

A Study on Academic Stress and Coping Strategies of Medical and Engineering Colleges' Students in Semi Urban Area Tumkur

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ABSTRACT

Stress is a common concern in competitive world. It affects mental, emotional and cognitive process while dealing with the stressful situations. The present study was conducted to find the level of stress and coping strategies of Medical and Engineering students in Tumkur District, a semi-urban area of Karnataka. This study consisted of a sample of 388 Engineering and Medical students. The method of convenience sampling was used to select the sample. Student Stress Scale (Akthar, 2011) and Coping check List (Rao & Subbakrishna, 1989) were used to collect the data from respondents. The obtained data were analyzed using *t*-test and Correlation. Medical students experience more stress and adopt more coping strategies than engineering students. The study found significant gender difference in stress and coping strategies among medical and engineering students. Strategies used and applied by both the genders are completely different. Male students used problem-focused coping strategies; female students used Emotion-focused coping strategies. Moreover, there was a significant positive correlation between stress and coping strategies.

Keywords: Stress, Coping Strategies, Medical and Engineering Students.

INTRODUCTION:

In the present scenario, students are experiencing stress for various reasons, including academic demands (Appelhans & Schmeck, 2002; Markrides & Gallivan, 1998). Students are forced to explore themselves in a competitive world. The pursuit of education has become stressful (Aarti, 2010). Students are having more mental health problems and academic adjustment problems in this stressful education system. Hence, the American College Counseling Association (2012) reported that 37.4% of students seeking help stress and stress-related problems. The present study assessed the level of academic stress and the coping strategies adopted by medical and engineering students.

Medical students were experiencing more stressors in their academic life; tests and examinations, vast material, lack of time for recreation, heavy workload, and difficulties in understanding the medical terms (Yusoff&Yacob, 2010). Most of the students' health and quality of life are reduced due to stressful conditions (Paro et al, 2010). Poor mental health conditions due to academic pressure have an impact on poor academic performance (Stewart et al., 1999). Houtman et al. (2007) found that academic stress affects their physical and mental health, and it influenced them to have depression and anxiety. These findings show why academic stress needs further study among medical students.

Coping is a strategy in the stabilization process that appears among students in stressful situations and facilitates psychological adaptation (Zeidner & Endler, 1996). Coping strategies seem to be a situational factor and a specific behavior used in stressful situations (Folkman 1984). There exist different kinds of coping strategies: problem-focused coping, planning and action to help solve problems, and emotion-focused coping, like maladaptive and avoidant types, which help to reduce the emotional distress(Kohlman& Burns, 1997; Hoyyoung&Seockhoon, 2011). Students with emotional coping strategies have an emphasis on social support-seeking behavior. Moreover, emotion-focused coping strategies would relate to education in terms of getting opportunities through social connections (Michelle &Krypel, 2010). Most of the studies showed that there was a positive correlation between academic stress and coping strategies (Yet-Mee Lim, 2013; Ipseeta et al., 2011).

A previous study had found female students were experiencing more academic stress compared to male students (Hamza et al 2011). There is a well-established relationship between academic stress and coping strategies. Whoever have higher level of academic stress they try to use different kinds of coping strategies to overcome the situations (Shields, 2001). Male students adopted problem-focused coping strategies more to overcome the situations, and female students adopted emotion-focused coping strategies to reduced emotion distress caused due to stressful situations (Ramya & Parthasarathy, 2013; Eaton & Bradly, 2008; Ptacek et al., 1994; Stanton et al., 2000). In addition, female were used social support seeking behavior more than male students (Dwyer & Cummings 2001).

Based on the previous study the objectives of the present study are;

1. To find out significant difference between Medical and Engineering students in stress and coping strategies.
2. To find out significant difference between Male and Female students in stress and coping strategies.
3. To find out relationship between stress and coping strategies.

Sample:

The sample consisted of 197 medical students (97 male, and 100 female) and 191 engineering students (91 male, and 100 female). The sample was selected from semi urban area of Tumkur District, Karnataka. Students were selected based on their interest in the study and submission of their informed consent. Method of convenience sampling was used. The data was collected from November 2012 to April 2013. The sample age range from 17 years to 21 years, with both genders males (n= 188, 48.5 %) and females (n= 200, 51.5 %). The respondents were studying in Medical (n= 197, 50.8 %) and Engineering (n= 191, 49.2 %) colleges.

Tools:

The data was collected using 2 scales. To collect the personal information of the participations the demographic data sheet was given to the sample. In that personal data sheet their Name, age, gender and educational qualification, income, family type, and other details were collected. The Student Stress Scale (Akthar, 2011) was administered to the students so as to know their level of stress of respondents. This scale consists of 51 items. The items are based on Likert-Type scale ranging from 5 Always (A) to 1 never (N) with reliability of internal constancy of 0.78 and Validity of the test scale is 0.72.

Coping Check List (CCL) developed by Roa & Subbakrishna (1989) was administered the students, to find the strategies applied by the students while dealing with the stress. This check list has 70 items. It has seven subscales, they are problem focused coping (problem solving), emotion focused coping (distraction positive, distraction negative, acceptance religion and denial) and social support. The test-retest reliability is 0.74 and alpha for total scale is 0.86. Individual has to answer YES (score=1) if he is using a given method often or frequently, if answer NO (score=0) he is using the method infrequently or not at all.

RESULTS

Table 1: The Mean, SD, and *t*-values of Stress, Coping Strategies, by Qualification along with the Gender.

	Education Qualification	Mean	SD	t-value	Gender	Mean	SD	t- value
Stress	Medical	181.39	15.52	2.63**	Male	167.71	14.07	- 15.61**
	Engineering	176.69	19.50		Female	189.76	13.72	
Problem Solving	Medical	5.49	1.74	2.88**	Male	5.59	1.87	3.76**
	Engineering	4.93	2.06		Female	4.86	1.91	
	Medical	8.00	2.27	1.52	Male	7.44	2.32	-3.32**

Distraction positive	Engineering	7.65	2.18		Female	8.19	2.07	
Distraction negative	Medical	4.35	2.00	0.26	Male	4.20	1.71	-1.23
	Engineering	4.30	1.80		Female	4.44	2.05	
Acceptance	Medical	7.34	1.85	4.12**	Male	6.29	2.20	-5.90**
	Engineering	6.48	2.23		Female	7.5	1.79	
Religion	Medical	4.75	1.95	0.72	Male	4.48	1.69	-2.02*
	Engineering	4.61	1.81		Female	4.87	2.02	
Denial	Medical	4.89	1.74	0.73	Male	4.71	1.78	-1.16
	Engineering	4.75	1.83		Female	4.93	1.79	
Emotion total	Medical	29.34	5.56	2.76**	Male	27.15	5.11	-5.14**
	Engineering	27.81	5.32		Female	29.94	5.51	
Social support	Medical	3.89	1.24	2.90**	Male	3.34	1.25	-5.78**
	Engineering	3.52	1.29		Female	4.06	1.2	
Total coping	Medical	38.73	6.28	3.78**	Male	36.09	6.24	-4.29**
	Engineering	36.27	6.53		Female	38.87	6.50	

*Significant @ 0.05 ** Significant @ 0.01

The table 1 shows descriptive statistics (Mean and SD) and t-value of the stress and coping strategies between Medical and Engineering students along with the gender. The present study found that Medical students perceived higher stress score (mean= 181.39) than the Engineering students (mean= 176.69) and t-value of 2.63 was found to be highly significant difference ($p<.01$) between Medical and Engineering students in academic stress.

In addition, results showed that there was a significant difference between medical and Engineering students in problem solving (t-value, 2.886), Acceptance (t-value, 4.129) and Social support (t-value, 2.905) in coping strategies. There was a significant different between medical and engineering students in emotion-focused coping strategies ($p<.01$), medical students adapted more emotion-focused coping strategies (mean=29.34) than engineering students. Moreover, medical students were adapting more coping strategies (mean=38.73) than the engineering students (mean= 36.27) where t-value of 3.78 was found to be highly significant difference ($p<.01$) between Medical and Engineering students in adopted coping strategies towards academic stress.

The present study found that female students perceived higher stress score (mean 189.76) than the male students (mean=167.71) and t-value of -15.61 was found to be highly significant difference ($p<.01$) between female and male students in academic stress.

In addition, there was a significant difference between male and female students in problem solving (t-value, 3.762), distraction positive (t-value, -3.321), Acceptance (t-value, -5.907), Religion (t-value, -2.025) and Social support (t-value, -5.787). In overall coping strategies Female students were adapting more coping score (mean= 38.87) than the male students (mean= 36.09) where t-value of -4.29 was found to be highly significant difference between female and male students in adapted coping strategies towards academic stress. However, male students were adopting more problem solving coping strategies (mean=5.59) than female students (mean=4.86), and female students were adopted more emotion-focused coping strategies (mean=29.94) than male students (mean=27.94) it shows that high significant different ($p<.01$) between male and female students in adaptation of emotion focused coping strategies.

Table 2: The correlation coefficient between Stress and Coping Strategies

Variables	Coping strategies
Stress	-
Problem-focused Strategies	-.068
Emotion-Focused Strategies	.235**
Social support	.232**
Coping total	.224**

**Significant @ 0.01

The table 2 shows the correlation coefficient between stress and subscale of the coping check list. The study found correlation coefficient positively correlated with stress and Emotion-focused strategies (.235**), Social support (.232**) and total coping strategies (.224**) with 0.01 level. The results indicate that there is a significant positive correlation between academic stress and coping strategies in academic settings.

FINDINGS AND DISCUSSION:

Main findings of the present study were:

1. Study found significant difference between Engineering and Medical Students in stress and coping strategies. Medical students have perceived more academic stress than engineering students.
2. Study found significant difference between male and female students in stress and coping strategies. Female students have perceived more academic stress than male students.
3. Study found male student's adopted problem-focused coping strategies, female students adopted emotion-focused coping strategies.
4. Study found significant positive correlation between academic stress and coping strategies.

The present study found that Medical students were perceived higher level of stress than the Engineering students. The same result was found and reported by the previous studies (Vivek et al.,2013; Krishnakumar & Niranjana, 2011). The present study found medical and engineering students were statistically significant different ($p<.01$) in perceiving academic stress. The study found medical students were having more stressors than the non-medical students, because curriculum and educational environmental might cause to have more stress. Moreover, medical students were having more stressors such as, over workload, competition, educational, social, emotional, and financial problems which might affection their academic performance. Previous study have done and found the same result (Shashank et al., 2011).

The present study found significant difference ($p<.01$) between female and male students in academic stress. It might due to lack of emotional, social support and female students were perceived higher stress than the male students, some studies shows that college women reported feeling more stress than college men (Dyson & Renk 2006). In India, female doesn't have more freedom to leaving and communicating with any other persons and it doesn't allow, obviously lack of social support leads to disconnect the intercommunicate skills with the stressful situation, these factors leads to more stress among female students, personality factors like depression, anxiety and phobic behavior are more among female these factors also influence to having more stress among them (Lloyd & Gatrell, 1984; Amr et al., 2008).

The study result showed, there was a significant difference between medical and engineering students in problem solving Acceptance and Social support in sub scale of the coping strategies. Individual difference might happen to adapting different kinds of coping strategies. Medical students were adapting more coping strategies than the engineering students, higher the stress, the more coping strategies were adopted for avoiding psychological, physiological discomfort from the harmful academic condition. Similar study have done and found the same

result (Ipseetaet al., 2011), Yet-Mee Lim (2013) conducted a study and it revealed that specifically students perceived higher level of stress; they might have higher score with the higher coping strategies. And Shields (2001) reported that higher the level of stress was established more number of coping strategies with the higher level stressful situation.

Another finding of this study that, there was a significant difference between male and female students in problem solving, distraction positive, acceptance, religion and social support. Rest of the sub scales of coping strategies was found to be non-significant. In overall coping strategies Female students adapted more coping than the male students. In addition, study found that highly significant difference between female and male students in adapting coping strategies towards academic stress. Many studies reveled and found the same result (Dyson & Renk, 2006). However, male students adapt problem focused coping strategies compared to female students and female students used emotion focused coping strategies (Ramya & Parthasarathy, 2013). Sex difference has been found in the coping strategies. Female students used more emotional focused coping strategies such as seeking emotional support, denial, acceptance and positive reframing than the men college students (Eaton &Bradly,2008;Ptacek et al., 1994; Stanton et al., 2000), and the female used more social support coping behavior strategies than the men.

In different educational background (Medical and Engineering) stress and coping strategies positively correlated between stress and avoidant and maladaptive type of emotion focused coping strategies and social support seeking behaviour and overall total coping strategies. Ruby and associates (2009) havefound academic stress significantly higher on avoidance coping and maladaptive coping strategies. In addition, academic stress and social support seeking behaviour are positively correlated with each other, in terms of getting sympathetic attitudes toward them. Hugh Crean (2013) conceptualized the same on academic stress and social support behavior how correlated each other in social setting. In present study there is no significant difference between stress and problem focused coping strategies, but some amount of negative relations have been shown, it indicate that in medical and engineering college seems very stressful and they having more different kinds of stressors so for they not able to use more problem focused coping strategies. For this explanation, some other study shows that male and female students used emotion based coping strategies than problem focused coping strategies for their too much academic pressure in different terminology based(Ruby et al.,2009). However, overall coping strategies and academic stress are correlated positively among medical and engineering students.

Moreover, results indicate that there was a significant positive correlation between students stress and maladaptive type of emotion focused coping strategies, and they have to show social support seeking behaviour, to in terms of education to get opportunities through social connections, the previous study also found and focused on their need of social support on their academic setting (Michelle, 2010). It reveals that the level of stress increases with increase in the level of maladaptive and avoidant type of coping efforts. This result is in accordance with the earlier findings (Yet-Mee Limet al., 2013).

Implication of this study

Now a day's we can find the level of stress and stressors based on the level of stress and kinds of the stressors education institution should provide counseling assistance for who are actually straggled students in stressful situations. Through stress inoculation and by using mind and body relaxation techniques institution must train up them to overcome stressful conditions. In that kinds of trainings should train up and apply like, which are the coping strategies are very needful, and what is necessary to adapt different coping style, how those strategies working to getting relief in different situations. Stress management push up forward in this competitive world. Implementing these kinds of things in stressful condition it helps to achieve and contribute to the society, and make to get healthy society throughout the world.

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