

## ASSESSMENT OF STRESS LEVEL AMONG UNIVERSITY STUDENTS AND LOCAL POPULATION

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### ABSTRACT

There is increasing evidence that university students are particularly susceptible to feelings of stress. Stress in medical education is common and process-oriented. It often exerts a negative effect on their academic performance, physical health, and psychological wellbeing. This study aimed to assess the stress level experienced by students and others at a private university and the factors most associated with this stress. Current study is an observational prospective study. Stress levels of participants were tested through applying questionnaire of International Stress Management Association. A total of 250

Individuals participated in the study. The participants were randomly selected. Study was conducted in four months period from September to December 2016. Descriptive statistics and chi square were used to analyze the study data using SPSS. It was observed that out of 250 participant 8(3.2%) posses less stress, 138 (55.2%) posses moderate stress, 104 (41.6%) posses high stress.). Based on qualification 68 (42.77%) of participant with a qualification of graduation were with high stress. the difference was statistically significant ( $p=0.001$ ). Based on residence 36 (65.454%) of participant reside in DHA were with high stress and the difference was statistically significant ( $p= 0.000$ ). The researches recommend that university decision makers have to provide students with a psychological, social and academic counseling in order to decrease the students stress. So they can achieve better and have a good mental health. They have to involve students with different activities to reduce the gaps between them; also they have to provide students with a suitable teaching and learning methods in order to decrease their academic stress.

**KEYWORDS:** Stress, physical health, and psychological wellbeing.

## INTRODUCTION

Stress is the “wear and tear” our bodies experience as we adjust to our continually changing environment; it has physical and emotional effects and can create positive or negative influence on us<sup>[1]</sup> (Eliza Omar Eva et al, 2015) Stress has turned into an imperative theme in scholastic circle and additionally in our general public.<sup>[2]</sup> It is not an ailment essentially is a condition which accompanied physical, psychological on social complaints or dysfunction and which result from individual response unable to bridge gap with requirement or expectation located on them actual when an specific is confronted by a situation that they perceive as over whelming and cannot cope up so it may be diminish success at work and may cause health.<sup>[3]</sup>

Signs of stress can be seen in people's behavior, especially in changes in behavior. Severe retort to stress may be in the zone of feelings (for example, anxiety, depression, irritability, fatigue), behavior (for example, being withdrawn, aggressive, tearful, unmotivated), rational (for example, difficulties of concentration and problem solving) or physical symptoms (for example, palpitations, nausea, headaches). If stress perseveres, there are changes in neuroendocrine, cardiovascular, autonomic and immunological functioning, leading to intellectual and physical ill health (for example anxiety, depression, heart disease).<sup>[4]</sup> A study which explained that some drivers of occupational stress have been projected in the literature such as somatic environmental work load management elegance.<sup>[5]</sup> in another study which explained that it is also considered to be a part of student life because of academic work is always stressful activity.<sup>[6]</sup>

The workplace features that have been found to be an allied with stress and health risks can be ranked as those to do with the content of work and those to do with the social and organizational context of work. Those that are intrinsic to the job include long hours, work overload, time pressure, difficult or complex tasks, lack of breaks, lack of variety, and poor physical work conditions (for example, space, temperature, light).<sup>[4]</sup> Excessive stress can cause problems for physical and psychological wellbeing which results in behavioral change. In students, stress can affect physical health, psychological wellbeing and social relations.<sup>[7]</sup>

This study aimed to assess the stress level experienced by students and others at a private university and the factors most associated with this stress. Stress is one of the serious issues

that affect university student's life, its effects could be reflected in student social, academics, and mental health. So each university has to assess its students stress in order to provide them with the suitable mental health care and the efficient methods to cope with stress. This study will provide stakeholders with scientific information related to stress level in order to help students to avoid stress from the beginning.

## **METHODOLOGY AND PROCEDURE**

### **Study design**

Current study is an observational prospective study.

### **Instrumentation**

Stress levels of participants were tested through applying questionnaire of International Stress Management Association.<sup>[8]</sup> This instrument has been designed by expert researchers and psychologists at the International Stress Management Association and is available online at [www. Isma.org](http://www.isma.org). This instrument is an open access document and can be used to research purposes free of cost. This questionnaire consists of 25 self-reported dichotomous items. Respondents have to answer yes or no at the end of every question statements about their personal lives and daily activities. This questionnaire required 10 to 15 minutes to answer after which the stress levels of respondents is analyzed through the formula prescribed by the test makers.

### **Selection of Participants**

A total of 250 individuals participated in the study. The participants were randomly selected. It consisted of equal population of males and female participants. The participants were categorized according to the qualification and the areas of residence. Among them were considerable number of students, bankers, house wives and doctors, who were residing in variable areas of Karachi, Pakistan. These individuals volunteered to be tested for existence of stress. Participants were ensured anonymity and confidentiality of their reports and provided Informed consent to participate in the research. The administration of the questionnaires was done both individually and in groups, depending on the conditions.

### **Study duration**

Study was conducted in four months period from September to December 2016.

## Procedures

A questionnaire, structured on the guidelines of International Stress Management Association<sup>[8]</sup> (ISMA-2011) was distributed among randomly selected individuals. It also consisted of the participant's demographic details. The yes and no answers to the questions were analyzed as numerical values. E. g.: Yes=1 and No=0. The total score was then calculated and levels of stress determined according to ISMA guidelines. Here, the total score if consisted of a value less than 4, was considered as "Least" prone to stress, while a score between 5-13 suggested "More" prone to stress and any value greater than 14 is suggested to be "Most" prone to stress. The questionnaire had a good internal consistency,  $\alpha = .859$ .

**Statistical Analysis** Descriptive statistics and chi square were used to analyze the study data using SPSS.

## RESULTS

A total of 250 individuals participated in this study. Initially 300 questionnaires were distributed only 250 questionnaire were filled and returned. Out of 250 individuals 124(49.6%) were male and 126(50.4%) were females. Age wise distribution is described in table 1. The age range was from 23 years to greater than 35 years. Among different age group participants 91(36.4%) was the highest percentage of the participants age ranges. Among different body individuals most of the participant 134(53.6%) were with a normal weight. The distribution of participant based on qualification were matric 28(11.2%), intermediate 40(16%), graduate 159(63.6%) and master were 23(9.2%). The distribution of participant based on Profession were Banker 56 (22.4%), students 156(62.4%), house wife 17(6.8%), businesses 6(2.4%), other job 8(3.2%) and doctor were 7(2.8%). The distribution of participant based on residence were DHA 55(22%), Garden 40(16%), North nazimabad 44(17.6%), gulistane johar 39(15.6%), kharadar 19(7.6%), sohrab goth 11(4.4%), Taric road 21(8.4%) and Malir were 21(8.4%).

Table 2 Describe the variables, means, standard deviation and interpretation.

## Level of Stress

It was observed that out of 250 participant 8(3.2%) posses less stress, 138 (55.2%) posses moderate stress, 104(41.6%) posses high stress. The proportion of stressed with respect to gender is depicted by the fact that 70(55.56%) females were with moderate stress and 53(42.06%) were with severe stress and men 51(41.129%) were with severe stress and

68(54.84%) were with moderate stress level. But the difference was statistically insignificant ( $p=0.759$ ). As regard to age 48(60%) with an age range of 26-35 were with moderate stress and 44 (48.35%) with the age range of 23-25 years were with severe stress but the difference was statistically insignificant ( $p= 0.156$ ). With regard to BMI 52 (38.81%) of participant with a normal body weight were with high stress. but the difference was statistically insignificant ( $p=0.059$ ). Based on qualification 68(42.77%) of participant with a qualification of graduation were with high stress. the difference was statistically significant ( $p=0.001$ ). Based on profession 73(46.79%) of participants with student status were with high stress. but the difference was statistically insignificant ( $p=0.475$ ). Based on residence 36(65.454%) of participant reside in DHA were with high stress and the difference was statistically significant ( $p= 0.000$ ).

Table 3 summarized the stressor which is mainly responsible of stress. The analysis of the participant responses showed that the highest items caused stress were Item 2, item3, item 4, item 9, item 14, item 16 and item 19.

**Table 1: Demographic characteristics.**

Characteristics	Frequency	Percentage (%)	Mean	Standard deviation
Male	124	49.6	12.14	4.007
female	126	50.4	12.35	3.903
Age in years				
23-25	91	36.4	12.88	3.915
26-35	80	32	11.84	3.96
>35	79	31	11.93	3.928
BMI				
Under weight	26	10.4	11.92	3.979
Normal weight	134	53.6	12.40	3.895
Over weight	68	27.2	12.12	3.807
obese	22	8.8	12.05	4.825
Qualification				
Metric	28	11.2	11.54	3.415
Inter mediate	40	16	11.78	4.423
Graduate	159	63.6	12.74	3.814
Master	23	9.2	10.48	4.1106
Profession				
Banker	56	22.4	12.04	3.552
Student	156	62.4	12.54	4.147
House wife	17	6.8	10.18	2.789
businesses	6	2.4	14.33	3.326
Other job	8	3.2	10.13	3.871
doctor	7	2.8	12.86	3.949
AREA				

DHA	55	22	12.98	4.556
Garden	40	16	12.75	2.817
North nazimabad	44	17.6	11.95	4.286
Gulistane johar	39	15.6	10.74	3.733
Kharadar	19	7.6	11.16	3.919
Sohrab goth	11	4.4	11.91	2.071
Tariq road	21	8.4	12.24	4.158
Malir	21	8.4	13.9	3.562

**Table 2: Result of Isma Questionnaire.**

ISMA Score	Frequency	Percentage	Meaning
0-4	8	3.2	Low stress
5-13	138	55.2	Moderate Stress
14-22	104	41.6	High Stress

## Stress Level

Characteruistics	Score level			total	p-value
	0-4 (low stress)	5-13 (moderate stress)	14-25 (High stress)		
gender					0.759
Male	5(4.032%)	68(54.838%)	51(41.129%)	124	
Female	3(2.380%)	70(55.555%)	53(42.063)	126	
Age					0.156
23-25years	2(2.197)	45(49.450)	44(48.351%)	91	
26-35years	5(6.25%)	48(60%)	27(33.75%)	80	
>35 years	1(1.265%)	45(56.962%)	33(41.772)	79	
BMI					0.059
Under weight	3(11.538%)	11(42.307%)	12(46.153%)	26	
Normal weight	2(1.492%)	80(59.701%)	52(38.805)	134	
Over weight	1(1.470%)	37(54.411%)	30(44.117%)	68	
obese	2(9.090%)	10(45.454%)	10(45.454%)	22	
Qualification					0.001
Metric	0(0%)	19(67.857%)	9(32.142%)	28	
intermediate	5(12.5%)	15(37.5%)	20(50%)	40	
Graduate	1(0.628%)	90(56.603%)	68(42.767%)	159	
master	2(8.695%)	14(60.869)	7(30.434%)	23	
Profession					0.475
Banker	2(3.571%)	35(62.5%)	19(33.928%)	56	
Student	6(3.846%)	77(49.358%)	73(46.794%)	156	
House wife	0(0%)	14(82.352%)	3(17.647%)	17	
businesses	0(0%)	3(50%)	3(50%)	6	
Other job	0(0%)	5(62.5%)	3(37.5%)	8	
Doctor	0(0%)	4(57.142%)	3(42.875%)	7	
Residence					0.000
DHA	15(27.272%)	14(25.454%)	36(65.454%)	55	
Garden	0(0%)	25(62.5%)	15(37.5%)	40	
North nazimabad	1(2.272%)	27(61.363%)	16(36.36%)	44	
Gulistane johar	2(5.128%)	27(69.230%)	10(25.64%)	39	
Kharadar	0(0%)	15(78.947%)	4(21.052%)	19	

Sohrab goth	0(0%)	10(90.909)	1	11	
Tariq road	0(0%)	10(47.619%)	11(52.380%)	21	
Malir	0(0%)	10(47.619%)	11(52.380%)	21	

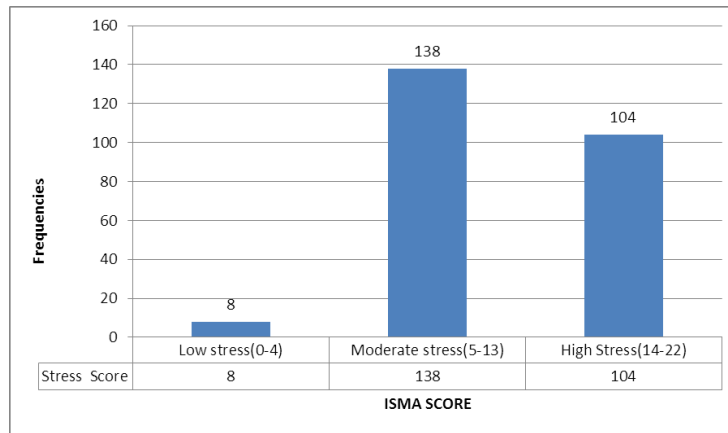


Figure 1: Stress Score.

Table 3: background variable and questions.

	Back ground variable /Questions	Yes/no	frequency	percentage	mean	St. deviation
1	I frequently bring work home at night	Yes no	131 119	52.4 47.6.	0.5240	0.5004
2	Not enough hours in the day to do all the things that I must do	Yes no	151 99	60.4 39.6	<b>0.6548</b>	0.4762
3	I deny or ignore problems in the hope that they will go away	Yes no	149 101	59.6 40.4	<b>0.6387</b>	0.4812
4	I do the jobs myself to ensure they are done properly	Yes no	160 90	64 36	<b>0.6419</b>	0.4802
5	I underestimate how long it takes to do things	Yes no	142 108	56.8 43.2	0.6194	0.4863
6	I feel that there are too many deadlines in my work / life that are difficult to meet	Yes no	139 111	55.6 44.4	0.6161	0.4871
7	My self-confidence / self-esteem is lower than I would like it to be	Yes no	92 158	36.8 63.2	0.4065	0.4919
8	I frequently have guilty feelings if I relax and do nothing	Yes no	132 118	52.8 47.2	0.5280	0.5002
9	I find myself thinking about problems even when I am supposed to be relaxing	Yes no	160 90	64 36	<b>0.6400</b>	0.4809
10	I feel fatigued or tired even when I wake after an adequate sleep	Yes no	124 126	49.6 50.4	0.4960	0.5009
11	I often nod or finish other	Yes	78	31.2	0.3120	0.4642

	peoples sentences for them when they speak slowly	no	172	68.8		
12	I have a tendency to eat, talk, walk and drive quickly	Yes no	142 108	56.8 43.2	0.5680	0.4964
13	My appetite has changed, have either a desire to binge or have a loss of appetite / may skip meals	Yes no	134 116	53.6 46.4	0.5630	0.4997
14	feel irritated or angry if the car or traffic in front seems to be going too slowly/ I become very frustrated at having to wait in a queue	Yes no	177 73	70.8 29.2	<b>0.7080</b>	0.4555
15	If something or someone really annoys me I will bottle up my feelings	Yes no	141 109	56.4 43.6	0.5640	0.4969
16	When I play sport or games, I really try to win whoever I play	Yes no	175 75	70 30	<b>0.7000</b>	0.4592
17	I experience mood swings, difficulty making decisions, concentration and memory is impaired	Yes no	116 134	46.4 53.6	0.4640	0.4997
18	I find fault and criticize others rather than praising, even if it is deserved	Yes no	45 205	18 82	0.1800	0.3849
19	seem to be listening even though I am preoccupied with my own thoughts	Yes no	168 82	67.2 32.8	<b>0.6720</b>	0.6720
20	My sex drive is lower, can experience changes to menstrual cycle	Yes no	203 47	81.2 18.8	0.1880	0.3915
21	I find myself grinding my teeth	Yes no	122 128	48.8 51.2	0.4880	0.5009
22	Increase in muscular aches and pains especially in the neck, head, lower back, shoulders	Yes no	56 194	22.4 77.6	0.2240	0.4178
23	am unable to perform tasks as well as I used to, my judgment is clouded or not as good as it was	Yes no	113 137	45.2 54.8	0.4520	0.4987
24	I find I have a greater dependency on alcohol, caffeine, nicotine or drugs	Yes no	96 154	38.4 61.6	0.3840	0.4873
25	I find that I don't have time for many interests / hobbies outside of work	Yes no	71 179	28.4 71.6	0.2840	0.4518



## DISCUSSION

An attainable and satisfactory rate of response is around 75% for interviews and 65% for self-administered questionnaire.<sup>[9]</sup> Our study response rates were 83.33% this it can be considered as satisfactory. But in some other studies 70% were considered as 'relatively higher score.'<sup>[10,12]</sup> This study included individuals from different area consisting of banker, students, house wife businessman and doctors but main focus was on the pharmacy students.

The Present study aimed to investigate level of stress and factors associated with stress. This study showed that large proportion of participants were in stress 138(55.2%) were with moderate stress 104(44.6%) were with high stress and 8(3.2%) were with low stress. Gender, different age groups and BMI were not significant predictors. Level of education, profession and place residence were the significant predictors. In terms of gender, in the present study results showed no significant differences in stress levels; thus, men and women did not differ in reported stress levels, a finding which is in line with some research in the area.<sup>[13]</sup> In addition, both genders do not differ in terms of the specific stressors they report, suggesting no gender specificity in the appraisal of stressors in the working environment.<sup>[14]</sup> Recent studies in Sweden and in Pakistan showed similar results in terms of overall gender differences.<sup>[15,16]</sup> However, a study conducted in Egypt on 288 undergraduate medical students reported no gender differences for stress.<sup>[17]</sup>

Based on age group results showed no significant differences in stress levels; comparing to other studies Nonetheless they are not in line with findings from the Health and Safety Laboratory and Health and Safety Executive (2005) report which showed that the age group between 45 and 54 years reports the highest levels of stress.<sup>[18]</sup>

In the current study also out of all specific stress-related factors, only level of education and place of residence were significant predictors. These findings are in line with those reported by a study and explained that more specifically, findings on level of education showed that higher levels of education were related to higher stress,<sup>[19]</sup> and the results are in line with the study of by some studies and explained that a possible explanation could be that a higher level of education might make it more difficult to successfully manage some challenges of the job role nonetheless, this claim should be tested in further research.<sup>[20,22]</sup>

Among above stated stress factors the present study further analyzed that the item 2,3,4,9,14,16,19 are mainly responsible for the stress among the individuals and the item 14,16 and 19 were prominent stressor.

The researches recommend that university decision makers have to provide students with a psychological, social and academic counseling in order to decrease the students stress. So they can achieve better and have a good mental health. They have to involve students with different activities to reduce the gaps between them; also they have to provide students with a suitable teaching and learning methods in order to decrease their academic stress.

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