the researcher randomly assigned two sections as control group which was treated with neutral condition and the other 2 sections were assigned as the experimental group and was treated with expressive writing condition.

The researcher met the control group and experimental group separately for four (4) consecutive days to conduct the experiment every 9:00 am and 10:00 am, respectively. In the control group, the researcher instructed them to write for 20 minutes about their day-to-day activities. It’s like writing a daily journal, writing the things that they did from the previous day from the moment they wake up until the night they went to bed. Once they began writing, they should not stop writing and do not have to worry about spelling or grammar, may write in any language they were comfortable. Lastly, they photographed their writings and uploaded them in the google classroom. They did the same activity for four (4) consecutive days.

As for the experimental group, same instruction was given but the participants were instructed to write about a trauma or emotional upheavals that have profoundly affected their life. They may write about the same event on all four days or about different events each day. In order to assure the respondents to really write their deepest thoughts and feelings, they were informed that the writings they will do are for their eyes only. Finally, after the four writing activities, both groups were given post-test containing the same measures as the pre-test to determine their health conditions after the experiment.

The results of the scores were tabulated and then conducted statistical analysis of data. This study used the following statistical tools: Mean to measure the average scores of the respondents and t-test to compare the mean of the control and experimental groups in a statistical method.

4. Findings and Discussion

This part presents the results of the study using tables and figures with their respective discussion and interpretations.

Table 1

Mean scores of Pre-test and Post-test

Variable	Pre-Test		Post-Test	
	Mean Score	S.D.	Mean Score	S.D.
		Control Group		
Anxiety	26.15	12.95	26.37	12.52
Depression	51.62	17.98	51.83	17.47
Physical	71.73	26.73	71.08	26.42
		Experimental Group		
Anxiety	24.62	13.83	19.82	11.93
Depression	53.77	24.57	44.38	21.21
Physical	73.55	31.03	67.2	30.05

Table 1 shows the mean scores of the pre-test and post-test of the control group. It is evident that the scores of the respondents in the pre-test and post-test are both high which indicate an increased level on anxiety, depression and physical symptoms due to the distressing situations. Furthermore, their scores are closed to each other before and after the experiment since the condition given to them was writing their daily activities and thus after the experiment, the respondents still garnered the same level of health conditions.

As to the mean scores of the pre-test and post-test of the experimental group, it presents that the scores of the respondents in the post-test have lowered thus it can be assumed that after the treatment was given which is writing their deepest thoughts, traumatic and stressful experiences, their health conditions have improved since it has reduced the levels of their anxiety, depression and physical symptoms.

Table 2

Test of Difference Between Pre-Test and Post-Test

Test	Mean	Difference	T-Value	P-Value	Interpretation
		Control Group			
Pre-Test	149.5	0.22	0.416	0.063	Not Significant
Post-Test	149.28				
		Experimental Group			
Pre-Test	151.93	20.53	4.67	0	Significant
Post-Test	131.4				

$p < 0.05$, significant; $p > 0.05$, not significant

Table 2 shows the t-test result between the means of the pre-test and post-test of the control group and experimental group.

In the pre-test, the control group gained a mean of 149.50 while the post-test has 149.28. The mean difference of 0.220 shows a very little or no change at all in the behavior of the participants. With a t-value of 0.416 and p-value of 0.063 which is greater than 0.05 level of significance, the null hypothesis is rejected. This implies that there is no significant difference between the means of the pre-test and post-test of the respondents who were treated with non-expressive writing. This shows that the condition in which the respondents were exposed to which is writing only their daily activities did not change their behavior at all, and that they still have the same health conditions. Furthermore, it indicates that the anxiety, depression and physical symptoms of the respondents were still the same since they were not constantly exposed to the stimulus that causes their discomfort or distressed.

In the pre-test, the experimental group gained a mean of 151.93 while the post-test showed 131.40. The mean difference of 20.530 shows a change in the behavior of the

respondents. With a t-value of 4.670 and a p-value of 0.000 which is less than 0.05 level of significance, the null hypothesis was rejected. This implies a significant difference between the means of the pre-test and post-test of the respondents who were treated with expressive writing led to the change in their behavior thus it has reduced their symptoms. The results infer that due to the constant exposure of the respondents to their trauma or emotional upheaval through writing or journaling have alleviated their discomfort or distressed since the respondents have gradually adjusted to the changed situation and have built tolerance to the circumstances and finally develop a kind of routine due to the repeated exposure to the stimulus. As cited by Pennebaker and Evan (2014), expressive writing may make the person sad for a brief time after writing, but the long-term effects are far more positive. People who engage in EW report feeling happier and less negative than they felt before writing.

The result of this study can be compared to the study of Hines et al. (2016) in which both studies administered pre-test and post-test measures for physical symptoms of stress and anxiety. The EW intervention was given to two groups where the experimental group wrote on a value latent topic and the control group wrote on a neutral topic. The difference of this study with the mentioned is that it only showed significant reduction in the level of anxiety, depression and physical symptoms in the experimental group whereas in the other study, it showed that the experimental group reported significantly decreased levels of general and mathematics anxiety after the writing intervention and the control group had decreased in mathematics anxiety after the expressive writing intervention.

Table 3

Test of Difference Between Pre-test Scores of Control and Experimental Group

Group	Mean	Difference	T-Value	P-Value	Interpretation
Control	149.50	2.430	0.708	0.103	Not Significant
Experimental	151.93				

$p < 0.05$, significant; $p > 0.05$, not significant

Table 3 shows the t-test result between the mean scores of the pre-test of the two groups. The mean difference of 2.430 shows a very little difference in their scores. With a t-value of 0.708 which is greater than the p-value of 0.103, the null hypothesis was accepted. Therefore, it

is not significant. This implies that the respondents on both groups have the same level of discomfort or health conditions before the start of the experiment.

Table 4

Test of Difference Between Post-test Scores of Control and Experimental Group

Variable	Control	Experimental	Difference	T-Value	P-Value	Interpretation
Anxiety Symptoms	26.37	19.82	6.550	10.000	0.000	Significant
Depressive Symptoms	51.83	44.38	7.450	11.001	0.000	Significant
Physical Symptoms	71.08	67.20	3.880	4.892	0.000	Significant

$p < 0.05$, significant; $p > 0.05$, not significant

Table 4 shows the t-test result between the mean scores of the post-test of the two groups. With mean differences of 6.550, 7.450 and 3.880 for anxiety symptoms, depressive symptoms and physical symptoms, respectively, it can be assumed that in all aspects, the respondents have gained changes in their behavior and with p-value of 0.000 in all variables, this infers that the hypothesis was rejected, which means that using the expressive writing was the cause of the change in the respondents' behavior and that it is the expressive writing done by the respondents had reduced their discomfort due to traumatic or stressful experiences and has improved their health conditions. It further shows that due to the repeated exposure to the trauma or stressful events through writing them constantly, it had lowered the levels of their anxiety, depression and physical symptoms since the respondents have developed tolerance to the circumstances and gradually adjusted to the situations. Through the EW, they were able to release emotional tension and pent-up emotions. Reports of depressive symptoms, rumination, and general anxiety tend to drop in the weeks and months after writing about emotional upheavals. Furthermore, as people write about traumas, they often show immediate signs of reduced stress; lower muscle tension in their face, have lower blood pressure and heart rates (Pennebaker & Evan, 2014).

The result of this study is similar to the study of Kennison et al. (2019) wherein both studies aimed to determine the effects of expressive (EW) interventions on respondents' mental and physical health and stress levels. In the said study, it compared the SF-36v2® before and after testing showed significant improvements in the experimental group of their mental health

compared to the control group. They said that they would suggest the EW to someone to deal with stress or traumatic experiences. In summary, expressive writing can assist freshman self-care when dealing with any stressful or traumatic situations. Similarly, in this study, results also showed that the participants in the experimental group, there was a decreased in the level of depressive, anxiety and physical symptoms before and after the expressive writing. Furthermore, there was difference in the improvement of health conditions between the experimental group and control group.

5. Conclusion

The study aimed to determine the effect of expressive writing on the health conditions of the college students. Specifically, it sought to find out the significant difference between the pre-test and post-test scores of the control group and experimental group. Findings showed that there is no significant difference between the mean scores of the pretest and post-test of the respondents whose writings were about their daily activities while there is a significant difference between the mean scores of the pre-test and post-test of the respondents who used expressing writing. Furthermore, there is no significant difference between the mean scores of the pre-test of the group who wrote about their daily activities and the group who used expressive writing while there is a significant difference between the mean scores of the post-test of the two groups as to anxiety symptoms, depressive symptoms and physical symptoms. In conclusion, using expressive writing can overcome traumas and emotional upheavals thus resolves issues and improves the health conditions.

This study finds expressive writing to have great potential as a therapeutic tool and a means of self-care incorporating both the thought and feeling components of the traumatic and emotional experiences that will be helpful, both physically and emotionally. Hence, future researches can explore more of the emotion words, compare different social, race, and gender characteristics in different college populations. Expressive writing may be integrated in the students' courses to facilitate motivation of students and to expose them in their emotional upheavals so that they can build tolerance to their circumstances so that they will gradually adjust to their changed situation.

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