

Assessment of Anxiety and Factor Related among Main and Odayaa Campus, Dilla University Freshman Students, South, Ethiopia 2021

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Abstract

Background: Anxiety can disturb a student's academic success and his future, including withdrawal from classes. The dropout rate was found to be twice as high as in the 1st grade compared to the 2nd or 3rd grade. It also causes people around the world to feel excessive anxiety, fear, lack of self-confidence, and embarrassment. One of the key reasons for the current study is the lack of data on the degree of mental illness, especially in higher education institutions. Objective: To assess the anxiety and factors of Main and Odayaa campus students.

Methods: From April 21th to May 21, 2020, an organization-based cross-sectional survey was conducted in the city of Main and Odayaa. The survey used a structured questionnaire and a self-administered questionnaire ASQ tool. The stratified sampling method included 300 individuals in the study. Pre-test questionnaires that are also used for data collection, in addition data analysis was done using SPSS version 20.

Result: There are 314 freshmen, students of these, 300 attended during the investigation. There are 162 (54%) male respondents and 138 (46%) female respondents in the study. The average student age and (SE) age are 21.6 (\pm 0.13) years old. The prevalence of anxiety was found to be 26.7% among first-year students. Compared with males (16.7%), female freshmen (40.6%) have a statistically higher incidence of anxiety. [AOR 95%CI=3.36 (1.88, 6.01)]

Conclusion: This study showed that anxiety is a common mental problem among college students calling for public intervention to prevent more serious forms of anxiety. This finding indicates that women and older students have a high chance of suffering from anxiety.

Keywords: anxiety; university student; occurrence; factor analysis

Abbreviations

SPSS Statistical Package of Social Science

AOR Adjusted Odds Ratio

COR Crude Odds Ratio

CGPA Cumulative Grade Point Average

GLM: Generalized Linear Model

SPSS: Statistical Package for Social Sciences;

WHO: World Health Organization.

1. Background

1.1. Statement of the problem

The importance of mental health has been recognized by World Health Organization since its inception and the definition of health in the WHO Constitution is "complete physical, mental, and social welfare" rather than "simply free of illness or weakness"[1]. The World Health Organization (WHO) Global Burden of Disease Study (GBD) report provides the best available evidence of the relative effect of health problems around the world [2].

Anxiety disorder is the further most common mental disorder in the United States. It affects 40 million American adults aged 18 and over each

year, accounting for 18.1% of the total population" (American Anxiety and Depression Association [3], and anxiety disorder is one of the most common mental illness and is also one of the most misunderstood. In addition, although it is highly treatable, only about 36.9% of anxiety patients are treated [3, 4]. According to the U.S. Department of Health and Human Services [5], there are five main categories of anxiety disorders; generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, posttraumatic stress disorder and social phobia.

Anxiety is a body's response to a perceived threat. It is triggered by personal beliefs, feelings, and thoughts. It is characterized by worried thoughts, nervousness, increased blood pressure, increased breathing rate and pulse rate, sweating, dizziness, chest pain, difficulty swallowing [10]. Anxiety disorder is the most common mental illness, with a global prevalence of 7.3% [11]. **Academic Related Anxiety and Triggers**

Over the last decade, college students have become more interested in mental health because it is related to mental health issues. Epidemiological data clearly showed that mental health problems were very prevalent among college students in 2010 [6]. Recent studies have demonstrated that high prevalence still exists today [7, 8, and 9]. In relation to anxiety [7], depression has replaced depression as the number one mental health problem facing US college students. In addition, studies show that the number of students who self-report that they have experienced generalized anxiety disorder, social anxiety disorder, and academic performance-related distress is increasing, albeit slightly. The average rate of self-reported generalized anxiety continued to rise [9]. Looking at the most common triggers for which college students sought counseling or treatment [7-10], statistics showed that 61.8% of students seeking psychological help in the 2017-2018 academic year turned to psychological services because of anxiety. The most common types of anxiety claimed are general (41.5%), social (19.6%), and panic (11%).

2. Prevalence of Anxiety and Collegiate Experience

Anxiety disorder is the most common mental disorder in the United States. It affects 40 million American adults aged 18 and over each year, accounting for 18.1% of the total population" (American Anxiety and Depression Association [3], and anxiety disorder is one of the most common mental illness and is also the one that is most easily misunderstood. In addition, although it is highly treatable, only 36.9% of anxiety patients are treated [3]. As it relates mental health, a difficult, high consideration has been given to the mental health status of college students in the past period. Epidemiological data clearly showed that mental health problems among college students were highly prevalent in 2010. [6]. Recent studies have confirmed that there is still a high prevalence rate today [5, 6, and 7]. In 2016, anxiety has replaced depression as the number one psychological problem facing the United States. In addition, the number of students who self-reported experiencing pain increased slightly but steadily because it was related to generalized anxiety, social anxiety, and academic success. The average rate of students' self-reported generalized anxiety continued to increase. Although aware of the high incidence of mental health problems among college students, studies have shown that colleges and universities have insufficient equipment and personnel to meet the mental health needs of the student population [9].

Ethiopia has a population of 120 million and has coverage of 65% for mental illness medical services mentioned in Ethiopia's national health policy. One of the key reasons is the lack of data on the degree of mental illness, especially in higher education institutions. This finding will be an important evidence to prevent mental illness and improve the quality of education at this university. Therefore, the purpose of this study was to

evaluate the prevalence of these problems and related factors in students at the University of Main and Odayaa campus so that they could be used as a baseline for subsequent studies in university education.

3. Method and Material

3.1. Study design, area and period

- ❖ An institution-based cross-sectional study was conducted in freshman students of of Main and Odayaa Campus University, South Ethiopia. From March 21– April 21, 2020 to measure the prevalence of anxiety and related factors among freshman students of Main and Odayaa Campus University.

3.2. Population

Source population

- ❖ All students who were registered as freshman students in freshman students of Main and Odayaa Campus University, 2020 academic year.

Study population

- ❖ All freshman students, freshman students of Main and Odayaa Campus University, 2011 academic year.

Inclusion criteria and exclusion criteria:

- ❖ Inclusion criteria; all freshman students of Main and Odayaa Campus University, students, 2020 academic year.
 - Exclusion criteria; student withdrawal from school.

3.3. Sample size determination

In this study, the sample size (n) is determined according to the single population proportion (p) formula. Take the prevalence of anxiety in the previous study by the University of San Jorge [12], for example, this study assumes that the prevalence rate is 23% to obtain the maximum sample size, with a certainty of 95%, and the maximum difference between the sample and the basic population is $\pm 5\%$; an additional 15% is added to the sample size as an emergency measure to increase power. Therefore, at least 273 students are required in the study.

Use the formula to determine the required sample size:

$$\frac{z^2 \cdot 1 - \alpha/2 \times pq}{d^2} \quad \text{Where } Z^2 \cdot 1 - \alpha/2 = 1.96: \text{ is the critical value for the } \\ 9 \alpha = 0.05: \text{ is the level of significance } \quad d = 0.05: \text{ is the absolute precision required}$$

$p=0.23$ estimated population (rendering the previous study) for possible none response during the study the final sample size was increased by 15% to $n_{\text{final}} = 273 + 15\%$ which is 314 for possible none response during the survey the final sample size was increased by 15% to $n_{\text{final}} = 273 + 15\%$ which is 314.

3.4. Sampling technique:

To select the samples under study, the method of stratified random sampling was used. The first schools were stratified and students in each school were selected by simple random sampling using a list of names obtained from the university administration. The number of subjects studied in each stratum is determined in proportion to the population of each university school. This sampling procedure is schematically represented as follows. See Figure 1.

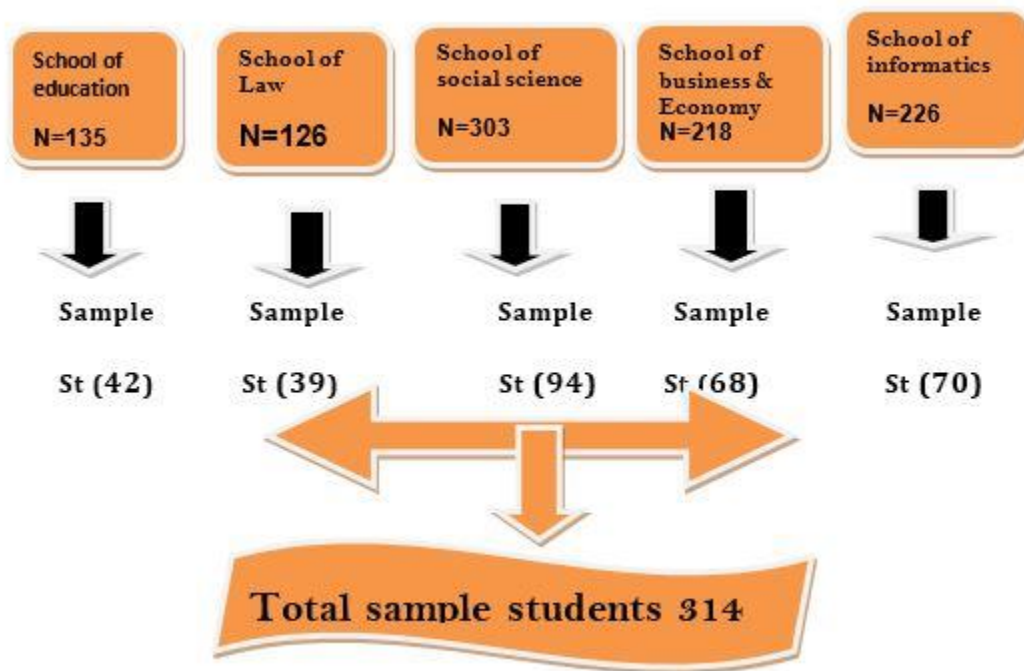


Figure 1: Schematic presentation of sampling procedure

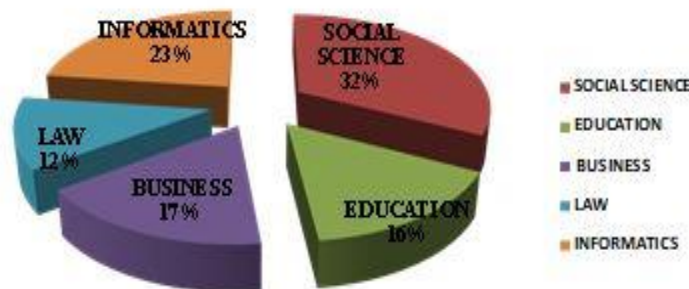


Figure 2. Prevalence of anxiety within schools, among freshman students, April 2020.

3.5. Data collection procedure

A self-managed (5%) pre-test was conducted before data collection among first-year students at the University of Hawasa. The purpose of the survey was explained to the students before conducting the questionnaire. After obtaining written consent, a trained medical instructor will distribute a three-part, self-administered questionnaire. The first part contains socio-demographic information the second part contain substance history and the third one a research on anxiety questionnaire The State-Trait Anxiety Inventory (STAI) (21). The survey has 40 items, each with 5 scales, and asks respondents to answer their questions based on their thoughts on their experiences, emotions, and anxieties they felt while studying on campus. The range of responses used in the scale format ranges from 1 for never to answer, 2 for almost never to answer, 3 for very few responses, 4 for fairly frequent responses, and 5 for very frequent responses. Analyzing the data, the distribution of learning anxiety scores follows the Likert scale, that is, 1 means weak; 2 means medium; and 3 means strength. The source with the highest average score is the most potential source. In this survey, the learning anxiety

questionnaire has passed the alpha score reliability test, and the result is 0.934, which is the validity of the interview content. The questionnaire is only used to identify the source of learning anxiety.

3.6. Methods of data quality and Analysis

Investigators trained data collection coordinators and supervisors. Check the accuracy of all data and discard incomplete data. The data was intensively cleaned before analysis. A descriptive analysis was performed to investigate the distribution of our data. Run bivariate and multivariate analysis to determine the relationship between the independent variable and the outcome variable. Odds ratios and 95% confidence intervals are reported to explain our final model.

Results

Socio demographic characteristics of the respondent

A total of 315 questionnaires were distributed, 300 were available for analysis, and the response rate was 95.5%. Females account for 46% (138)

and males 54% (162). All respondents were in the 17-28 age groups, with an average student age of 21.6 ± 0.13 . Of the total population surveyed, 142 (47.3%) were Orthodox Christians, 73 (24.3%) were Muslims, 32 (11%) were Protestants, and the remaining 39 (13%) were other religious believers. was. Regarding the ethnic composition of the respondents, 94 (31.3%) are Amharic, 85 (28.3%) are Oromo, 71 (23.7%) are Tigre, 17 (5.7%) are Gurage, and the rest. 32 (11%) were from other ethnic groups such as Wolaita, Somalia, and other ethnic groups. Other socio-demographic features of the study population are detailed in Table 1. Most students were fully supported by their families, with 74.3% (16.7%) from sister siblings and some from relatives (8%). Dealing with problems when

faced with problems, 44% of students prayed, 25.3% talked to their parents, 24% talked to friends, and the remaining 5.3% smoked. The quality of the relationship with my friends is very satisfying. Satisfaction and dissatisfaction were 28.3%, 44.3%, and 16%, respectively. Most of the parents of the students lived together at 84.4%, the remaining percentages were 8.3% and 6.1%, and the parents separated and divorced. 21.7%, 28.3%, and 25.2% of students chose to listen to music, read books in their free time, and went out with friends, respectively. Only 21.7% play sports. In addition to 3.5% of students sleeping, some complained that they did not have free time. See table 1.

VARIABLES		Frequency	Percentage
sex (n=301)	Male	162	54
	Female	138	46
Age (n=301) Mean	<19	148	49.3
	20-24	143	47.7
	>25	9	3
Schools	Social science	90	30
	Informative education	66	22
	law	40	13.3
	Business	38	12.7
Mental illness in the Family member	yes	14	4.3
	no	308	95.7
Relationship with Friends	Very satisfactory	92	28.6
	Satisfactory	142	44.1
	Not satisfactory	50	15.5
	Other	38	11.8

Table 1: Description of the socio demographic characteristics in Main and Odayaa Campus freshman students (n=301), April 2020.

Substance use history of the respondents

As shown in Table 2, of the 300 study participants, 75 (25%) had used chat in the past 12 months, and 95 (31.7%) had practiced chat chewing at least once in their life. 139 (46.3%) respondents have consumed alcohol in the last 12 months, and 59 (19.7%) have used alcohol at least once in their life. 47 (15.7%) respondents were classified as smokers in the last

12 months. Students with a history of substance use were asked about the reasons for their use. Overall, the top reasons reported include: 64 (21.3%) job / performance improvements, 33 (11%) irritability, and workload 24 (8.3%), and 178 others. (59%) responses due to peer influence to relieve tension, improved academic performance / academic achievement were the top reason (64) among that readers. See table 2.

Type of substance	Last 12 months history; number (percent)	Ever users history; number (percent)
Chat use		
Users	75 (250)	95 (31.7)
Non users	225(75)	205 (68.3)
Alcohol use		
Users	139(46.3)	59(19.7)
Non users	161 (53.7)	241 (80.3)
Tobacco use		
Users	47(15.7)	
Non user	253(84.3)	

Table 2: Distribution of substance use among freshman students Main and Odayaa Campus, Ethiopia, April, 2020

Prevalence of anxiety among freshman students

The prevalence of anxiety among freshman students at Main and Odayaa Campus was 26.7%. Anxiety was more common among women. The prevalence of anxiety among students in education, social sciences, computer science, law, and business was 32.5%, 30%, 28.8%, 26.3%, and

21.2%, respectively, as well as the prevalence of anxiety associated with the perception of financial situation was more than enough, almost enough, not enough 26.5%, 30.7%, 21.2% and 27.4%, respectively. The prevalence of anxiety symptoms among students >25 years old was 55.2%. See table 3.

Prevalence of anxiety n=300)	Frequency	Percentage
No Anxiety symptoms	218	72.3
Anxiety symptoms	83	27.7
Total	301	100

Table 3: prevalence of anxiety (n=301) among freshman students, Main and Odayaa Campus, Dilla University South Ethiopia, April 2020.

Factors associated with Anxiety

After controlling the variables, the final model contains 3 variables that have significant contributions to the anxiety outcome, with a p value <0.05, as shown in Table 4.

VARIABLE	DEPRESSION		COR 95%CI	AOR 95%CI
	YES	NO		
Age				
≤19	41(27.1)	107(72.3)	1	1
20-24	37(25.9)	106(74.1)	0.91(10.54,1.53)	1.17(0.64,2.14)
≥25	5(55.6)	4(44.4)	3.26(0.84,12.7)	5.01(1.08,23.2)
Sex				
Female	56(40.6)	82(59.4)	3.42(2.0,5.83)	3.36 (1.88,6.01)1
Male	27(16.7)	135(83.3)	1	1
Financial support				
My paternities	68(30.1)	158(69.9)	1	1
My sister / brother	11(22)	39(78)	0.66 (0.312,1.277)	0.74(0.32,1.68)®
Relatives	4(16.7)	20(83.3)	0.53 (0.193,1.459)	0.39(0.1,1.5)®
Having				
Boy friend/girl friend				
Yes	18(19.1)	76(80.6)	1	1
no	65(31.6)	141(68.4)	0.51 (0.28,0.93)	0.6(0.3,1.19)®

	ANXIETY		COR 95%CI	AOR 95%CI
	YES	NO		
What do you often do in your time				
Reading	30(34.9)	56(65.1)	1	1
Playing sport	16(25)	48(75)	0.62(0.3,1.27)	0.58(0.26,1.3)®
Go out with friend	16(20.8)	61(79.2)	0.49(0.24,0.99)	0.65(0.29,1.45)
Listening music	16(25.4)	47(74.6)	0.64(0.31,1.32)	0.71(0.31,1.62)
Other	5(50)	5(50)	1.87(0.5,6.96)	2.9(0.6,14.2)
Have you ever used alcohol drinks in your life				
yes	34(24.5)	105(75.5)	1	1
no	49(30.4)	112(69.6)	0.74(0.44,1.24)	0.63(0.35,1.15)®
What do you do when facing problems				
Talking with paternal	17(21.3)	63(78.8)	1	1
Talk with friends	23(29.5)	55(70.5)	1.55(0.75,3.19)	2.26(0.97,5.29)®
Praying	35(29.4)	84(70.6)	1.54(0.79,3.0)	1.88(0.88,4.03)
Smoking/drinking	7(36.8)	12(63.2)	2.16(0.74,6.34)	3.36(0.99,11.4)
Other	1(27.7)	3(75)	1.24(0.12,12.64)	1.92(0.15,23.78)

Table.4: Shows adjusted OR with 95% CI and distribution of anxiety prevalence

The association between anxiety and the following variables observed during the bivariate analysis with a p value of <0.05 cannot be resisted in the multivariate analysis with a P value of > 0.05, CI is not included. There is a statistically significant difference in the prevalence of anxiety between the ages of students, p-value = 0.039, indicating that the prevalence of anxiety is generally decreasing with age. There is no statistical difference in the prevalence of anxiety among students of different religions.

A statistically significant higher rate of anxiety was seen among female students (40.6%) than males (16.6%). [AOR 95%CI=3.367(1.88, 6.01), P=0.00]

There was no statistically significant difference in the association between facing the problem and anxiety.

The study also showed that there was no statistically significant correlation between the anxiety of freshmen at Main and Odayaa Campus and the marital status of the students.

In addition, compared with students without a history of drinking (13.8%), students who reported a history of drinking at least once in their lifetime (31.8%) did not observe statistically significant anxiety.

5. Discussion

The prevalence of anxiety among first-year students at Main and Odayaa Campus was 26.7%. This finding is higher than the results reported by Jimma University, which were 19.2%. [13]. According to this study, the prevalence of anxiety among freshmen on the Main and Odayaa Campus is higher than that of some institution-based studies using the same tools; the prevalence rate of Spanish universities is 22.8 [14]. Nevertheless the study found that the prevalence rates of anxiety among Main and Odayaa Campus students were lower than the prevalence levels found at different times in studies of other educational universities/institutions using the same instrument; the prevalence of anxiety among Saudi Arabia pharmacy students is 49% [15], prevalence of anxiety in Vietnamese secondary school students (20), and the prevalence of anxiety in Malaysia is 29%. [16]. This can be better explained due to the difference in sample sizes and socio-demographic contextual of the participants, who can also contribute in this regard. The prevalence of anxiety in this study was higher than in a community survey conducted in Malaysia, which was 8.2% [17]. It can be the result of a competitive and stressful academic life and environmental factors such as separation from family members and any problems that arise during adolescence. The study showed that there was a statistically significant difference in the relationship between the prevalence of anxiety and the gender of the study participants. Female students are 4.36 times more likely to develop anxiety than male students. This was in line with other studies from Africa and Ethiopia that reported a link between anxiety and female gender [18]. This can be explained as: small sample size, low social status, legal and/or economic discrimination, and their emotional nature of stress, hormonal changes, and contraceptive responses are considered possible reasons for the higher prevalence of female anxiety. According to the results of the study, a statistically significant correlation was observed between different age groups, showing that people over 25 years old have a higher prevalence of anxiety compared with people under 19 years old. This may be due to increased social-related pressures, such as increased responsibility. In this study, marital status, leisure activities, substance use, race, and religion were not significantly correlated with anxiety; a study conducted by Jimma University [13] found that there was a strong and significant association between substance use and anxiety. It may be the different sample sizes of the study participants and different socio-demographic backgrounds.

Conclusions and Recommendations

- ❖ The overall prevalence rate of anxiety among Main and Odayaa Campus freshman students was found to be high.
- ❖ Statistically significant higher rates of anxiety were detected among female freshman students.
- ❖ And statistically significant higher rates of anxiety were observed among those >25 and above years of age.
 - Health education is required about psychiatry disorders and coping mechanisms among freshman university students.
 - Additional study is necessary to know about the impact of anxiety on academic performance among university students.

Declarations section

Ethics approval and consent to participate

Ethical clearance was obtained from University of Dilla research and dissemination office. The necessary explanation about the purpose of the study was given and informed consent was obtained from the students.

Confidentiality was maintained by omitting their name and personal identification.

Consent for publication

“Not applicable”

Availability of data and materials

“The data that support the findings of this study has a sort of identifier of individual participants and the researcher reserved to send it”

Competing of interest

All authors declare they have no conflict of interest.

Funding

“Not applicable”

Author contributions

YB has contributed in idea conception, topic selection, and writing of proposals for funding, contributed idea generation in title selection, and AE contributed in organizing literatures important to the study, commenting both proposal draft and results.

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