Exploring The Relationship Between Student Age and Depression Severity

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Abstract

This study examined the relationship between student age and depression severity among undergraduate students. Ninety-one psychology students (ages 19-57, M = 23.20) from Virginia Commonwealth University completed the GAD-7 scale to measure mental health distress. Results revealed a weak negative correlation between age and mental health distress scores ($r(91) = -0.164$, $p < 0.12$, $r^2 = 0.027$), suggesting a slight tendency for depression symptoms to decrease with age, though this relationship was not statistically significant. These findings contribute to understanding factors influencing college student mental health and highlight the need for further research using both depression-specific measures and longitudinal study design to develop targeted mental health interventions. (107)

Exploring The Relationship Between Student Age and Depression Severity

Depression, or mental health distress, poses a significant threat to the well-being of undergraduate students and their communities. In their survey examining the state of student mental health, Healthy Minds Network (2025) reported 38% of participants had recently experienced moderate to severe depression. Given the prevalence of depression within this population, as well its potential to negatively impact personal well-being, the state of mental health amongst undergraduate students requires further research.

If more is known about how and why this population experiences depression, interventions to mitigate the harm caused by poor mental health states within students can be improved. As depression can result in social, emotional, academic, and physiological harm to the effected students, future exploration is needed to gain insight into the relationship between age and depression. Expanding upon current knowledge about how and why students are affected would allow both universities and healthcare providers to increase efficacy of treatment through targeted approaches.

A longitudinal study by Liu et al. (2019) sought to provide insight into the prevalence of mental health disorders amongst undergraduate students from Beijing universities. Researchers didn't have a specific hypothesis but intended to fill gaps in current research by examining the prevalence of these disorders as students progressed through university life. 1,401 students were randomly selected and surveyed once yearly for four years, depression was measured using the Depression Anxiety Stress Scales-21 (DASS-21). The study found that depression levels peaked during students' sophomore year and then decreased by senior year, returning to levels similar to those observed in freshmen. These results indicate that the sophomore year of college may represent a period of increased risk for depression among undergraduate students.

Trenz et al. (2015) conducted a cross-sectional study to assess the differences in depression among traditional and non-traditional students. Researchers did not establish a specific hypothesis but conducted analysis of survey data to examine the need for targeted mental health support for non-traditional college students. 1,187 students were selected to participate in the questionnaire, which measured depression using the Center for Epidemiology Studies Scale (CES-D). Non-traditional students, who had a mean age of 27.30, had a higher mean score of depression than traditional students.

The difference in depression between non-traditional and traditional students was statistically significant, (t [1174] = -2.22, p<.05). It should be noted that age was one of multiple variables used to categorize students as non-traditional, additional variables included number of dependents, status as independent, and enrollment status. The findings of this research suggest that while older students may tend to experience more depression than younger students, there are additional variables that impact non-traditional students and may contribute to the difference.

In their 2019 study, Twenge et al. analyzed data collected in the National Survey on Drug Use and Health from 2005-2017. Researchers hypothesized that there would be an increased presence of depression in younger cohorts, otherwise known as generations. Studying the cohort provided insight into generational differences instead of just the age of the participants. The survey measured mood disorder indicators by measuring a participant's experience of psychological distress within the 30 days prior using a Kessler 6- Distress Scale, major depressive episodes (MDE) within the past year using structured interviews, and statistics related to suicides that occurred within the survey period. Analysis of the data found that individuals born in the late 1990's had a higher instance of mood disorder indicators and suicide-related

outcomes than those born in the 1980's. Based on this cohort model specific generational behaviors may contribute to negative mental health outcomes.

Findings by Liu et al. (2019) suggest that college student depression may be a result of a student's year in school, with peak mental distress in their sophomore year. This research found that the unique stressors of each year of an undergraduate program could correlate with experienced depression in the studied population. Past research by Twenge et al. (2019) examined how specific younger generations may experience more depression than older ones, providing unique insight into how cultural factors may affect the prevalence of depression within a population of students. Research by Trenz et al. (2015) found that non-traditional students experienced depression significantly more than younger, traditional students, suggesting that life stressors may increase risk of depression in non-traditional, older students.

Given the potential for student depression to result in negative personal, academic, and professional outcomes, these findings further demonstrate the need for the direct relationship between depression and student age to be studied. Furthermore, this study suggests a measure not previously explored in evaluating college-student depression, GAD-7 (Spitzer et al., 2006), offering additional perspective through this new measure.

With previous findings that generational and cultural factors may influence the prevalence of depression within a given population (Trenz et al., 2015); I hypothesize that there will be a negative correlation between depression and age within a population of college students, with measured depression decreasing as the student's age increases.

Method

Participants

Participants were undergraduate psychology students enrolled at Virginia Commonwealth University, between 19 and 57 years old with a mean age of 23.20 (n=91). Within the sample of students, most were in the senior year of their program (68.8%, n=64) but the sample also included students in their sophomore (3.25%, n=3) and junior years (25.8%, n=24).

The sample primarily consisted of individuals identifying as cisgender women (79.6%, n =74) but also included participants that identified as cisgender men (14.0%, n=13) and as non-binary (4.3%, n=4). Students self-reported a variety of racial identities. Students reported identifying as White (33.3%, n=31), Black (30.1%, n=28), Asian (18.3%, n=18.3%), Hispanic (11.8%, n=11) and within other racial groups (3.2%, n=3).

Measures

Depression was measured using the Generalized Anxiety Disorder- 7 (GAD-7) seven-item scale. As shown in Table 1, The self-report scale requires participants to rate the occurrence of general anxiety-related problems within the past two weeks from 0 (not at all) to 3 (nearly every day). Higher scores on the assessment more of a presence of mental health distress than lower scores, with a total score of 10 or greater indicating a moderate level of mental health distress. The GAD-7 is internally consistent ($\alpha = .92$). (Spitzer et al., 2006)

Participant age was measured through a question on the self-report questionnaire, where participants were asked to provide their age in years. Age was analyzed as a continuous variable, allowing for evaluation of the relationship between age and depression across the range of participant ages (19-57 years) rather than using age-based cohorts.

Procedure

Participants were encouraged by their course instructor to participate as part of their research methods course and were provided a survey link through the official University portal to complete the online questionnaire. Questionnaires were available to be completed online for one month after the link was provided. Participants provided informed consent within this survey prior to answering questions.

The GAD-7 was administered as a section within the survey, which required participants to respond to seven statements using a four-point scale to indicate the frequency they have experienced each within the past two weeks from “not at all” to “nearly every day”, with a higher score indicating a higher measured amount of mental distress. Within the same questionnaire, age data was collected from participants as a single question asking their current age in years. After the data collection window closed, data was anonymized by the research team and then entered into SPSS for analysis.

Results

Participants within the current sample had an average mental health distress score of 2.33 (SD=0.86) and a mean age of 23.20 (SD=5.77). A Pearson correlation was used to evaluate the relationship between student age and self-reported mental health distress within participants. As shown in Figure 1.1, a weak negative correlation was found between the two variables, $r(91) = -0.164$, $p<0.12$, $r^2 = 0.027$. This correlation may indicate that as student age increases, there's a small tendency for mental health distress to decrease. However, the relationship was not found to be statistically significant and may have occurred due to chance.

Discussion

The primary aim of this study was to investigate the relationship between age and depression levels among college students. We hypothesized that depression would decrease as student age increased, demonstrating a negative correlation between these variables. Our findings did not support this hypothesis. The analysis revealed a weak negative correlation between student age and reported mental health distress, which did not have statistical significance. Suggesting that, within our college student sample, age may not be a meaningful predictor of depressive symptoms.

Our results do not align with previous cross-sectional study findings reported by Trenz et al. (2015), which evaluated differences in depression among traditional and non-traditional students. In their study, non-traditional students, who had a mean age of 27.30, exhibited higher mean depression scores than traditional students. The disparity between our research and this previous study could result from different sample demographics in our study, as participants had a mean age of 23.20. Additionally, our research did not collect data on students' responsibilities and other external factors as previous research did.

However, our findings do align with research by Twenge et al. (2019) , where individuals born in the late 1990s demonstrated higher instances of mood disorder indicators and suicide-related outcomes compared to those born in the 1980s, potentially due to a cohort generational effect. This study aimed to specifically investigate the correlation between student age and depression severity, rather than using age as just one of several variables. While previous research such as the study by Trenz et al. (2015) considered age within the broader context of traditional versus non-traditional students, our research examined age as the primary variable of interest, which could provide clearer insights into this specific relationship.

Previous literature presents differing results pertaining to student age and mental health distress. Liu et al. (2019) found depression peaks in sophomore year, Trenz et al. (2015) found higher depression in older non-traditional students, while Twenge et al. (2019) found younger generations experience more depression. This study builds on previous research by attempting to resolve contradictory findings between studies like Liu et al. (2019), which found depression peaks in sophomore year, and Twenge et al. (2019), which identified generational factors in depression prevalence. By focusing specifically on the age variable, our research aimed to clarify whether depression risk is primarily influenced by developmental stage, generational factors, or academic progression.

The current research uses the GAD-7 scale to measure depression in college students, which has not been previously explored in this context. By examining depression through this new perspective, our study contributes additional nuance that may inform prevention and treatment strategies for mental health distress among college students. However, it should be acknowledged that the GAD-7 was designed to measure the presence of anxiety instead of depression and the use of the GAD-7 in this instance may present validity issues with findings from the current study.

Researchers viewed this area of focus to be particularly important in improving mental health outcomes for college students, as student mental health has proven to be an area of concern with 38% of students currently impacted by poor mental health (Healthy Minds Network, 2025). In understanding the relationship between age and depression, mental health treatments can be more targeted and hopefully more effective for undergraduate students.

Several limitations of this study should be noted. The cross-sectional design presents challenges in understanding how age and depression may change over time. Additionally, sampling bias may be present, as sampling an undergraduate psychology course may not adequately represent all undergraduate students.

For future studies, we recommend implementing additional depression-specific measures such as the DASS-21 or CES-D used in previous research to ensure data validity. Furthermore, a longitudinal study is suggested to improve upon current research. By observing students over time, longitudinal data may more accurately reflect the relationship between student age and depression than cross-sectional measures. Lastly, we recommend utilizing a larger sample across different majors of undergraduate students. Future studies might implement research across the undergraduate student population of an entire university instead of within one course to ensure a more representative sample.

References

Healthy Minds Network (2025). *Healthy Minds Study among Colleges and Universities, year (2023-2024)* [Data set]. Healthy Minds Network, University of Michigan, University of California Los Angeles, Boston University, and Wayne State University. https://healthymindsnetwork.org/research/data-for-researchers.

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S.-L. T., Walters, E. E., & Zaslavsky, A. M. (2002). Kessler Psychological Distress Scale [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t08324000

Liu, X., Ping, S., & Gao, W. (2019). Changes in undergraduate students' psychological well-being as they experience university life. *International Journal of Environmental Research and Public Health*, *16*(16), 2864. https://doi.org/10.3390/ijerph16162864

Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.)Sydney: Psychology Foundation.

Radloff, L.S. (1977). The CES-D Scale: a self-report depression scale for research in the general population. Applied Psychological Measurement, 1:385-401.

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine*, *166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Trenz, R. C., Ecklund-Flores, L., & Rapoza, K. (2015). A comparison of mental health and alcohol use between traditional and nontraditional students. *Journal of American College Health*, *63*(8), 584–588. https://doi.org/10.1080/07448481.2015.1040409

Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a Nationally Representative Dataset, 2005–2017. *Journal of Abnormal Psychology*, *128*(3), 185–199. https://doi.org/10.1037/abn0000410

Tables

Table 1
GAD-7 Scale

GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score ___ = Add Columns ___ + ___ + ___

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Note. From "A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7" by R. L. Spitzer, K. Kroenke, J. B. W. Williams, and B. Löwe, 2006, Archives of Internal Medicine, 166(10), p. 1094 (https://doi.org/10.1001/archinte.166.10.1092). Copyright 2006 by American Medical Association.

Figures

Figure 1.1

Relationship Between Age and Depression

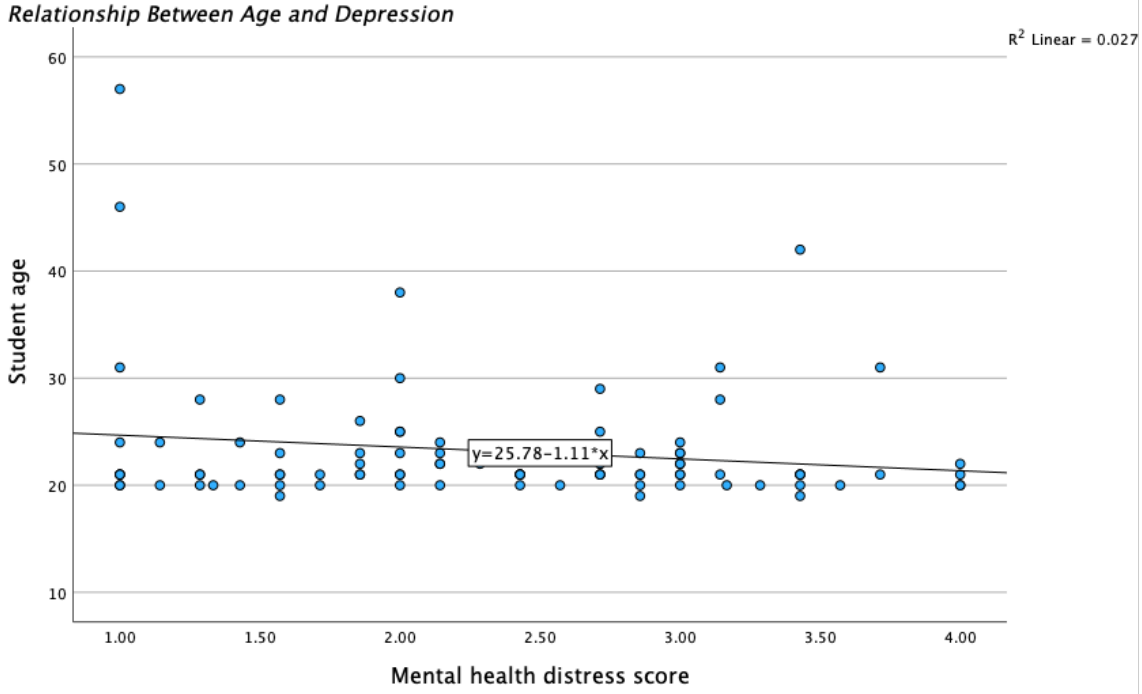

Figure 1. This figure shows the correlation between the self-reported student age and mental health distress score using the GAD-7. Pearson's r= -.164.