

Stress and Anxiety among Two Groups of Engineering Students

Neelam Vats^{1*} Dr. Aradhana Sharma²

¹Research Scholar, Mewar University, Rajasthan

²Head of Department of Psychology, DAV College, Sector 10, Chandigarh

Abstract – Engineering education in India established amid the British period. It began with the principle concentrate on Civil Engineering and now extended its branches in various particular territories. The expanded braches of designing gives wide chances of work in different open and private associations with attractive bundles. This has brought about fame of designing courses over the nation. To take care of the demand for building courses, India is expanding its authorized admission for designing courses. In the most recent ten years 1997-2007 the endorsed quality developed from 1.15 lakhs to 5.51 lakhs. The quantity of female understudies enlisting for building courses has additionally demonstrated gigantic increment in a decade ago. Today, countless specialists have cleared out noteworthy effect on the world universally. To accomplish these positive results, understudies need to confront numerous issues and difficulties amid undergrad building courses.

In the present paper, an endeavor has been made to consider the issues that prompt anxiety and tension among undergrad designing understudies. The significant concentrate of the paper is on exploring the anxiety and tension level among first year and last year undergrad building understudies. This paper additionally ponders sexual orientation contrasts in stress and nervousness among undergrad building understudies. The members of concentrate included 200 undergrad designing understudies examining in private building organization in Rashtrasant Tukdoji Maharaj Nagpur University, one of the regarded colleges in India. Information was gathered by utilizing 'Tension, Depression and Stress Scale (ADSS)' (Bhatnagar et.al, 2011). Information was examined by utilizing SPSS-20.

----- X -----

INTRODUCTION

Engineering and Medical are considered as one of the most esteemed profession in India. When kids in India are asked what they want to be when they grow up – the first answer that that comes immediately in their mind is engineer or doctor. A majority of students wish to pursue education in engineering and medical after 10+2 level. This demand for engineering courses has resulted in mushrooming of many private engineering colleges across the country. Now it has become easier for students to get admission for engineering courses. But the road is still not smooth for the students. They have to face many challenges and problems during the four years of their graduation. The nature of problems that students face during undergraduate engineering course is different for different semesters and for gender. These problems and challenges are discussed in the next section of this research paper. Previous studies have identified various stressors for college student. In the present study these stressors are studied again which are prevalent to socio-economic and cultural conditions of engineering students studying in RTMNU. First year and final year

engineering students are introduced to various stressors which lead to stress and anxiety during four year undergraduate engineering programme. Researchers interviewed the participants and discussed about the major stressors. The information collected from students present a brief overview of major stressors to the students.

By and by, push has turned into an essential point in scholastic circle and has for quite some time been looked into relating to understudies execution in the west. Be that as it may, instructive anxiety, particularly in specialized fields, is very little underscored in Indian setting. Actually, specialized training, particularly in the area of designing, is greatly underscored in Indian families paying little mind to capacities and enthusiasm of the understudy everywhere scale. The wellsprings of such anxiety incorporate choice on space of instruction, students' capacities, enthusiasm, learning systems, air of the foundation, adapting techniques, wellsprings of help and so forth. At the point when an understudy thinks something is past his/her ability and still predictable to finish the assignment unsuccessfully, it brings

about behavioral and mental weights to be expressed as stress. But, push is not frequently crushing since it is important and unavoidable attending of day by day living, in any case, it ought to be in a farthest point with the goal that it can prompt positive results, for example, enhanced assignment execution. Actually, worry past the farthest point can bring about uneasiness, gloom or disappointment, psychosomatic clinical indications and so forth. This article has checked on and underscored on primary wellspring of worry among understudies of designing investigations, with uncommon reference to the Indian situation and the adapting techniques for building understudies. The adapting methodologies, specified finally, could be useful for the designing understudies in limiting weights of study and solving problems important for their physical and mental prosperity in their scholarly life. At long last, a few remarks on methodological issues and recommendations for future research have been fused.

Stressors to first year building understudies

Picking building as a vocation alternative presents many difficulties to first year designing understudies. Getting an affirmation for building course is simple for understudies as there are numerous building organizations the nation over. Be that as it may, the overwhelming expenses of private building organizations are not moderate to all the designing applicants. To get the required entirety of cash, guardians need to do as such numerous changes, including taking training credits from budgetary organizations. Likewise, school for the most part requires moving to an alternate town, city or state. This makes extra weight of cash for voyaging and boarding. The issue of yearning to go home additionally annoys a significant number of the principal year building understudies who avoid home. Understudies find themselves in a new domain, where they need to connect with new individuals, make new companions and adjust another life style. The individuals who are avoiding home should adjust to living in an apartment, to do all family work for one, to spare cash and manage a day by day drive. This will be the first genuine change into adulthood, when understudy is in a position where he is never again relying upon guardians, kin and companions.

Another issue understudy experience is the troublesome educational programs of designing courses. In the wake of finishing the higher optional instruction when understudy shows up for first year building course, he is presented with new specialized and non-specialized subjects with a troublesome report material. Likewise, understudies are acquainted with the new examination design, i.e. semester design. This requires greater inclusion in contemplates consistently and understudies must address their scholastic needs. Assignments, accommodation, visit class tests makes extra weight of studies. Moreover, absence of time administration makes it troublesome for understudies to discover an opportunity to think

about. Every one of these issues make stress and nervousness among first year understudies.

Stressors to conclusive year designing understudies

Amid the three years of studies, understudies suit themselves to the new condition, influence new companions; to get used to for examinations and other home works, comprehend the subjects, also, set themselves up for self-investigation. At the point when understudy enlist for last years, he is presented with new stressors. Subsequent to finishing his graduation, understudies need to battle to make their profession in the field they have picked four years back.

The primary test for the understudies is to get great grounds arrangement. Understudies need to prepare themselves well for the occupation showcase. This requires numerous extra authentications which make the resume more alluring and persuading for the businesses, upgrade relational abilities, an a la mode learning about new innovation, the fundamental information of the subject got the hang of amid four year building program and connect with enrollment specialists by different means. Here understudies confront less weights of concentrates however more weights of smaller than expected and uber ventures that they need to submit in definite year. Getting ready for different selection tests to get confirmation in great colleges for higher examinations and arrangements in open and private associations is an extra scholastic weight on understudies amid the last year.

This is the time when understudies are associated with dear companionship, individual or sentimental connections. There is dependably dread of isolating from accomplice and losing a relationship. Notwithstanding these, desires from guardians, obligations towards family additionally make stress and uneasiness among definite year understudies.

Stressors to female designing understudies

These stressors talked about above are regular to both male and female understudies. Yet at the same time female understudies experiences with a few extra issues. Despite the fact that the quantity of female understudies showing up for building has expanded since a decade ago, yet still male strength has not changed. Female understudies know that they are entering is a recorded which is traditionally overwhelmed by guys. This makes enthusiastic issues which influences female engineers.

The sexual orientation predisposition is even extreme in Mechanical and Civil Building fields, where over 90% of the class populace is commanded by male. The vast majority of the teachers are male and the conveyance of material is custom fitted towards men. The minority in most classes' influences ladies to feel like that they have to substantiate themselves to their teachers, male partners and industry pioneers. Too,

there is an absence of female brotherhood and there are abnormal state of intensity inside the ladies in classes, which contributes to sentiments of separation and dejection. By concentrate these stressors it can be presumed that anxiety is an unavoidable piece of building understudy's life. Male or female, first year or last year understudies, everybody reports lesser or higher degree of stress and tension. In any case, the significant concentration of the present paper is to help these understudies to figure legitimate adapting procedure.

Stress is an integral part of everybody's life. Be that as it may, the term "push" is translated adversely by the greater part of the general population. For those individuals who decipher stretch adversely, push is something that is negative and upsetting. Without legitimate information about their anxiety level, individuals utilize stress and nervousness reciprocally. For adjusting legitimate anxiety administration techniques, it moves toward becoming critical to comprehend one's level of stress and tension. In the present investigation an endeavor has made to analyze the anxiety what's more, nervousness level of understudies. This will be an essential stride for figuring legitimate guiding and stress administration technique.

METHODOLOGY

Participants

The sample consisted of 200 undergraduate engineering students. These students are selected randomly and studying in various private engineering institutions in first year and final year at different branches of engineering. The age of the students ranges between 18-23 years. These students belong to different socio-economical background. The details of the sample are presented in table 1.

Table 1: Description of sample size

Education Level	Gender	N	Total
First Year	Male	48	100
	Female	52	
Final Year	Male	55	100
	Female	45	

Measures

Pallavi Bhatnagar, et al. Anxiety, Depression and Stress Scale (ADSS) was administered to measure the stress and anxiety level of students. ADSS consist of total 48 items divided in three subscales which are:

1. Anxiety subscale - it comprise of 19 items covering various symptoms that are manifestation of anxiety.
2. Depression scale - it consists of 15 items representing the different symptoms of depression.
3. Stress subscale - it is a scale having 14 items and they are covering the symptoms that people experience in the state of stress.

Responses of the items are terms of 'Yes' or 'No'. Each item is scored 1 if endorsed "Yes" and 0 if endorsed "No".

RESULTS

After obtaining the scores of each of the subject on stress and anxiety, the data was analyzed using SPSS 20 (Statistical Package for the Social Sciences). Two Way ANOVA was used to compare the means of the groups of students. The mean and standard deviation for stress scores are presented in table 2.

Table 2: Mean and SD for stress scores

Edu_lev	Gender	Mean	Std.	N
Total	Female	5.1613	3.13567	93
	Male	5.6168	3.85503	107
	Total	5.4050	3.53745	200

The results of the table shows that the first year students have obtained the mean score of 5.90 indicating their high stress score than the final year students who obtained the mean score of 4.91. For gender, the obtained mean scores are female (M = 5.1613) and male (M = 5.6168) shows that male students reported more stress than female students. To find whether there is any statistical significant difference in mean of stress level, a two way analysis of variance was applied. The results of Two Way ANOVA are discussed below:

Table 3: Table showing results on Two Way ANOVA for stress scores

Source	Type III	df	Mean Square	F	Sig.
Corrected	97.021	3	32.340	2.649	.050
Intercept	5614.5	1	5614.533	459.828	.000
Edu_level	57.074	1	57.074	4.674	.032
Gender	22.970	1	22.970	1.881	.172
Edu_level * Gender	23.405	1	23.405	1.917	.168
Error	2393.1	1	12.210		
Total	8333.0	2			
Corrected	2490.1	1			

The Two Way ANOVA showed no significant main effect of gender on stress level of students, $F = 1.881$, $p > .05$. The main effect of education level was significant, $F = 4.674$, $p < .05$. Hence first year students experienced more stress than final year students. Also, the interaction between gender and education level was not significant, $F = 1.917$, $p > .05$. The effect of gender on stress was the same for each age group.

Table 4: Mean and SD for anxiety scores

Edu_level	Gender	Mean	Std.	N
Total	Female	6.6344	3.16841	93
	Male	6.2336	3.23186	107
	Total	6.4200	3.20075	200

From table 4, first year students mean score on anxiety is $M = 7.07$, and final year students mean score on anxiety $M = 5.77$. This shows that first year students reported more anxiety than final year students. Also mean anxiety score of male student ($M = 6.23$), female student ($M = 6.63$) show that female students reported more anxiety than male students. A two way ANOVA was carried out to find the statistical significance difference in mean anxiety scores. The results are presented in Table 5.

A two way ANOVA revealed significant difference between anxiety level of first year and final year students ($F = 7.365$, $p < .05$). However, the result revealed no significant effect of gender on anxiety level of students ($F = 0.066$, $p > .05$). Also, the interaction between gender and education are not significant ($F = 0.639$, $p > .05$).

Table 5: Table showing results of Two Way ANOVA on anxiety scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected	91.375a	3	30.458	3.066	.029
Intercept	7870.239	1	7870.239	792.138	.000
Edu_level	73.176	1	73.176	7.365	.007
Gender	.660	1	.660	.066	.797
Edu_level * Gender	6.346	1	6.346	.639	.425
Error	1947.345	196	9.935		
Total	10282.000	200			
Corrected Total	2038.720	199			
Total					

CONCLUSION

From the above results it is clear that first year students reports more stress and anxiety than final year students. Hence, the institutes must undertake the stress management programme for the new entrants so that they will be able to manage their stress and anxiety level and concentrate more on studies. However, the study showed less impact of gender on stress and anxiety level of students.

This study also concludes that in order to improve physical and mental health of the engineering students, institutes should plan proper counseling strategy periodically. These counseling sessions will be helpful for students to express their problems freely to the counselor. This will help students in many aspects. Students can enhance optimism, boost confidence in students and enable them to cope up with stress and anxiety. It will be beneficial for improving overall mental health of students.

REFERENCES

- Babar T. S., Kahloon, A., Kazmi, M., Khalid, H., Nawaz, K., Khan, N.A., and Khan, S. (2004). Students, Stress and Coping Strategies: A Case of Pakistani Medical School Community Health Sciences Department, Aga Khan University (AKU), Karachi, Pakistan Education for Health, 17(3), pp. 346-353.
- Barber, B. & Olsen, J. (2004). Assessing the transitions to middle and high school. Journal of Adolescent Research, 19, pp. 4-23.
- Blake, R.L., & Vandiver, T. A. (1988). The association of health with stressful life changes, social supports, and coping. Family Practice Research Journal, 7 (4), pp. 205-218.
- Campbell, R.L., and Svenson, L.W. (1992). Perceived level of stress among university undergraduate students in Edmonton, Canada. Perceptual and Motor Skills, Vol 75, pp. 552-554.
- Dahlin M, Joneborg N, Runeson B. (2005). Stress and depression among medical students: a cross sectional study. Med Educ.; 39(6): pp. 594-604.
- Depression in adults (2004). NICE Clinical Guideline Depression; survey shows increase of depression in college students. Science Letter, p. 406.
- Differences in Psychological Problems between Low and High Achieving Students by Md Aris Safree Md Yasin 1 and Mariam Adawiah Dzulkifli 2, The Journal of Behavioral Science 2009. Vol.4 No.1. pp. 49-58.
- Dyrbye L.N., Thomas M.R., Shanafelt T.D. (2006). Systematic review of depression, anxiety and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med.; 81(4): pp. 354-73.
- Effects of Depression on Students' Academic Performance by Shumaila Khurshid¹, Qaisara Parveen¹, M. Imran Yousuf¹ & Abid Ghafoor Chaudhry², ISSN 1013-5316; CODEN: SINTE 8. Evaluating the Relationship between Gender, Age, Depression and Academic

Performance among Adolescents by Busari, A.O, in Scholarly Journal of Education Vol. 1(1), pp. 6- 12, April 2012.

Field, T. (2001). "Adolescent depression and risk factors. Adolescence," 36: pp. 491-498.

Goebert D, Thompson D, Takeshita J, Beach C, Bryson P, Ephgrave K et al. (2009). Depressive symptoms in medical students and residents: a multischool study. Acad Med.; 84(2): pp. 236-41.

Greenberg P., Stiglin L., Finkelstein S., Berndt E.R. (1993). The economic burden of depression in 1990. J Clin Psychiatry; 54 (11): pp. 405-418.

Heiligenstein, E., & Guenther, G. (1996). Depression and academic impairment in college students. Journal of American College Health, 45(2), pp. 59-64.

Isen, A. M. (2003). Positive affect as a source of human strength. In LG Aspinall and Staudinger U (Eds.), A psychology of human strengths: Fundamental questions and future directions for a positive psychology (pp. 179-195). Washington, DC: American Psychological Association.

Jafari N, Loghmani A, Montazeri A. (2012). Mental health of medical students in different levels of training. Int J Prev Med.;3: pp. 107-12.

Laurence, B. Williams, C. and Eiland, D. (2009) The Prevalence and Socio-demographic Correlations of Depression, Anxiety, and Stress among a group of university students. Journal of American Health. 58. pp. 94-105.

Marjani A, Gharavi AM, Jahanshahi M, Vahidirad A, Alizadeh F. (2008). Stress among medical students of Gorgan (South East of Caspian Sea), Iran. Kathmandu Univ Med J (KUMJ); 6(23): pp. 421-5.

Owens, M., Stevenson, J., & Hadwin, A. J. (2012). Anxiety and depression in academic performance: An exploration of the mediating factors of worry and working memory. School Psychology International, 33(4), pp. 433-444.

Psychological factors affecting student's academic performance in higher education among students, by Riya Bhattacharya ¹, Dr. Bani Bhattacharya ² INTERNATIONAL JOURNAL FOR RESEARCH & DEVELOPMENT IN TECHNOLOGY, Volume-4, Issue-1, July-2015, ISSN (O) :- 2349-3585.

The Impact of Depression on the Academic Productivity of University Students by Alketa Hysenbegasi, Steven L. Hass, Clayton R. Rowland (2005) in The Journal of Mental Health Policy and Economics J Ment Health Policy Econ 8, pp. 145-151.

Corresponding Author

Neelam Vats*

Research Scholar, Mewar University, Rajasthan

E-Mail – vats.neelam7@gmail.com