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Impact of Somatic Stress among Undergraduate Engineering Students – An Analysis

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ABSTRACT

This study aimed to assess the somatic stress among undergraduate engineering students. Effective stress management techniques equip a person to deal with their stress. The objective of the study is to find out the impact of somatic stress among the students in undergraduate engineering courses. The study takes into account various criteria like physical, habitual, demographical and environmental factors among undergraduate engineering students. The sample comprises of 795 students studying undergraduate engineering courses in Nagapattinam and Karaikal District. Data were collected through the structured questionnaire using convenient sampling method. The findings of the study reveals that the students have an impact of somatic stressors and it would affect their studies as well as personal wellbeing. It was concluded that the management should consider some stress management techniques to students to reduce the detrimental effect of stress on health and academic performance among them. Students should be treated with utmost care in the campus by giving healthy food and beverages, constant interaction and counseling. Students should also cooperate in managing their emotions effectively by developing an optimistic view in their life style.

Keywords: Somatic Stress, Undergraduate Engineering Students, Stress Management, Fatigue.

INTRODUCTION:

Students stress is an inevitable phenomenon which is often seen in their lives. Most of the students are in the age of adolescent and they are getting as their first experience to be away from their family during their collegiate education. Transition stages in students' life create valuable opportunities for their growth and transformation. In Indian education system, undergraduate education is the post-secondary education that includes all the academic programmes up to the level of bachelors' degree which is previous to the post graduate education. There has been an increasing concern among the under graduate engineering students due to many stressors in studies as well as their personal wellbeing. Studies showed that entering into collegiate education have given strain or stress (Gall, Evans & Bellerose, 2000). Students are exposed to a considerable amount of stress which makes them to compete by constantly changing the stress management techniques. (Lakyntiew Pariat *et al.,* 2014)

Components of Somatic Stressors:

- Physical appearance
- Sleeping habits
- Living environment
- Food problems
- Missing of parental affection
- Health problems
- Feeling exhausted

- Feeling guilty by others gossiping
- Uncontrollable anger

LITERATURE REVIEWS:

According to Fisher & Hood (1987), students found in depression, anxiety, poor performance in their academic, various somatic changes are associated with homesickness. Matthias Zunhammer *et al.,* (2013) have concluded that the somatization was increased significantly due to exam stress. The stress level of the hostel inmates lived with one or more roommates was higher than the students who lived off-campus with one or more roommates. Alicia J. Horvath (2012). Wlater C. Buboltz *et al.,* (2001) have examined that the women faced high level of difficulties in sleeping and experienced more depression in somatic complaints and anxiety. Homer H. Johnson and George Hartwein, (1980) have analysed the college students aptitude, performances, outside task commitments, fulfillment, environment and somatic grievances.

MATERIALS AND METHODS:

Objectives of the Study:

1) To assess the level of somatic stress among undergraduate engineering students.
2) To find out the effect of somatic stress.
3) To give suggestive measures to overcome somatic stress.

RESEARCH METHODOLOGY:

A questionnaire survey was adopted in this paper. A questionnaire consisting of two sections was used for data collection. The first section of the questionnaire comprises of demographic information, the second section is a set of questions on somatic stressors. Participants in this study were undergraduate engineering college students admitted through management quota and single window counseling in Nagapattinam and Karaikal District. They were in between the age group of below 18 years, 19-21 years and above 21 years of age. Respondents were briefed about the questionnaire in their respective classrooms and the scale and confidentiality of the data was assured to the participants. A total number of 850 questionnaires were distributed, out of which 795 completed the questionnaire in the presence of the investigators. Convenience sampling method was used for data collection. Various tools are used to analyses the data such as ANOVA, F-test, Correlation and Percentage.

RESULTS AND DISCUSSION:

Table 1: Personal and Demographic Profile of the Respondents (N = 795)

Item	Number of Respondents	Percentage
Gender		
Male	460	57.9
Female	335	42.1
Age		
Below 18 years	116	14.6
19-21 years	616	77.5
Above 21 years	63	7.9
Mode of Joining		
Management Quota	259	32.6
Single Window Counselling	536	67.4
Year of Study		
I year	275	34.6
II year	120	15.1
III year	228	28.7
IV year	172	21.6
Residing Status		
Day Scholar	328	41.3
Hosteller	467	58.7

Source: Compiled from the data collected from the field

The basic data analysis shows that out of the selected samples 57.9% were males and the remaining 42.1% were females. The demographic information on age, mode of joining, year of study, accommodation, etc. was collected and it was found that 67.4% have joined through Single Window Counselling and 58.7% of the participants were the hostel inmates during the course of study. The remaining are residing in their houses.

Table 2: ANOVA – Comparing Means of Somatic Stressors with Demographic Profile

Demographic Profile	Category	Somatic Stressors				
		Mean	Standard Deviation	N	F	Sig
Region	Nagapattinam	4.81	0.30960	239	95.135	0.000
	Mayiladuthurai	4.14	1.14199	359		
	Vedaranyam	3.20	1.09921	103		
	Karaikal	3.29	1.14622	94		
Age	Below 18 years	4.13	1.08678	116	0.004	0.996
	18-21 years	4.12	1.13412	616		
	Above 21 years	4.12	1.08877	63		
Year of Study	I year	4.14	1.15503	275	6.483	0.000
	II year	3.75	1.27871	120		
	III year	4.30	1.01742	228		
	IV year	4.10	1.02958	172		

Source: As on Table – 1

Out of the three different segments in the table 2, only two values support the existence of difference among the perception towards Somatic Domain Stressors. The mean values ranging from 3.20 to 4.81. From the value of 0.000 it is found that there is significant difference among the respondents towards Somatic stressors with regard to the Region and Year of Study. Students in Nagapattinam region are having more somatic stressors than the students in other regions. II year students are having less level of somatic stressors than other years of students.

Table 3: t-Test for Equality of Means of Somatic Stressors Demographic Variables

Demographic Profile	Category	Somatic Domain Stressors					
		Mean	SD	N	t	df	Sig
Gender	Male	4.1025	1.13417	460	-0.443	793	0.658
	Female	4.1383	1.10753	335			
Mode of Joining the Course	Management Quota	4.1420	1.13936	259	0.426	793	0.670
	Single Window System	4.1058	1.11508	536			
Residing status	Day Scholar	4.0841	1.14452	328	-0.704	793	0.482
	Hosteller	4.1411	1.10733	467			

Source: As on Table – 1

The table 3 shows that there is no significant difference among students perception towards somatic stressors in terms of gender, mode of joining and residing status. Students are not varied in their attitude towards somatic stressors according to the gender, mode of joining and residual status which results in accepting null hypothesis evidencing.

Table 4: Perception about Somatic Domain Stressors (SDS)

Somatic Stressors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std. Dev.
Changes in physical appearance	1.0%	9.7%	14.0%	22.8%	52.6%	4.16	1.058
Decline in personal health due to lot of pressure	8.1%	10.3%	8.3%	9.2%	64.2%	4.11	1.361

Somatic Stressors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std. Dev.
Restless due to change in sleeping habits	8.4%	13.2%	12.6%	10.6%	55.2%	3.91	1.400
Change of living environment	7.3%	10.6%	8.7%	12.3%	61.1%	4.09	1.331
Facing problems with food and beverages	1.3%	8.3%	11.8%	19.1%	59.5%	4.27	1.042
Feeling guilty about gossiping by others	8.3%	13.0%	12.6%	9.8%	56.1%	3.92	1.404
Missing of parental affection	6.2%	8.2%	8.6%	18.4%	58.7%	4.15	1.238
Feeling exhausted and getting tired	5.9%	7.5%	10.1%	17.4%	59.1%	4.16	1.225
Uncontrollable anger	5.9%	6.4%	7.9%	14.0%	65.8%	4.27	1.205

Source: As on Table – 1

It is found from the table 4, that the mean perception towards Somatic stressors ranges from 3.91 to 4.27 during the study among the respondent. The statement "Feeling restless due to change in sleeping habits" has the lowest mean value of 3.91." The statements having the highest mean values are "Facing problems with food and beverages" and "Feeling that cannot control anger." "Feeling guilty about gossiping by others" has the highest value of standard deviation 1.404 and it is proved that there is inconsistency among the respondents in response to this statement.

CONCLUSION:

The study exhibits that the mean perception towards SDS among the respondent ranges from 3.91 to 4.27 during the study. The highest mean value of 4.27 bagged by the statements are facing problems with food and beverages and feeling that they cannot control their anger. It is noted that the standard deviation for the above statements are very low. Changes in physical appearance and change in living environment are not much affected the respondents. There is inconsistency in the opinion that the students are feeling restless due to change in sleeping habits and feeling guilty about gossiping by others. This study reveals that the students have an impact of somatic stressors and it would affect their studies as well as personal wellbeing. The management should consider some stress management techniques to students to reduce the detrimental effect of stress on health and academic performance among them. Students should be treated with utmost care in the campus by giving healthy food and beverages, constant interaction and counseling. Students should also cooperate in managing their emotions effectively by developing an optimistic view in their life style.

LIMITATION AND SCOPE FOR FURTHER RESEARCH:

This research study was limited to the undergraduate engineering students from Nagapattinam and Karaikal District only. The scope of the research is to assess the somatic stress among undergraduate engineering students. In future studies, other field students will be taken for somatic stress research. Based on the findings of this present research, the scope for further research is highlighted hereunder:

(a) Impact of Somatic Stress among Undergraduate Arts Students – An Analysis.
(b) Impact of Somatic Stress between Undergraduate Engineering and Arts Students – A Comparative Analysis.
(c) Impact of Academic Stress on Academic Performance among Undergraduate Students – An Analysis.

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