Dr. Vineet Kumar Sharma
Assistant Professor, School of
Physical Education, Lovely
Professional University,
Phagwara, Punjab, India

Dr. Nibu R Krishna
Assistant Professor, Department
of Sports Psychology, L.N.I.P.E,
Gwalior, Madhya Pradesh, India

Analysis of depression, anxiety and stress among professional students at collegiate level

Dr. Vineet Kumar Sharma and Dr. Nibu R Krishna

Abstract
Stress, anxiety and depression for academics among collegiate students are a cause of concern. Reports of research surveys on college student's shows there will be 10 to 20% of students suffering from psychological problems like stress, anxiety & depression (Narasappa, 2013). The purpose of the study is to examine the current status of depression, anxiety and stress of different professional students. A group of male-female mix of 180 (N=60 each) from medical, engineering and physical education profession, of 18-25 years with mean and SD of 21.20 ± 2.35 were selected randomly. Depression Anxiety and Stress Scale (DASS) by Lovibond (1995) questionnaire was used as an instrument. Descriptive statistics such as mean and standard deviation and comparative statistical technique (one way ANOVA) and Post HOC test LSD were used and level of significance was set at 0.05, where the mean and SD for the three groups, medical, engineering and physical education for depression are 11.23 ± 7.23, 9.50 ± 9.62 and 14.97 ± 7.21; for anxiety are 11.77 ± 6.05, 10.35 ± 8.3 and 16.62 ± 6.84 and for Stress 14.05 ± 6.13, 10.15 ± 8.4 and 16.8 ± 6.47 respectively. F-value is significant as the calculated f values 7.14 for depression, 12.77 for anxiety and 13.39 for stress were found to be greater than the tabulated f value = 3.04 with 2, 177 df at 0.05 level of significance. Post HOC test analysis reveals a significant difference in depression among physical education and engineering students and among physical education and medical students. Further, there is significant difference in anxiety among physical education and engineering students and among physical education and medical students. Lastly, there is significant difference in stress among physical education, engineering and medical students. As, Aerobic exercise training has antidepressant and anxiolytic effects and protects against harmful consequences of stress Peter Salmon (2001). These results may be own due to, physical education students involves mostly in sports activities.

Keywords: Depression, anxiety and stress

Introduction

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being (Sandra Salmans, 1997) [5]. Like all other emotions, anxiety has both a trait component and a state component. The trait component is like a personality disposition, whereas the state component is a situation-specific response. It is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing. Selye in 1983 has defined stress as the "Nonspecific response of the body to any demand made upon it."

The Stanford Survey found psychological distress to be extremely common among the students. 1 out of 3 described them as anxious or tense. As far as depression is concerned, 1 in 5 described them as "tired without any apparent reason". 43 percent said sometimes felt "so depressed it is hard for them to get going" and 16 percent reported feeling that life is not worth living (Martinez & Fabiano, 1992) [7].

Taking into considerations of several articles published on the psychological distress of college students, one can safely conclude that 20 to 25 percentage of student population worldwide suffering from psychological distress. Stress is any situation that evokes negative thoughts and feelings in a person. Stressful events can be appraised by individual as "Challenging" or "threatening" (Lazarus, 1966) [8]. Beck and Young (1978) [9] reports, at any given time 25% of student population reports of symptoms of depression due to following reasons:
1. Stresses from the increased difficulty of college work

Correspondence
Dr. Vineet Kumar Sharma
Assistant Professor, School of
Physical Education, Lovely
Professional University,
Phagwara, Punjab, India

2. Isolation and loneliness
3. Problems with studying and grades frequently trigger depression.
4. Break up of intimate relationship.

Methodology
Selection of Subjects: To serve the purpose of the investigation, 60 male and female students each from medical, engineering and physical education profession, of 18-25 age groups were selected randomly. Subjects were selected from the students of MPCT College, AMITY University and Lakshmibai National Institute of Physical Education, Gwalior.

Administration of Questionnaire: To measure the negative emotional states of depression, anxiety and stress Depression Anxiety and Stress Scale (DASS) was implemented. 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. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have

experienced each state over the past week. The questionnaire was administered individually by the research scholar to all the subjects. All the subjects had answered the questionnaire separately, without consulting others. The subjects were exhorted to give their frank and true opinion and the research scholar had assured the respondents that the information given by them would be kept confidential and utilized for the research purpose only.

Statistical Technique: The statistical technique applied in order to examine the hypotheses of the study were, descriptive statistics such as mean and standard deviation and comparative statistics of analysis of variance (One way ANOVA) and LSD as POSTHOC test. SPSS 20 was also used.

Results
In order to compare or to see the differences between different professional's depression, anxiety and stress, statistical technique (one way ANOVA) and Post HOC test LSD were employed and level of significance was set at 0.05.

Table 1: Descriptive Statistics for Depression, Anxiety and Stress of Different Professionals Groups

Professional Groups	N	Mean	Std. Deviation	Std. Error
Depression Physical Education	60	14.97	7.21	0.93
Engineering	60	9.50	9.62	1.24
Medical	60	11.23	7.23	0.93
Total	180	11.90	8.37	0.62
Anxiety Physical Education	60	16.62	6.84	0.88
Engineering	60	10.35	8.30	1.07
Medical	60	11.77	6.05	0.78
Total	180	12.91	7.58	0.56
Stress Physical Education	60	16.80	6.47	0.84
Engineering	60	10.15	8.40	1.09
Medical	60	14.05	6.13	0.79
Total	180	13.67	7.55	0.56

Table 1 shows the scores of Mean and S.D. of different professional groups of depression, anxiety and stress of professional students at collegiate level. The Mean & S.D of physical education, engineering and medical students of depression are 14.97±7.21; 9.50±9.62; 11.23±7.23

respectively. The Mean & S.D of physical education, engineering and medical students of anxiety are 16.62±6.84; 10.35±8.30; 11.77±6.05 respectively. The Mean & S.D of physical education, engineering and medical students of stress are 16.80±6.47; 10.15±8.40; 14.05±6.13 respectively.
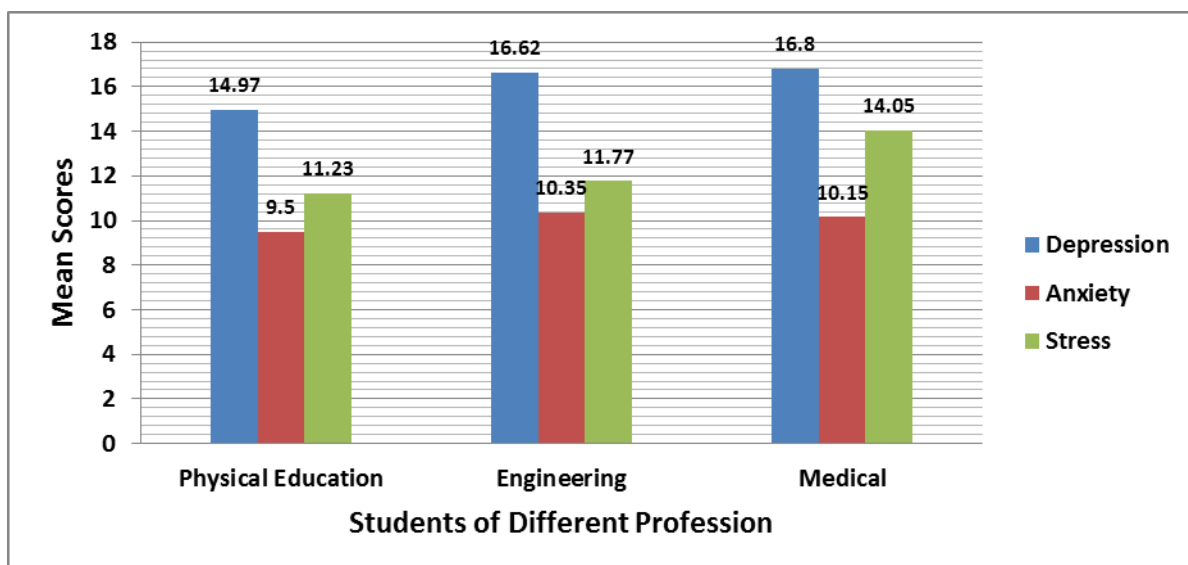

Fig 1: Mean Comparison of Depression, Anxiety and Stress of Different Professionals

Table 2: Comparative Statistics of Depression for Professional Students at Collegiate Level

	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Depression Between Groups	936.53	2.00	468.27	7.14	0.00*
Within Groups	11611.67	177.00	65.60		
Total	12548.20	179.00			
Anxiety Between Groups	1296.01	2.00	648.01	12.77	0.00*
Within Groups	8984.57	177.00	50.76		
Total	10280.58	179.00			
Stress Between Groups	1339.90	2.00	669.95	13.39	0.00*
Within Groups	8856.10	177.00	50.03		
Total	10196.00	179.00			

* Significant at 0.05 level

Table no. 2 shows that the F-value is significant as the calculated f values i.e. 7.14 for depression, 12.77 for anxiety and 13.39 for stress of professional students at collegiate level were found to be greater than the tabulated f value = 3.04 with 2, 177 df at 0.05 level of significance.

Since F-value is significant, post hoc test needs to be applied for comparing means of groups. SPSS output shown in Table 3 provides such comparison.

Table 3: Multiple Comparisons table of Post HOC test (LSD) of depression, anxiety and stress for Professional Students at Collegiate Level

Types of Groups (I)	Types of Groups (J)	Mean Difference (I-J)	Std. Error	Sig. (p-value)
Depression Physical Education	Engineering	5.47	1.48	0.00*
Engineering	Medical	1.73	1.48	0.24
Medical	Physical Education	3.73	1.48	0.01*
Anxiety Physical Education	Engineering	6.27	1.30	0.00*
Engineering	Medical	1.42	1.30	0.28
Medical	Physical Education	4.85	1.30	0.00*
Stress Physical Education	Engineering	6.65	1.29	0.00*
Engineering	Medical	3.90	1.29	0.00*
Medical	Physical Education	2.75	1.29	0.03*

*Significant at 0.05 level

It can be seen that for depression the difference between physical education and engineering students is significant as the mean difference for this is 5.47 which is greater than critical difference that is 1.724. Similarly, the difference between physical education and medical students is also significant as the mean difference for this is 3.73 which is also less than critical difference that is 1.724. However, there is no significant difference between the means of the medical and engineering students.

Similarly, for anxiety the difference between physical education and engineering students is significant as the mean difference for this is 6.27 which is greater than critical difference that is 1.525. Similarly, the difference between physical education and medical students is also significant as the mean difference for this is 4.85 which is also less than critical difference that is 1.525. However, there is no difference between the means of the medical and engineering students.

Lastly, for stress the difference between physical education and engineering students is significant as the mean difference for this is 6.65 which is greater than critical difference that is 1.514. Similarly the difference between physical education & medical, and medical & engineering students are also significant as the mean difference for these are 2.75 and 3.90 respectively which is also greater than critical difference that is 1.514.

Discussion
On the basis of the results of the study, the hypothesis stated that there would be significant difference in Depression, Anxiety and Stress in different professions at collegiate level. The hypothesis established was found to be true in most of the negative psychological emotions, hence it can be concluded that students of different professions at collegiate level has different level of Depression, Anxiety and Stress.

Further it was found that there is difference in depression among physical education and engineering students also among physical education and medical students but there is no difference between the medical and engineering students. Similarly there is difference in anxiety among physical education and engineering also among physical education and medical students. However, there is no difference between the medical and engineering students. This may be own due to, physical education students involves mostly in sports activities in comparison to medical and engineering students and they have less for mental recovery.

Further it was found that there is difference in stress among physical education, engineering and medical students. And it may be because of the tasks they face in day to day life as well as in their professional life.

References
1. Kumaraswamy N. Academic Stress, Anxiety and Depression among College Students- A Brief Review, International Review of Social Sciences and Humanities. 2012, 2013; 5(1):135-143.
2. Lovibond SH, Lovibond PF. Manual for the Depression Anxiety Stress Scales. (2nd Ed.). Sydney: Psychology Foundation, 1995.
3. Verma JP. Statistical methods for sports and physical education. Tata McGraw-Hill Education Private Limited, New Delhi, 2011.
4. Salmon P. Effects of Physical Exercise on Anxiety, Depression, and Sensitivity to Stress: A Unifying Theory, Clinical Psychology Review. 2001; 211, 33-61.
5. Salmans S. Depression: Questions You Have – Answers You Need. People's Medical Society, 1997. ISBN 978-1-882606-14-6.

6. Selye H. Stress without Distress. Bruxelles médical. 1976; 56:205-10. 10.1007/978-1-4684-2238-2_9.
7. Martinez AM, Fabiano P. Stanford students health needs assessment 1990, Student Health Center, Stanford University Report of Stanford CA: Cowell, 1990, 1992.
8. Lazarus RS. Psychological Stress and the Coping Process. New York: McGraw- Hill, 1966.
9. Beck AT, Young JE. College blues, Psychology Today, 1978; 12(4):80-82.
10. Daniel E. Prevalence and Correlates of Depression, Anxiety, and Suicidality among University Students, American Journal of Orthopsychiatry. 2007; 77(4):534-542.
11. Dyrbye LN. Articles Reporting on Depression, Anxiety and Burnout among U.S. and Canadian Medical Students, Academic Medicine: Well-Being of Students. 2006; 81(4):354-373.
12. Jadoon N. Anxiety and Depression among Medical Students: A Cross-Sectional Study, Journal of the Pakistan Medical Association (Impact Factor: 0.4). 08/2010; 60(8):699-702.
13. Mejía OL, McCarthy CJ. Acculturative Stress, Depression, and Anxiety in Migrant Farm Work College Students of Mexican Heritage, International Journal of Stress Management. 2010; 17(1):1-20.
14. Misra R, Mckean M. College Students' Academic Stress and its Relation to their Anxiety, Time Management, and Leisure Satisfaction, American Journal of Health Studies. 2000; 16(1).
15. Oei Tian PS. Depression Anxiety Stress Scale 21 (DASS-21) Across Cultures, International Journal of Psychology. 2013, 48(6).