# Age-Based Analysis of Psychological Factors among College Students

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#### **ABSTRACT**

The present study was designed to examine psychological factors among college students with a particular emphasis on age-related differences. The primary objectives were: (i) to investigate how psychological factors vary across different age groups of college students, and (ii) to compare psychological characteristics among students based on age. The sample included 100 male and female students, selected through a simple random sampling technique. Adopting a quantitative, descriptive research design, the study employed a survey method to collect data. A structured questionnaire was utilized to gather information pertaining to various psychological dimensions. This instrument was adapted from existing tools, and its validity was repeatedly assessed to ensure accuracy and reliability. To analyze the data, descriptive statistics such as the mean were used to examine psychological trends across gender, while an ANOVA test was applied to determine whether statistically significant differences existed between the age groups of students in their academic achievement. The findings revealed a notable difference in psychological factors among disparate age groups of college students. Based on the outcomes, the study suggests that further investigations should be conducted, particularly focusing on sector-based variations in psychological factors within the college student population.

Keywords: Analysis, psychological factors, male, female, college students

### INTRODUCTION

The psychological well-being of college students has become a significant concern in higher education, particularly in the post-pandemic era. Studies have shown that depression, anxiety, and stress are prevalent among students, affecting their academic performance and social functioning (Bhujade, 2017; Hyseni Duraku, Davis, Arenliu, Uka, & Behluli, 2024). The COVID-19 pandemic exacerbated these issues, with social isolation measures and remote learning contributing to increased academic stress and decreased psychological well-being (Wong Aitken, Rabanal-Leon, Saldana-Bocanegra, Carranza-Yuncor, & Rondon-Eusebio, 2024). Factors influencing student mental health include academic pressure, financial stress, lack of social support, and pandemic-related stressors (Hyseni Duraku et al., 2024). Age and gender differences were observed, with younger students (18-24 years) and females reporting higher rates of severe depression and anxiety (Siddiqua et al., 2023). To address these challenges, recommendations include enhancing mental health services, addressing socioeconomic inequalities, and implementing psychological support programs in universities (Hyseni Duraku et al., 2024; Siddiqua et al., 2023).

Recent research consistently shows that age plays a significant role in the prevalence and intensity of psychological distress among students and adults. Older individuals generally exhibit lower levels of anxiety and stress compared to younger counterparts (Best, Strough, & Bruine de Bruin, 2023; Brummer, Stopa, & Bucks, 2014). This age-related difference may be attributed to better emotion regulation strategies, with older adults making greater use of suppression without experiencing increased distress (Brummer et al., 2014). Factors such as cognitive flexibility, educational mattering, and creativity are

negatively associated with psychological distress in students (Maftei & Vrabie, 2025). Age also moderates the relationship between motivation and academic resilience, with older students showing stronger associations between self-efficacy, planning, persistence, and resilience (Phair, & Norris, 2014). While age differences in psychological distress persisted throughout the COVID-19 pandemic, they decreased over time, suggesting some convergence under prolonged stress (Best et al., 2023)This study aims to conduct an age-based analysis of depression, anxiety, and stress among college students. Through quantitative inquiry, the research will identify whether statistically significant differences exist in psychological factors across age groups. The findings are expected to offer valuable insights for university mental health services, enabling them to design age-responsive interventions and support mechanisms that promote emotional well-being and academic success for all students.

### **Statement of the Problem**

The transition to college life presents significant emotional and psychological challenges for students, often resulting in elevated levels of depression, anxiety, and stress. While these psychological issues are widely recognized, there remains a gap in understanding how they manifest differently across age groups within the college population. Most existing research tends to examine psychological distress in students as a homogeneous group, without adequately considering the role that age-related differences in life experience, coping strategies, and personal responsibilities might play in shaping mental health outcomes. Younger college students may struggle with identity formation, academic adjustment, and peer pressure, whereas older students often face added stressors related to employment, family responsibilities, or career transitions. These differing life stages can lead to variations in how students experience and respond to psychological challenges. However, little empirical attention has been devoted to systematically comparing these differences through an age-based lens in the context of college education. This study addresses this research gap by analyzing the extent to which depression, anxiety, and stress vary among college students of different age groups. Understanding these variations is critical for developing targeted psychological support systems and age-appropriate interventions that promote emotional well-being and academic success across diverse student populations.

## **Objectives of the Study**

The study has the following objectives which are given below:

- (i) To investigate how psychological factors vary across different age groups of college students.
- (ii) To compare psychological characteristics among students based on age.

## **Hypothesis**

 $H_{01}$ : There is no significant difference of psychological factors regarding age of the students at college level.

### LITERATURE REVIEW

Research indicates that college students face significant psychological challenges, with depression, anxiety, and stress being prevalent issues affecting their academic performance and overall well-being (Bhujade, 2017; Carton, & Goodboy, 2015; Mudi, 2024; Beiter et al., 2015). These mental health concerns are linked to decreased classroom interaction involvement (Carton & Goodboy, 2015) and are influenced by factors such as academic pressures, social stressors, and personal responsibilities (Bhujade, 2017; Beiter et al., 2015). Educational psychology plays a crucial role in addressing these issues through interventions like cognitive-behavioral strategies and mindfulness programs (Mudi, 2024). Studies have shown that transfer students, upperclassmen, and those living off-campus are particularly vulnerable to these psychological difficulties (Beiter et al., 2015). To combat these challenges, researchers recommend

implementing comprehensive support systems, including counseling services, mental health awareness programs, and the integration of educational psychology principles into curricula and teacher training (Bhujade, 2017; Mudi, 2024).

Depression among college students has been widely documented as a growing concern. It often manifests as persistent sadness, lack of motivation, and disinterest in academic or social activities. While depressive symptoms can be triggered by a range of factors including academic overload, isolation, or future uncertainty, age appears to play a subtle yet significant role in its onset and intensity. Some studies suggest that younger students are more vulnerable to depressive episodes due to abrupt transitions from school to college life and lack of emotional coping skills (Beiter et al., 2015). Older students, however, may display more stable emotional responses, possibly due to greater life experience and maturity, although they may still encounter depression linked to external responsibilities.

Anxiety is a prevalent concern among college students, affecting their mental health, academic performance, and overall well-being (Choubey, Verma, Hajong, & Purohit, 2024; Jia, & Tianqi, 2024). The prevalence of anxiety in higher education ranges from 7.40% to 55.00%, with a median of 32.00% (Tan, Soh, Hartanto, Goh, & Majeed, 2023). Key factors contributing to student anxiety include academic stress, financial pressures, and uncertainty about future careers (Jia, & Tianqi, 2024). Anxiety can manifest as worry, restlessness, and performance pressure, often leading to symptoms that impact mental health (Alkandari, 2020). Female students, undergraduates, and those living in Asia tend to experience higher levels of anxiety (Tan, Soh, Hartanto, Goh, & Majeed, 2023). The COVID-19 pandemic has further exacerbated anxiety levels among students (Tan et al., 2023). To address this growing concern, higher education institutions should implement comprehensive support systems, including accessible mental health counseling, financial aid schemes, and enhanced career services (Jia, & Tianqi, 2024; Choubey, Verma, Hajong, & Purohit, 2024).

Academic stress among college students is a complex phenomenon influenced by various factors. Studies indicate that younger students often experience higher stress levels due to academic pressures and uncertainty (Spiljak et al., 2022; SABARISH & A. R, 2025). Coping strategies vary, with students employing both task-oriented and emotion-oriented approaches depending on their stress perceptions and demographic characteristics (Kariv & Heiman, 2005). Gender differences in stress levels have been observed, with female students reporting significantly higher stress (Sabarish, Abarnaa, 2025). Interestingly, faculty members tend to perceive students' stress levels as higher than students themselves report (Misra, McKean, West, & Russo, 2000). Stress levels also vary across academic years, with different stressors affecting students at different stages of their college experience (Misra et al., 2000). These findings highlight the importance of tailored stress management strategies and improved faculty-student communication to address academic stress effectively.

Gender and age intersectionality also adds complexity to understanding psychological outcomes in college populations. Studies have shown that female students, particularly younger ones, tend to report higher levels of emotional distress compared to their male counterparts (Teh, Ngo, binti Zulkifli, Vellasamy, & Suresh, 2015). When age is taken into account, it becomes evident that both emotional vulnerability and resilience are not uniform but evolve as students' progress through life stages. Therefore, analyzing psychological factors through an age-based lens offers a more nuanced and actionable understanding of mental health dynamics in higher education.

The current body of literature highlights significant age-related differences in the experience and expression of depression, anxiety, and stress among college students. While younger students face adjustment-related challenges, older students often deal with stressors stemming from external life responsibilities. Despite growing interest in student mental health, age-specific research remains limited. This study seeks to address that gap by providing an empirical investigation into how these psychological

factors vary with age, ultimately informing the development of age-responsive support strategies in academic institutions.

#### RESEARCH METHODOLOGY

The research adopted a quantitative design and employed a descriptive approach. As noted by Slevitch (2011), quantitative research involves a structured investigation of a phenomenon through the collection of numerical data, supported by statistical, mathematical, and computational techniques. To achieve the objectives of the study, which aimed to examine psychological factors among college students from a gender-based perspective, the survey method was utilized. The main variable under investigation was psychological factors, which were further categorized into three sub-components: depression, anxiety, and stress. Data were gathered through a structured questionnaire. For analysis, descriptive statistics such as mean scores were calculated, while inferential statistics, particularly ANOVA, were applied to identify significant differences across age groups in relation to psychological factors among college-level learners.

## Sample of Study

The population of study comprised of male and female students of college. There were 100 students in total including male and female students.

#### Instrumentation

Data for the study were collected using a structured survey questionnaire. The instrument was divided into four sections. The first section gathered demographic information from the respondents. The second section focused on the psychological factor of depression, containing relevant statements for assessment. The third section included items related to anxiety, while the fourth section addressed stress through a series of targeted statements. In total, the questionnaire consisted of 45 items, with 20 items dedicated to depression, 15 items measuring anxiety, and 10 items evaluating stress. Prior to data collection, the questionnaire was reviewed by subject matter experts for content validation, and its reliability was assessed through internal consistency analysis.

**Table 1**Frequency Distribution of Age Groups of College Students

Age Groups	Frequencies	Percentage	
17 to 18 years	49	49%	
18 to 19 years	30	30%	
19 to 20 years	21	21%	
Total	100	100%	

Table 1 illustrated the frequency and percentage of age groups of 100 college students. The age group of 19 to 20 years had minimum frequency of 21 and percentage 21%. Whereas the age group of 17 to 18 years had maximum frequency of 49 and percentage 49%. While the age group of 18 to 19 years have the frequency of 30 and percentage of 21%.

**Table 2**Descriptive Statistics of Psychological Factors

Variables	Sub-variables	No. of Items	Mean	Overall Mean
Depression	Comprised Depressed Affect	5	1.074	1.353
-	Somatic Complaints	5	1.142	
	Positive Affect	5	1.771	
	Interpersonal Activity	5	1.426	
Anxiety	Cognitive Anxiety	5	1.749	2.028
	Physiological Anxiety	5	2.212	
	Perceived Control	5	2.124	
Stress	Acute Stress	5	2.773	2.465
	Episodic Stress	5	1.945	
	Chronic Stress	5	2.677	

The table 2 presents descriptive statistics for the sub-variables of three key psychological factors: Depression, Anxiety, and Stress, measured through a total of 45 items. Each sub-variable consists of 5 items, and their means, along with overall means for each major variable, are reported. The overall mean score for Depression is 1.353, indicating a relatively low level of depressive symptoms among the college students in this sample. Positive Affect has the highest mean (1.771), suggesting that students reported fewer positive emotional experiences, which is often inversely related to depression. Interpersonal Activity shows a mean of 1.426, reflecting some level of social withdrawal or discomfort in interpersonal situations. Somatic Complaints (mean = 1.142) and Depressed Affect (mean = 1.074) are both relatively low, indicating that physiological and emotional symptoms of depression are less frequently experienced by the students.

The mean score for Anxiety is 2.028, which reflects a moderate level of anxiety among the participants. Physiological Anxiety has the highest mean at 2.212, suggesting that physical symptoms such as increased heart rate or tension are commonly experienced. Perceived Control has a mean of 2.124, indicating that students feel a moderate lack of control over anxiety-inducing situations. Cognitive Anxiety scored slightly lower (1.749), showing that worrying thoughts and mental unease are present but not severe.

The highest overall mean among the three psychological factors is found in Stress (2.465), which indicates a considerable level of stress among students. Acute Stress records the highest mean (2.773), highlighting that students frequently experience sudden and intense stress episodes. Chronic Stress also scores high (2.677), pointing to persistent and long-term stressors in their lives. Episodic Stress has a comparatively lower mean of 1.945, suggesting that while stress occurs in episodes, it is not as prominent as acute or chronic stress in this group.

From the analysis, it is evident that Stress is the most significant psychological factor affecting the students, followed by Anxiety, and then Depression. Among all sub-variables, Acute Stress shows the highest mean score, indicating the need for interventions focused on immediate stress management strategies. On the other hand, the low scores in Depressed Affect and Somatic Complaints suggest that depressive symptoms are less prevalent in this group.

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 Table 3

 ANOVA Test Results of the Psychological among age groups

Variables	Groups	Sum of Squares	df	Mean Square	F	Sig.
Depression	Between	3.024	2	1.512	9.797	.000
	Groups					
	Within Groups	14.970	97	.154		
	Total	17.993	99			
	Between	1.093	2	.547	1.762	.177
A:	Groups					
Anxiety	Within Groups	30.097	97	.310		
	Total	31.190	99			
Stress	Between	2.915	2	1.457	3.979	.022
	Groups					
	Within Groups	35.523	97	.366		
	Total	38.438	99			

Table 3 shows the analysis of variance (ANOVA) to determine whether there were statistically significant differences in depression, anxiety, and stress across three different age groups of college students.

For the variable depression, the between-groups sum of squares was 3.024, with a mean square value of 1.512, and an F-value of 9.797. The p-value (Sig.) was .000, which is less than 0.05, indicating that the differences in depression levels among different age groups were statistically significant. This means that age appears to be a meaningful factor influencing how depression is experienced by college students.

In the case of Anxiety, the F-value was 1.762, with a p-value of .177. Since the significance level is greater than 0.05, the result is not statistically significant. This suggests that there is no meaningful difference in anxiety levels between the age groups studied. Age, in this sample, does not seem to have a notable effect on anxiety.

For Stress, the F-value was 3.979, and the corresponding p-value was .022, which is less than 0.05. This indicates a statistically significant difference in stress levels among the age groups. Therefore, the findings suggest that age is a contributing factor in how stress is perceived or managed by college students.

**Table 4**Post Hoc ANOVA test Results of Psychological Factors in Comparison of Different Age Groups

Dependent	(I) 17-18, 19-	(J) 17-18, 19-	Mean	Std.	Sig.	95% Confidence	
Variable	20	20	Difference	Error		Interval	
			(I-J)			Lower	Upper
						Bound	Bound
Depression	17-18 years	18-19 years	.36207*	.09107	.001	.1357	.5885
		19-20 years	$.32517^{*}$	.10246	.008	.0704	.5799
	18-19 years	17-18 years	36207*	.09107	.001	5885	1357
		19-20 years	03690	.11177	.947	3148	.2410
	19-20 years	17-18 years	32517*	.10246	.008	5799	0704

		18-19 years	.03690	.11177	.947	2410	.3148	
A	17 10 yyaana	18-19 years	.21456	.12913	.256	1065	.5356	
	17-18 years	19-20 years	.20091	.14528	.388	1603	.5621	
	18-19 years	17-18 years	21456	.12913	.256	5356	.1065	
Anxiety	16-19 years	19-20 years	01365	.15849	.996	4077	.3803	
	10.20 yyaana	17-18 years	20091	.14528	.388	5621	.1603	
	19-20 years	18-19 years	.01365	.15849	.996	3803	.4077	
Stress	17 10 yyaana	18-19 years	.35546*	.14029	.045	.0067	.7042	
	17-18 years	19-20 years	.31927	.15784	.135	0731	.7117	
	18-19 years	17-18 years	35546*	.14029	.045	7042	0067	
		19-20 years	03619	.17218	.978	4642	.3919	
	10.20 yyaana	17-18 years	31927	.15784	.135	7117	.0731	
	19-20 years	18-19 years	.03619	.17218	.978	3919	.4642	
*. The mean difference is significant at the 0.05 level.								

Table 4 elaborates the Scheffe post hoc test which was conducted following a significant ANOVA result to identify specific age group differences in depression and stress. The analysis compares mean differences between the age groups (17-18, 18-19, and 19-20 years) for each psychological factor.

The results show statistically significant differences in depression levels between 17-18 years and 18-19 years (p = .001, mean difference = 0.36207), and 17-18 years and 19-20 years (p = .008, mean difference = 0.32517). These findings indicate that students aged 17-18 years reported significantly higher levels of depression compared to both older groups. However, there was no significant difference between the 18-19- and 19-20-years age groups (p = .947), suggesting relative stability in depression levels beyond age 18.

For anxiety, none of the pairwise comparisons reached statistical significance, with all p-values well above 0.05. This implies that anxiety levels did not significantly differ between any of the three age groups. Although small variations in mean scores were observed, these differences are not considered meaningful from a statistical standpoint.

The Scheffe test revealed a significant difference in stress levels between 17-18 years and 18-19 years (p = .045, mean difference = 0.35546). This suggests that younger students (17-18 years) experience significantly higher stress than those aged 18-19. However, differences between 17-18 and 19-20 years (p = .135) and between 18-19 and 19-20 years (p = .978) were not statistically significant.

## **CONCLUSION**

This study aimed to investigate age-based differences in psychological factors including depression, anxiety, and stress among college students. Through quantitative analysis using descriptive statistics, ANOVA, and Scheffe post hoc comparisons, the findings revealed significant insights into how these psychological factors vary across age groups. Overall, the study concludes that age plays a significant role in shaping how depression and stress are experienced by college students, whereas anxiety appears to be relatively uniform across age groups. These findings underscore the importance of age-specific psychological support and intervention programs in college settings. Targeted efforts to address depression and acute stress in younger students could contribute significantly to enhancing their academic success, emotional resilience, and overall well-being.

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### DISCUSSION

This study examined age-based differences in depression, anxiety, and stress among college students. Findings revealed that younger students (17-18 years) experienced significantly higher levels of depression and stress, while anxiety did not differ notably across age groups. The higher depression among younger students aligns with Beiter et al. (2015) and Teh et al. (2015), who noted adjustment difficulties in first-year students. Phair, and Norris (2014), however, noted that older students may also face distress due to external responsibilities, though they generally cope better. Anxiety showed no significant variation by age, supporting Tan et al. (2023) and Choubey et al. (2024), who found that anxiety is widespread across student populations. AlKandari, (2020) provided a contrasting view, suggesting age-related differences may still exist but manifest differently. Stress levels, especially acute stress, were higher among younger students consistent with Mudi, (2024) and Spiljak et al. (2022). Yet, Best et al., (2023) reported higher stress in older students during the pandemic, suggesting contextual factors play a role. Brummer et al. (2014) and Carton & Goodboy, (2015) also support the idea that age improves emotional regulation and classroom interaction, reducing stress in older students. Overall, depression and stress were significantly influenced by age, but anxiety was not. The findings emphasize the need for age-specific mental health support in college settings, particularly targeting younger students in their transition phase.

### RECOMMENDATIONS

To address the higher levels of depression and stress identified among younger college students, particularly those aged 17-18, institutions should implement age-sensitive mental health initiatives. These may include orientation programs focused on emotional adjustment, regular psychological screenings, and resilience-building workshops during the early years of study. Integrating mental health awareness into the curriculum and offering targeted counseling services can help students better cope with academic and social pressures. Additionally, training faculty and staff to recognize early signs of distress can foster a more supportive and responsive educational environment. Although anxiety did not differ significantly by age in this study, its consistent presence among all students underscores the need for accessible, universal interventions such as mindfulness training, stress-relief sessions, and peer support groups. Higher education institutions should ensure that psychological support is embedded within student services for all age groups. Finally, future research is recommended to explore psychological differences across other variables like academic year or socio-economic background and to track mental health trends over time using longitudinal designs.

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