

GRATITUDE AND SELF-PERCEIVED STRESS IN AN ONLINE DOCTORAL PROGRAM

Mendi Davis, Grand Canyon University
Kimberly McCann, Grand Canyon University

ABSTRACT

The purpose of this quasi-experimental quantitative research study was to examine the extent to which a relationship exists between the use of mindfulness interventions, specifically the use of a gratitude journal, and self-perceived stress in students enrolled within a doctoral program at a Christian university located within the southwestern region of the United States. The sample consisted of 292 doctoral students (n = 292) from a single Christian university. This study involved six courses within three different doctoral programs. Participants completed the Perceived Stress Scale (PSS) in the second week of the course and again in the sixth week of the course. Data were analyzed using a paired t-test. We found that the use of mindfulness interventions, specifically the use of a gratitude journal, had no statistical significance on doctoral student's self-perceived stress and the null hypothesis could not be rejected.

Keywords: mindfulness, online doctoral students, self-perceived stress, gratitude journal

INTRODUCTION

Many doctoral students suffer from high levels of stress associated with negative outcomes such as poor academic performance and academic burn-out (Allen et al., 2021). The competing demands of academic pressures, family and career responsibilities, and professional goals may cause many doctoral students to neglect both their physical and mental health (Levecque et al., 2017). Research has shown that reducing stress can be a contributing factor related to a student successfully conducting research and contributing to their field of study (Mazzola et al., 2011).

To our knowledge, no one has studied the relationship between mindfulness practice and perceived stress of online doctoral students. The evidence shows, however, that participants in mindfulness-based stress reduction programs report improvement in life satisfaction measures and may have more positive academic outcomes (Allen et al., 2021; Brown & Ryan, 2004; Drydak, 2012; Shapiro et al., 2005).

Self-Perceived Stress

Stress has been defined as “the perception that

the demands of an external situation are beyond one's perceived ability to cope” (Lazarus, 1966, p. 6). A study by the American Psychological Association of Graduate Students (APAGS) and APA's Advisory Committee on Colleague Assistance found that more than 70% of graduate students reported at least one impairing event related to finances, physical health, relationships, and/or academics. The findings indicate that there is a need to examine stress among doctoral students with the goal of finding ways not only to mitigate the stress but self-manage these events. Much of the prior research regarding stress and graduate students has been based upon medical students rather than those enrolled in PhD, DBA, and EdD programs.

Gratitude Intervention

The research suggests that gratitude is related to physical and psychological well-being, decreased stress, an increased sense of happiness, and improved life-satisfaction (Allen, 2018). Gratitude positively correlates with active coping and positive growth (Wood et al., 2007), thereby enhancing one's capacity to positively reframe

events and more effectively manage stress, though it is less clear which specific mechanisms of gratitude lead to these benefits.

To better understand the mechanism of gratitude and which practices are most efficacious, a number of interventions have been developed to test its application. Practices such as keeping a gratitude journal and daily gratitude prayer have emerged as some of the most beneficial tools in promoting gratitude-specific emotional regulation (Boggio et al., 2019). While journaling as a stress management tool is not uncommon, the intentionality of focus during the process is critical to success. Research shows that journaling specifically about gratitude just twice per week increases the effectiveness of positive emotional reappraisal (Boggio et al., 2019; Wong et al., 2017).

Gratitude interventions are typically easy to integrate and minimally time-consuming, making them manageable for busy adults. For this reason, we selected the gratitude journal as our chosen stress-management intervention with nontraditional online doctoral students.

METHOD

Purpose

The purpose of this quantitative quasi-experimental study was to determine if, and to what extent, a relationship exists between the use of a gratitude journal and student self-perceived stress in an online doctoral program. We conducted the study to examine if the inclusion of the practice of a gratitude journal impacted student self-perceived stress levels throughout the eight-week course. Student completed the Perceived Stress Scale (PSS) (Cohen et al., 1983) during week 2 and then again during week 6 of the course.

Objectives and Hypotheses

We investigated the impact of mindfulness interventions, specifically the use of a gratitude journal, on student self-perceived stress and to examine how instructors might integrate such exercises into an online doctoral program.

The following research question guided this study:

RQ1: What relationship, if any, exists between the use of the mindfulness practice/intervention of gratitude journaling and student

self-perceived stress in an online doctoral program?

Sample

The sample for this quantitative quasi-experimental study included six sections of doctoral level courses in psychology and educational leadership taught across sequential terms; all sections were taught completely in an online format using the LoudCloud Management System by two instructors. The educational leadership instructor taught all EdD courses and utilized identical course structure, assignments, and instructional material for LDR 802, TLC801, and LDR 800. The psychology instructor taught both PSY courses and utilized identical course structure, assignments, and instructional material for PSY 802 and PSY 803. Both instructors taught the introductory doctoral course RES811 and utilized the same materials and structure as in the other courses. Both instructors are experienced online teachers and have over twenty years of combined teaching experience at the college level.

Two hundred ninety-two participants (217 females, 62 males, and 13 N/A) completed the questionnaires. Participants reported age in categories of 25–34 (66), 35–44 (88), 45–54 (94), 55–64 (28), 65–74 (13), 75 or older (0), N/A (3). The participants were enrolled in six different courses and three different doctoral degree programs that comprise the first three courses of each of the doctoral programs. The participants responded to discussion forum posts within the classroom inviting them to participate with the research via a SurveyMonkey link.

Procedure

The Grand Canyon University Institutional Review Board granted ethical approval. Participants responded to online recruitment placed within the respective courses during the second week of the course. Participants were directed to the PSS via a SurveyMonkey link and this served as the preintervention data. In the third week of the course, participants were provided the intervention through the main forum of the course and asked to complete the gratitude journal for the next two weeks. In week 6 of the course, participants were directed to the postintervention survey via a SurveyMonkey link.

Measures and Materials

To permit a quasi-experimental analysis of the gratitude intervention on student self-perceived stress, we implemented the PSS twice during the term: first during week 3 of the course to establish a baseline and then again during week 6 to determine the effect, if any, of the intervention. Participants answered questions regarding demographic information including age, gender, racial background, and geographic area. The demographic questions were used only to establish a wide range of demographic data. The participants completed the questionnaires as discussed below.

Perceived Stress Scale (PSS)

The PSS is a 10-item measure of perceived stress. The scale measures feelings and thoughts within the last month. Participants used a Likert scale ranging from 0 (*never*) to 4 (*very often*). Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Gratitude Journal

Students were asked to maintain an informal gratitude journal during the course. Research has shown that writing about gratitude one to three times per week is more beneficial than daily journaling (Boggio et al., 2019; Emmons & McCullough, 2003); therefore, we asked students to commit to at least 15 minutes once a week for two to three weeks. The journals were maintained by the students and were not shared with other students or with the faculty.

Table 1. Comparison of Week 2 and Week 6 PSS Results

t-Test: Two-Sample Assuming Equal Variances	Week 2	Week 6
	Premindfulness Practice	Postmindfulness Practice
Mean	1.798	1.587
Variance	0.1757	0.1963
Observations	10	10
Pooled Variance	0.186	
Hypothesized Mean Difference	0	
df	18	
t Stat	1.0938	
P(T<=t) one-tail	0.14422	
t Critical one-tail	1.734	
P(T<=t) two-tail	0.2884	
t Critical two-tail	2.1009	

P-value=0.2884 more than specified 0.05, we accept the null as the data reveals there is no statistical significance.

RESULTS AND DISCUSSION

The results of these comparisons, as listed in Table 1, indicated no significant differences in student perceived stress with the use of a gratitude journal. While the analyses revealed no significant differences between groups, it is interesting to note that females did show a slightly lower perceived stress score during the Week 6 testing. This is likely due to more females being enrolled in the courses than males.

Results of this study only described the participants involved in the study. The findings of the study were limited by the accuracy and perception of the participants. However, we assume that the students involved in the study responded honestly and interpreted the survey instrument as intended. While standardized directions were provided, there remains a possibility of variation in the interpretation of the survey language and how participants interpreted the questions.

The findings of the study were subject to the limitations of survey data collection methods. We could not define the conditions under which the survey was completed since the survey was sent via email and was to be completed at the convenience of the participant. The findings of this study were based on Likert-type questions, which do not

allow participants to construct their own responses or allow us to probe for additional insights on mindfulness, thus self-efficacy may be perceived in different ways by students.

Finally, doctoral students may already possess a higher-than-average degree of self-efficacy, hence their enrollment in a terminal degree program. The sample population itself may not be a comprehensive representation of overall perceived stress in a graduate online program. Participants within additional courses particularly within the second and/or third year of a doctoral program may provide a more accurate overview of doctoral students' stress.

LIMITATIONS

- The primary limitations are as follows:
- Results were limited by the reliability and validity of the Perceived Stress Scale (PSS). The study utilized a survey research design based on participants self-reporting of self-perceived stress; in turn, how the study examined the degree to which this variable impacted the participant's experience is not known.
- The survey responses were limited to a single data point, and thus we were unable to evaluate any effects that might have occurred prior to the survey or after obtaining the survey responses. Because this was a quantitative design, the experiences leading to perceived stress were not known.
- The survey of doctoral students was conducted within only a single college within southern Arizona, which limited the demographic sample; however, the students from the college do reside throughout the country.
- The study was specific to nontraditional online doctoral students, which may not be representative of doctoral students as a whole.
- The study was conducted within only the first three courses within the doctoral program. Limiting the study to those courses may not be representative of the program as a whole.
- This study was conducted at a single Christian university which certainly limits the scope of the research.
- The use of quantitative methodology allowed

for an examination of the relationships between the variables; however, the use of surveys with close-ended Likert-type responses can lead to limited outcomes due to the participants limited choice of responses.

- A portion of the data collection occurred during the COVID-19 global pandemic, which may have resulted in higher levels of overall perceived stress for participants during that time period.

FUTURE RECOMMENDATIONS

An open-ended qualitative feedback session at the end of each course may have yielded richer data in terms of the gratitude intervention impact. A combination of gratitude interventions may have a greater impact on end of course perceived stress for online doctoral students. It is possible that the interventions influenced behaviors that were not measured on the PSS. The PSS may not accurately reflect or directly reflect the impact of the interventions themselves, as they only measure a single point in time and a single gratitude intervention. Interventions by their nature are fluid, on-going, and evolve over time depending on the situation. Future research could include samples from secular institutions and from traditional "brick and mortar" doctoral students to determine if the findings of this study hold true in those contexts.

References

- Allen, S. (2018). The science of gratitude [White paper]. Greater Good Science Center at UC Berkeley. https://thesnipermind.com/images/Studies-PDF-Format/GGSC-JTF_White_Paper-Gratitude-FINAL.pdf
- Allen, H. A., Barrall, A. L., Vincent, K. B., & Arria, A. M. (2021). Stress and burnout among graduate students: Moderation by sleep duration and quality. *International Journal of Behavioral Medicine*, 28, 21–28. <https://doi.org/10.1007/s12529-020-09867-8>
- Boggio, P. S., Alem Giglio, A. C., Nakao, C. K., Helga Wingenbach, T. S., Marques, L. M., Koller, S., & Gruber, J. (2019). Writing about gratitude increases emotion-regulation efficacy. *Journal of Positive Psychology*, 15(6), 783–794. <https://doi.org/10.1080/17439760.2019.1651893>
- Brown K. W., & Ryan R. M. (2004). Perils and promise in defining and measuring mindfulness: Observations from experience. *Clinical Psychology: Science and Practice*, 11(3), 242–224. <https://doi.org/10.1093/clipsy.bph078>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. <https://doi.org/10.2307/2136404>
- Drydak, N. (2012). Health-impaired employees' job satisfaction: New evidence from Athens, Greece. *Applied Economics Letters*, 19(8), 789–793. <https://doi.org/10.1080/13504851.2011.605346>
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84(2), 377–389. <https://doi.org/10.1037/0022-3514.84.2.377>
- Lazarus, R. S. (1966). *Psychological stress and the coping process*. McGraw-Hill.
- Levecque, K., Anseel, F., De Beuckelaer, A., Van der Heyden, J., & Gisle, L., (2017). Work organizational and mental health problems in PhD students. *Research Policy*, 46(4), 868–879. <https://doi.org/10.1016/j.respol.2017.02.008>
- Mazzola, J. J., Walker, E. J., Shockley, K. M., & Spector, P. E. (2011). Examining stress in graduate assistants: Combining qualitative and quantitative survey method. *Journal of Mixed Method Research*, 5(3), 198–211. <https://doi.org/10.1177/1558689811402086>
- Shapiro S. L., Astin J. A., Bishop S. R., & Cordova M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*, 12(2), 64–176. <https://doi.org/10.1037/1072-5245.12.2.164>
- Wood, A. M., Joseph, S., & Linley, P. A. (2007). Coping style as a psychological resource of grateful people. *Journal of Social and Clinical Psychology*, 26(9). <https://doi.org/10.1521/jscp.2007.26.9.1076>