

# Depression, Anxiety and Stress among First Year Addis Ababa University Students: Magnitude, and Relationship with Academic Achievement

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## Abstract

The main objective of the study was to assess the magnitude of depression, anxiety and stress among Addis Ababa University first year students: To achieve the objective cross sectional research design was employed. This study could help many parties to design and develop proper intervention programs to reduce psychological problems among students. The main campus college of Social Sciences, college of Education and Behavioral studies and school of Social Work freshman students of Addis Ababa University students were the aggregate population of the study. The total number of population was 502. Of this, 259 students were obtained by using proportionate stratified random sampling technique using colleges and departments as strata. DAS-S-depression, anxiety, stress scale, quantitatively the collected data was analyzed by using percentage. Among the participants 18.5 % of the respondents scored high on depression (13.1 %-mild and 5.4% were moderate in depression levels of severity), 28.6% scored high level of anxiety (13.1% mild, 14.7% moderate, and 0.8% severe) and 24% scored high level of stress (14.3% mild and 8.1% moderate level of stress). The results suggest that the early prevention of anxiety, depression and stress is critical since, if left untreated, it can have serious consequences on students' future health and career possibilities.

**Keywords:** Academic achievement, Anxiety, Depression, stress

## Introduction

University students have to adapt to various psychosocial changes besides coping with the academic and social demands in preparing for their professional careers (Stevenson & Harper, 2006). The high expectation of academic achievement has created a very stressful environment, which if left untreated can be hazardous to their physical and mental health. The common psychological problems among students are depression, anxiety and stress (Dyrbye et al., 2006). Many studies have revealed that students' performance in University are affected by symptoms of depression, anxiety, and stress (Dusselier et al., 2005) which may impair their academic achievement, lead to deterioration in relationships, marital problems and affect future employment (Eisenberg et al., 2007). Bayram and Bilgel (2008) reported high prevalence of depression, anxiety and stress, 27.1%, 47.1% and 27.0%, respectively, among a group of Turkish university students. This is consistent with other studies which reported high rates of psychological morbidity among university students globally (Adewuya et al., 2006; Ovuga et al., 2006).

Depression, anxiety, and stress were found to be interrelated to each other. The overlapping symptoms of these three psychological problems can lead to all sorts of academic problems that can give impact to academic achievement among students. For example, it has been found that students' performance in school, college, and university is influenced by the symptoms of depression (Shamsuddin, K., et al., 2013), stress (Dusselier, et al., 2005), and anxiety (Fine et al., 2006) this could lead to difficulties in concentration, lack of motivation and interest, poor attendance, and physical health such as headache and fatigability. So the comorbid situation of these three psychological distresses feed each other and influence students' academic performance and leads students to other physical defect.

According to Porter (2007), up to 60% of university students left University without finishing their degrees; the majority of these students leave within the first and second years due to inability to manage these psychological conditions especially to cope with stress. Shamsuddin et al. 2013 found that 50% of university students who consulted mental health service complained of difficulties in study, anxiety, depression and tension. They further reported that these conditions contributed to poor grades in courses. The above findings indicate that many students suffer from psychological problems, which in turn affected their academic performance. Williamson et al. 2005, for example reported that stressful life events are significantly elevated in anxious and depressed youths and thus could lead to low performance in academic achievement.

Entrance to university or other tertiary education institutions can be both a joyous time and a stressful life event for some students (Al-Qaisy, 2011). Especially First year students are at risk as they face a number of new stressors during the transitional period of starting a new life in university (Al-Qaisy, 2011). Just as all young adults, undergraduate students need to cope not only with psychological and psychosocial changes that are

connected to development of an autonomous personal life but also with the academic and social demands that they encounter in university studies in their preparation for professional carriers. Therefore the period of undergraduate education is a sensitive period in an individual's life span and this period is regarded by many as important for developing system and intervention methods that may prevent or reduce mental problems (Gjerde, 2001). This study was intended to assess the magnitude of depression, anxiety and stress among Addis Ababa University first year students. Therefore, this study was intended to answer the following objectives

- To assess the magnitude of depression, anxiety and stress among the study participants
- To find out the relationship between depression, anxiety and stress with students' academic achievement
- To determine the factors that led students to depression, anxiety and stress

## Methods and Materials

### Research design

In order to assess the prevalence of depression, anxiety and stress and their relationship with academic achievement among Addis Ababa University freshman students, cross sectional research design was employed.

### Description of study area

This study was conducted in Addis Ababa University which is found in center of the capital city of the country, Addis Ababa. The university comprises of nine colleges, ten schools, two institutes, and eighty departments in 2013. Totally the university is teaching 20,117 students by different year level in 2013/14(2006 E.C) academic year. Of these students, 4,945 first year; 4860 second year; 5073 third year; 3358 fourth year and 1924 five and above students.

### Participants

The aggregate population of the study was the main campus social science, education and behavioral science first year Addis Ababa University students. The total number of population is 502. Of the above population, the sample comprised 259 students. Based on this, 220 students were obtained but additional 40 students were added so as to account for incomplete responses that may not be considered in data analysis.

At the end, however, there was only one who did not complete the questionnaire properly. This was not considered in data analysis. As a result, there were 259 students in the sample.

In order to select these students, the researcher employed proportionate stratified random sampling technique using colleges and departments as strata. By using this sampling technique, two colleges, one school and seven departments were selected.

**Table 1 : Number of sample students by College and Department/School level**

College	School/Department	Size of Students		Size of Sample Selected	
		Total	Female	Total	Female
College of Social science	Archeology	41	18	23	11
	Geography	42	22	24	13
	Political science	85	24	42	12
	Social anthropology	51	29	28	16
	Sociology	85	38	42	19
Education and Behavioral Studies	Psychology	59	39	32	22
	Special needs Education	8	4	5	2
School of Social Work	Social Work	131	40	63	20
TOTAL		502	214	259	125

### Measures

To collect pertinent data, the researcher employed DAS-S-depression, anxiety, stress scale and a questionnaire developed by the researcher to identify the causes of depression, anxiety and stress. Students' academic achievement was measured by their cumulative grade point

The DASS is a 42-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three scales contains 14 items, divided into subscales of 2-5 items with similar content.

The depression scale items:- 3, 5, 10, 13, 16, 17, 21, 24, 26, 31, 34, 37, 38, and 42

The anxiety scale items:-2, 4, 7, 9, 15, 19, 20, 23, 25, 28, 30, 36, 40, 41

The stress scale items:- 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35, and 39.

Findings from discriminant validity showed that the DASS discriminates the normal and clinical population (Lovibond & Lovibond, 1995). To check the reliability of DAS in this study, pilot study was conducted and the

results produced the following reliability coefficients.

**Table 2: Reliability of the Scales in the Present Study**

Instrument	Cronbach alpha	No of items
Depression	.75	14
Anxiety	.72	14
Stress	.86	14
Factors	.95	30

**Translation and scoring of the instrument**

In addition to pilot study, all materials used in this study were translated from English to Amharic by professional translators-individuals who had experience and knowledge in psychology and counseling. Also it has been shown to a specialist who had clinical experiences in institutions for its validity, suitability, and clarity. Concerning the scoring and other related issues of DASS, the researcher used the manual which was written by Lovibond & Lovibond, (1995).

**Data analysis**

After the data were collected, it was analyzed qualitatively and quantitatively. Quantitatively the collected data was inserted to SPSS 20 and analyzed by using percentage, mean score and point bi-serial correlation.

**Result**

**Table 3 : Average men scores of Depression, Anxiety and Stress score with respect to their gender**

Mean score of students anxiety level by gender			
sex of respondents	Mean	Std. Deviation	N
Male	5.3013	3.69729	156
Female	6.0388	3.27774	103
Total	5.5946	3.54836	259
Mean score of students stress level by gender			
sex of respondents	Mean	Std. Deviation	N
Male	10.3910	5.72101	156
Female	10.0680	4.74499	103
Total	10.2625	5.34694	259
Mean score of students depression level by gender			
sex of respondents	Mean	Std. Deviation	N
Male	5.0705	4.57216	156
Female	6.3786	4.22902	103
Total	5.5907	4.47673	259

**Table 4: Pearson correlations between dependent and independent variables**

Variables	Correlation	Depression	Anxiety	Stress
Academic achievement	Pearson Correlation	-.689**	-.280**	-.274**
	Sig. (2-tailed)	.000	.000	.000
	N	259	259	259
Depression	Pearson Correlation	1	.296	.549
	Sig. (2-tailed)		.000	.000
	N	259	259	259
Anxiety	Pearson Correlation		1	.496
	Sig. (2-tailed)			.000
	N		259	259
Stress	Pearson Correlation			1
	Sig. (2-tailed)			
	N			259

\*\* Correlation is significant at the 0.01 level (2-tailed).

The above table shows the relationship between both dependent and independent variables. As indicated above, there is negative relationship academic achievement with depression, anxiety and stress. On the other hand, depression, anxiety and stress are positively correlated. This result indicates the more prevalence of symptoms of depression, anxiety, stress, the lower students' academic achievement. In the case of independent variables, untreated stress might develop anxiety and the comorbid anxiety and stress symptoms can easily

develop depression among students.

### Magnitude of Depression, Anxiety and Stress

The following cut points in to normal, mild, moderate, severe and extremely severe) are based on the scoring manual of DASS written by Lovibond & Lovibond (1995).

**Table 5: the magnitude of depression, anxiety and stress**

Variables	Normal		Mild		Moderate		Severe		Very severe		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Depression	211	81.5	34	13.1	14	5.4	-	-	-	-	259	100
Anxiety	185	71.4	34	13.1	38	14.7	2	0.8	-	-	259	100
Stress	201	77.6	37	14.3	21	8.1	-	-	-	-	259	100

As indicated in Table 5 above, 211(81.5%) of the students were under normal condition. On the other hand, 18.5% of the students scored high on depression. From these students, 34 (13.1%) scored mild level of depression whereas the other 14 (5.4%) scored moderate level of depression.

As indicated in Table 18 above, 185 (71.4%) of the students were in the normal category. The remaining 74 students (28.6%) had experienced some form of anxiety. Among this students, 34 (13.1%) of them had experienced a mild level of anxiety whereas 38(14.7%) of the students had a moderate level of anxiety. Only two students (0.8%) had a severe level of anxiety.

The above Table also indicated that 58 (22.4%) of the students were under stressful conditions whereas the remaining 201 (77.6%) of the students were normal. Among the 58 students, 37 (14.3%) experienced stress at a mild level whereas 21(8.1%) had a moderate level of stress.

### DISCUSSION

The main objective of this study was to examine the magnitude/extent of DAS among Addis Ababa University students and its relationship with academic achievement. In present study, the magnitude of depression is inconsistent with the studies conducted in several settings by different researchers. For example, the study conducted by Sherina ,Lekhraj and Nadarajan(2003) in Malaysian public institutions had found that, 35.4% of the respondents scored high on depression and, 33% of Iran, 27.1% of Turkish, 26.2 of Denizli, 9.1 % of Ethiopia, and 39.6 % of Vietnam experienced high score on depression.

The magnitude of anxiety was consistent with the study conducted by Md Yasin &Dzulkifli, 2003) which is 30% of students experienced severe anxiety level. On other hand it is less than from the result which was done in Malaysia which is 47.2% and 40% in Cohort University College who experienced anxiety. They stated it has negative effects on students' ability to perform at an optimal level. On the other hand, the magnitude of stress differs from the study conducted in Malaysia 31.1%, Vietnam 49.6% and 90%, Saudi Arabia 57%, and Islamic republic of Arabia 61.4% and 61.3% who experienced stress

The statistical significant relationship between depression, anxiety and stress with academic achievement and self-esteem were also another objective of the study. In this study, the result showed that, there is statistical significant relationship between depression, anxiety and stress with academic achievement. This study is congruent with other Studies conducted in several setting on several populations. For example, studies conducted Yasin &Dzulkif (2011), depressed individuals become disappointed frustrated, and this leads to failure in their academic progress. This mean that they unable to perform well in academic achievement because they do not have courage in what they are doing.

This study has congruent result with the study conducted by Fine &Carlson (1994), which focused on the statistical relationship with academic achievement. Their study found that, there is a relationship between depression and academic achievement and depression is a contributing factor to poor academic performance. Zaid, Chan, and Ho (2007) found that students who experienced depression had a lower academic performance which is similar with present study. These were not the mere studies that are congruent with the present study. One study conducted in Malaysian public institution by Sherina, Lekhraj and Nadarajan (2003) has congruency with the present study and stated the academic performance of the student was affected by depression and concluded the higher the depression, the lower the academic achievement of students.

In the case of anxiety, this study is congruent with a series of studies. For example, studies conducted by Vogel and Collin (2002) finding indicates individuals with higher level of anxiety perform less well than those who have low anxiety. Another study by Anson et al (1984) also stated the relationship between anxiety and academic achievement and found anxiety had significant relation with grades obtained by the students. Other researchers had the same notion. Like Seligman &Wuyek (2007) in their study found highly anxious students were more significantly more likely to score lower on measurements of academic achievement. All the studies mentioned including the present studies had commonalities that is anxiety can directly affect the academic achievement of students' with high level of anxiety perform poorer than those with lower anxiety.

The third one is the congruency of this study in the case of stress with other studies. It has similarity results

with the study conducted by Dusselier et al (2005); Misra &McAdams (2007) and their study stated there is statistically significant relationship between stress and academic achievement. Demakis and McAdams (1994) had also the same result which stated heightened level of stress significantly more physical health problems and fewer satisfactions towards academic achievement compared to those reported lower levels of stress. On the other hand Wintre and Yaffe (2000) in their study found that, increases in stress during the first year predicted decrease overall adjustment and contributed to lower grade point average (GPA) in the final year. On the other had a low to medium level of stress can bring them a sense of competence and an increase capacity to learn. So it is found one part of students' life and give impact on students cope with the demands of academic life. Generally, all studies had the same notion with the present study that, the higher the stress level, the lower the academic achievement.

In identifying the factors that leads students to depression, anxiety and stress, this study had consistencies in degree of respondents' agreement. But due to the difference in number of respondents in several studies, the percentage may differ. What if, the causes that were included in this study were agreed as they were the causes for DAS by the respondents even if the numbers of the respondents differ. In other studies the causes were observed independently for three variables (DAS). In this study, the comorbid causes were identified.

In this study, most of the respondents (74.5%) responded as having inflexible rule about one should behave was the top of the factor for DAS which is one part of intrapersonal factor. This result had also consistency with yadeta et al., 2012 study which was entitled mental distress among university students in Ethiopia.

They stated that separation from families, pre-existing social supports, social problems threats due to high expectations from parents and teachers were the causes for mental distress. Like this result, this study, a large number of students reported excessive pressure from parent and teachers, deficits in social support, and home sickness were the causes for DAS. Too much work and financial problems were the causes for DAS according Blazer, Hughes &Fowler (1989) consistently with this study. Consistently with other studies, a lot of students responded unfamiliarity of environment, chronic illness, and sleep deprivation as the causes for DAS. There is no enough review which states unfair assessment of instructors is a cause for DAS.

The difference of DAS in this study and other studies conducted could be attributed to different factors. These may be the study design itself could be one factor. The second factor could be the measurement (instrument). Another factor could be the number of participants and the nature of participants could be attributed. Generally the differences could be attributed to socio-economic, cultural and environmental factors.

## CONCLUSION

The main findings of the study were the following.

The high rates of DAS among university students have major implications, not only with psychological morbidity, that will have adverse effects on students' health, development, educational attainment, and quality of life, but also the deteriorating influence on their own families, institutions and even other people's lives.

There is statistical significant relationship between depression, anxiety and stress with academic achievement. Depression, anxiety and stress were found to have an impact on academic achievement of university students. They could also decrease motivation in ability, attention and concentration. In other word, the higher depression, anxiety and stress among students, the lower their academic achievement.

The presence of a lot of factors that led students to depression, anxiety and stress in higher institutions had adverse effects on students' physical, psychological and social wellbeing and decrease the academic achievement of students.

## The way forward/recommendations

Based on the main findings of the study the researcher forwarded the following implications

- The prevalence of depression, anxiety and stress among students has major implications. So, it is better to develop strategies in place to identify and support all students suffering from depression, anxiety and stress. Even there are students who are severely anxious which needs immediate interventions.
- It is better if psychologists use screening mechanism to identify students' depression, anxiety and stress level before they start freshmen class. This mechanism may help the psychologist to early identify and treat their student and gives hint for longitudinal studies.
- In terms of DAS prevention, freshman students need to be oriented about learning skills, time management skills, and communication skill in order to meet academic requirements, arrange their time effectively for learning and leisure activities and overcome difficulties in working in new environment through workshop and meeting before the starting of class.
- Maintaining and enhancing support systems from friends, peers should be promoted for students in coping with problems in learning and life skills as well as through supporting from seniors.
- Reducing stress like overload class works, mess living condition, high expectations for grades from teachers, conflicting with friends should be implemented to prevent suffering from stress and its more

severe consequences.

- Early prevention of depression, anxiety and stress is critical since, if left untreated, it can have serious consequences not only on students' academic achievement but also on their future health and career possibilities.
- Additionally, dormitory environment should be improved in improved in terms of neatness.

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