

SOMATIZATION AND DEPRESSION AMONG UNIVERSITY STUDENTS: ANTECEDENTS AND ANTIDOTES

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Abstract. *This exploratory research aims to shed light on the sources and consequences of stress of university students of a private sector university of Peshawar, Pakistan. Studies on stress reveal that the stressors though vary in different environments but ultimately lead to physical (somatic) ill-health and even depression. The students in educational institutions increasingly face many stressors which may have negative impact on their physical and psychological health. A sample of 100 students from a private sector university of Peshawar filled a structured questionnaire. Results revealed that most of our independent variables i.e. family problems, financial problems, work overload and vulnerability to terrorism have a significant positive relationship with somatic stress & depression. However, teachers' support did not reveal any significant relationship with both our dependent variables i.e. somatic stress & depression. Stress management strategies at primary, secondary and tertiary level have been recommended to help university students in coping with the harmful effects of stress.*

Key words: Students, Family Problems, Financial Problems, Terrorism, Overload, Somatic Stress, Depression

Introduction

Stress is the general term applied to the pressure we feel in life and is almost inevitable in every walk of life however, individual differences lead to wide range of reactions to stress for example a task viewed as challenging by some individuals may produce high level of unease in others (Newstrom & Davis, 2003). This unease may cause adverse strain on a person's emotions, and physical conditions and if it becomes excessive, people may develop different symptoms of stress which can harm their health and performance. Not only professionals, but a student life is also exposed to many types of disturbing and stress creating events, although some of them are necessary for success and growth, but others are really depressing and effects health

negatively (Fish & Nies, 1996) e.g. students' financial & family problems, work overload, lack of teachers support etc. As in the current world situation, where terrorist networks are present and particularly where the terrorists' attacks have already taken place in educational institutions, terrorism can be guessed as one of the significant stressors leading to stress & depression. This study aimed to explore the linkage between different sources & consequences of stress being faced by university students of Peshawar (Kyber Pakhtunkhwa), a province of Pakistan where the educational institutes have been prone to terrorism during last two years. In this context, through this research we aim to present some suggestions in the form of recommendations particularly for the higher education administration, which has a pivotal role of facilitating all the functions of any organization to assure the implementation of policies in true letter and spirit (Nas, Rahman & Rahman, 2015).

Stress & Stressors

The dictionaries define stress as the negative feelings between individuals or groups that encounter unfavorable and uncomfortable situation which the other way round means that those who experience stress will have difference in their thoughts and experiences (D 'Zurilla & Sheedy, 1991). As far as stressor is concerned, Feng (1992) defined it as something that confronts with the ability of anyone and may have physical (somatic stress) or mental effects (depression) on an individual. The psychological factors, environmental factors, societal factors and biological factors are causes of stress. There are many experts who think of stress as the pressures in the world that produce emotional discomfort however others feel that emotional discomfort is the stress that is caused by pressures or conditions called stressors. A stress or pressure can have a positive or negative effect on an individual, dependent on the ability, strength and determination of the stress, the individual's personality traits and social support (Abbas, et al., 2014).

Stress is not static but considered as a dynamic condition in which people are faced with an opportunity or demand related to what they desire, and for which the results is perceived to be uncertain and important (Robbins, 2001). There are many experts who think of stress as the pressures in the world that produce emotional discomfort however others feel that emotional discomfort is the stress that is caused by pressures or conditions called stressors thus the concept of stress is very difficult to define in specific terms, manifest itself in both negative and positive way.

Students' Stress: Sources & Consequences

Dealing with stressors among university students and other professionals as well have been the focus of a many studies previously emerging from the English-speaking countries (Bédeian & Amenakis, 1981) and, then recently from the French-speaking countries (Perrot, 2001) but very few studies conducted in Asia (e.g. Hang-Yue, et al., 2005).

Adding up to the several previous studies which have shown that there are many factors which are related and have influence on students perceived level of depression and stress. These factors are gender, age, marital status, financial dependency, family

problems, lack of support and societal issues which varies from country to country. Folkman and Lazarus (1984) said that, these different factors should be recognized and examined to determine their significance and influence in creation of stress, therefore the management of such institutions should design the response plans to help the students in dealing with them (Bosco & Harvey, 2003). No doubt, everyone intends to reduce his/her stress and depression through motivation, as it affects the performance, (either negatively or positively). This positive or negative effect depends on how one sees it. When the stress is taken negatively, it affects health and creates mental and physical illness.

Cotton, et al. (2002), states that generally the students face different stress causing factors, and when they are unable to cope with them, they get stressed and this can be well defined as unhappiness, doubts, anxiety, disturbance etc. which causes depression and that can be temporary or long lasting. It has been cleared from many researches and studies that highly depressed and tensed students are more prone towards suicidal intentions. According to Leskow and Field (1989), stress causes depression and due to this the health matters and performance in academia is highly affected. As other health matters are concerned, it can cause the high blood pressure, which leads to risk of other diseases and even depression.

According to Walker (2005), some of the ordinary reasons of depression can be the problems with the parents and siblings, troubles in the school, difficulties in studies, faculty and staff, class fellows etc. and such issues start as a usual stress which can turn into depression and the outcomes are many health harms. According to Peden (2001) the level of stress is increasing in students as they found in one of their studies and 9.7% of freshmen were having stress and depression problems. In one of the other studies, 48% of female students and 59.3% of male students were considered to be certain in their emotional and mental health.

Studies show that stressors in any form effects the student`s health (Archer, et al., 2003) and directly affects the endocrine system, the cardiovascular system, the muscular system, and the emotions. Stress has been linked with a vast array of disease, such as headaches, muscle spasms, heart diseases, peptic ulcer, hypertension and various psychological problems ending up in depression. (Abbas, et al., 2014). The existing text and research that deals with stress revealed the negative feelings and thoughts of students about stressors leading to more disturbing factors specifically in family and other relations.

Rakesh and Shailendra (2007) studied the various groups of university students in India and found overburden and role stagnation were the most significant stressors, which the students experienced. When the outcomes and results were seen, that do not proved any main differences on any of the role stressors among first year students and their seniors. Some studies also show that teachers on a normal basis emphasize on the gaining of knowledge, and they do not pay any attention to the feelings of students, which creates the emotional stress and educational troubles for students. Moreover the students might suffer other situations like dissatisfaction, nervousness, be anxious, depression and abasement etc .If proper and timely decisions and advices are not taken and considered by the institutions, teachers and parents, these certain and unstable

feelings easily start strange behavior, which results in influencing the student learning and achievements, (Chen et al , 2006).

Towbes, et al. (1996) in “College of Life Survey” focused on the level of stress in the students’ lives. This survey consisted of items, such as interpersonal conflicts, self-esteem problems and financial problems that are considered for a long time to create stress. These were evaluated on the basis that how many times a student has to deal with them in a week. It was found that the stress in the students of first year was higher than other level and years of students. Rocha (1994) also investigated the sources of stress among students with similar studies. Hirsch and Ellis (1996) stated that the active connection between a person and the environment, in stress sensitivity and response, is especially amplified in students. The situations and troubles which the college students face can be different from those which are faced by their non-student peers. The most important academic stressors, which were discussed, subject related or time related which support Carroll's (1963) argument that learning is a function of time permitted, capacity, class of instruction and capability to know instruction. Some of the studies concluded that student stressors included: societal relations, financial matters, academic activities and routine hassles (Larson, 2006). Within each area difference, time demands, deficient resources, and new tasks had characterized stress.

Northern, et al. (2010) defined the financial stress as the failure to meet one’s financial obligations, and as a result the psychological and physical effects are caused. Much of the studies and literature regarding financial stress has paid attention on stress results. Many of the researches has pointed out the following unfavorable outcomes of financial stress: like depression, nervousness, reduced academic performance, poor health and problems in degree completion. Presnall (2008) conducted the survey regarding student stress, that survey showed that high stress causing academic problems affected their emotional and mental health. Moreover, the survey questioned 2,253 students aged 18 to 24 who were randomly selected shown that the main causes of stress were relationships issues, financial matters, family problems, and extracurricular activities. MacGeorge, Samter and Gillihan (2005) stated that depression and stress has been a big issue and trouble for students. Intrapersonal and interpersonal factors were examined by the psychologists that worsen college stress. The study showed that stress was a usual part of their daily living. The study indicated that student’s face encounters many and unique kinds of stress, getting good grades, managing schoolwork with other tasks, decisions about future careers were the common stressors.

An important student stressor particularly nowadays is vulnerability to terrorism. The terrorist attacks on students not only affect their immediate health and life, but it leaves long term psychological scars of hatred and aggression against some religious groups and minorities (Argyrides & Downey, 2004; Pyszcynski, et al., 2002). To the present date a very little amount of research has been done on the students stress related to terrorism. This is because very few instances have been noted where the students were directly targeted, and it was perceived that most institutions of education will not be the main targets of terrorism in the future. However, it is important to know and understand the effects of students stress related to terrorism particularly in wake of terrorists attacks conducted in educational institutes.

Research Context

The research in the field of stress and depression has been mainly conducted in the Western context. However in this era of change, where the Pakistani universities are striving too hard to have good rankings, and as there is a trickle down impact on students as well, there is a need to browse the Pakistani students' stress, where there are significant differences in socio-cultural environment. This research was conducted in Pakistani context involving private universities of Khyber Pakhtunkhwa (KPK) province. Pakistan is a developing country, ranked 6th highest in world population, estimated as approximately 200 million in July 2014 which makes 2.61% population of the whole world. Pakistan being a rapidly developing country is one of the "Next Eleven", the eleven countries that, along with the BRICs, which are the world's emerging markets (Zahirullah & Adeel, 2015), have a high potential to become the world's largest economies in the 21st century. However, in recent years, Pakistan's economy has suffered a lot due to many factors particularly energy crises, law and order situations and war against terror, political and social instability. Being a low income country, confronted with many challenges on economic front, Pakistan faces many issues pertaining to jobs creation which is the failure of the economy being unable to create jobs in comparison with the increasing population. These economic problems of Pakistan have a trickle down impact on the students who desire to study at higher level (universities), even get admission in the universities but with a fear of unknown. The number of courses being offered and student enrollments also increased with an appreciable rate e.g. the number of students during 2000-2001 was 276,274 which jumped to 1,230,000 in 2013-14.

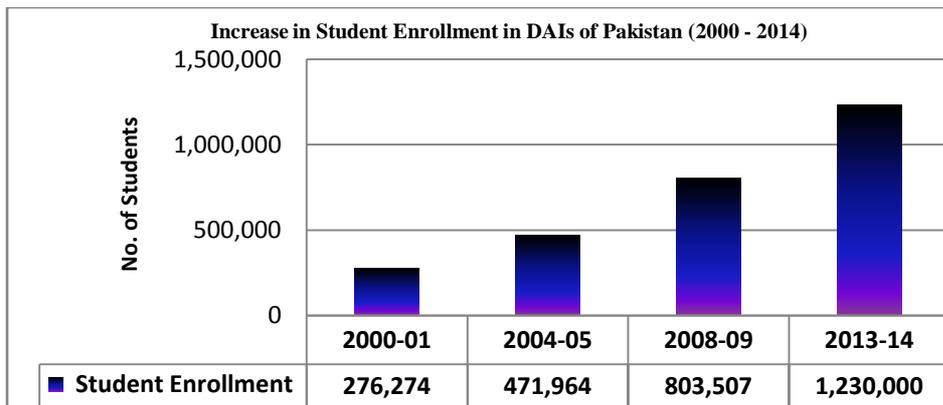


Figure 1 Increase in Student Enrollment in DAIs of Pakistan (2000 - 2014)

The rapid growth of private sector and public sector universities in most of the developing countries has initiated an environment of competition, which in turn has changed the conventional culture of a university where not only the faculty but also the students have much more challenges to overcome, more financial issues, have more performance pressures, more overload and work-life conflict and have perception of more vulnerability to terrorism particularly after the incident of Army Public School in 2014 and Bacha Khan University in 2016. Hence there is an ominous need to explore

the higher education sector within the context of student stress, which is an area of main importance for universities in the developing countries like Pakistan.

Thus, this research effort was made to explore the following stress related issues with particular reference to university student stress and propose recommendations to overcome these issues

- What are the perceptions of students regarding sources of stress?
- What is the impact of those stressors on the psychosomatic health and behaviors of the students?
- Which stressors have the most significant impact of somatic stress & depression of the university students?

Research Design

This exploratory study is basically quantitative in nature, mainly based on statistical applications and use of quantitative techniques (in SPSS). However, to enrich the understanding about the research problem we decided to conduct a brief qualitative study as well. Thus for this study we initially conducted the qualitative study using brief interviews and for the analysis, we preferred to use quantitative study using questionnaires.

Preliminary Qualitative Study

As mentioned above, we conducted brief structured interviews for our qualitative study. These interviews enlightened us regarding the perceptions of students of a private sector university (of KPK) regarding the different sources and consequences of stress. We conducted 20 informal interviews to get an insight into the above mentioned issues. From the feedback of the students, we concluded the following sources & consequences of stress to be explored in this study; Work Overload, Vulnerability to Terrorism, Family Problems, Financial Problems, Lack of Teachers' Support, Somatic (Physical) Stress, & Depression.

Quantitative Study

This quantitative study was based on detailed questionnaires and the target sample was students of a private sector university of KPK. We focused on quantitative data collection techniques and used questionnaires using cross sectional design. We used the cross-sectional research design using survey questionnaire so as to comply with the research questions under consideration and the study objectives.

Population

This study focused on the students of private sector universities of Pakistan. The rationale for selecting higher education sector as a population for this study is the dynamic and challenging work environment (for the students) in universities of Pakistan, which has observed an abnormal/mushroom growth during the last decade.

Thus despite of the financial crunch and negative image of Pakistan because of terrorism and political instability during last ten years, the higher education sector of Pakistan witnessed growth and prosperity which has not been observed in any other sector. We thus decided to select higher education sector as a population for this study and our target population for this exploratory survey was a private sector university of Peshawar (Khyber Pakhtunkhwa-KP)

Sampling

We used non probability sampling for drawing the sample for this study. A convenience based sample of 110 regular students of a private sector university was selected for gathering information through questionnaires. In convenience sampling, members of the population are chosen based on their relative ease of access and is suitable when the researchers have little time for data collection as it is one of the limitations of the current study.

Operationalization and Measurement of Constructs

To measure somatic stress & depression, we did not take the risk to construct new instruments but preferred to use the already tested instruments and a survey instrument/questionnaire based on five point Likert scale was. Because of the complexities involved in defining & measuring stress, we preferred to use a simplified version of the Four Dimensional Stress Questionnaire (4DSQ – Terluin et al., 2004) for this study and limited our study to somatization and depression only but not all the 4 dimensions of stress as studied by Terluin, et al. (2004).

However, as discussed earlier, to get an understanding of some of the stressors (with particular reference to university students) tools used in this study and to adapt the already existing scales in this particular context, 20 students were interviewed which provided us with a number of insights regarding sources of stress, which in-turn helped us to construct some survey instruments according to our needs.

Variables of Study

As mentioned earlier, this study aimed to explore the sources & consequences of stress among university students. Table 1 shows the list of the Independent & Dependent Variables used in this study.

Table 1 *List of Variables*

Independent Variables (Stressors)	Dependent Variables (Outcomes)
Work Overload	Somatic Stress (physical ill – health)
Work Overload	Depression (mental ill – health)
Vulnerability to Terrorism	
Family Problems	
Financial Problems	

Lack of Teachers' Support

All the measures were based on five point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Survey questionnaires collection

The survey forms were distributed personally to the respondents, and were also collected personally from all the respondents. This effort helped us to proactively overcome some of the problems related to missing values in data. While distributing the survey forms, some of the apprehensions of the students pertaining to anonymity and our research aims were specifically discussed. 10 of the semi-filled questionnaires were removed and only completely filled (n=100) questionnaires have been considered for our study. In addition, we briefly interviewed few of the students who seemed to be interested in this noble effort.

Table 2: *Demographic Break-up of Sample (Questionnaires Collected n=100)*

Demographic Variables		Frequency	Percent	Cumulative Percent
Gender	Male	86	81,0	81,0
	Female	14	14,0	100,0
	Total	100	100,0	
Course Type	Science & Technology oriented	66	66,0	66,0
	Social Sciences & Theory oriented	34	34,0	100,0
	Total	100	100,0	

Initial Data Analysis

Once the data was obtained, it was coded into SPSS and preliminary data analysis was conducted. Preliminary data analysis was aimed to clean our data for further analysis and we analyzed missing values, psychometric properties and descriptive statistics of all variables.

Variance inflation factor

The Variance Inflation Factor (VIF) and tolerance are both widely used measures of the degree of multicollinearity in a regression model. As a rule of thumb, VIF more than 4.0 may require further investigation. In our case we found no issue of multicollinearity as the VIF values were less than 4.

Principal component analysis of students stressor scale

Our initial exploratory factor analysis on the items of students stressors scale generated a five factor solution. Table 3 shows that there were few items which had multiple factor loadings on some other factors so we suppressed those items. After deleting those items, exploratory factor analysis showed very clear loadings of the five independent variables of our study i.e. Work Overload, Vulnerability to Terrorism, Family Problems, Financial Problems & Lack of Teachers' Support.

Table 3: *Rotated Component Matrix – Stressors*

	Rotated Component Matrix (Initial)						Rotated Component Matrix (Final)				
	Component						Component				
	1	2	3	4	5		1	2	3	4	5
Tsupport1	.713					Tsupport1	.719				
Tsupport2	.660					Tsupport2	.628			.428	
Tsupport3	.804					Tsupport3	.808				
Tsupport4	.819					Tsupport4	.800				
Tsupport5	.840					Tsupport5	.835				
Woverload1		.592	.510			Woverload3				.786	
Woverload2		.629	.539			Woverload4				.809	
Woverload3					.748	Woverload5				.646	
Woverload4					.734	Terrorism4			.846		
Woverload5					.611	Terrorism5			.783		
Terrorism1		.537	.463			Terrorism2			.831		
Terrorism4			.814			Terrorism3			.734		
Terrorism5			.742			Fam_prob1		.814			
Terrorism2			.772			Fam_prob2		.807			
Terrorism3			.706			Fam_prob3		.731			
Fam_prob1		.698				Fam_prob4		.758			
Fam_prob2	.410	.719				Fin_prob1					.674
Fam_prob3		.645				Fin_prob2					.635
Fam_prob4	.433	.606				Fin_prob3					.734
Fam_prob5					.688	Fin_prob4					.604
Fin_prob1					.645						
Fin_prob2					.573						
Fin_prob3					.765						
Fin_prob4					.491						
Fin_prob5		.549									

Note: The factor loadings equal and less than 4 are suppressed & Cronbach alpha values for all the sets of items mentioned in Final Rotated Component Matrix was more than 70%.

Psychometric Properties of Somatization and Depression Scale

As already discussed, we used a revised and adapted version of Four Dimensional Stress Questionnaire (4DSQ – Terluin et al., 2004) for this study and limited our operationalization to Somatization and Depression. Our questionnaire consisted of 8 items for somatic Stress and 7 items for Depression

B: Principal component analysis of somatization and depression

Our initial exploratory factor analysis of somatic stress and depression (total 15 items) generated a 2-factor solution (see table 4), and it revealed few abnormalities in the form of multiple loadings. When four items of Somatic Stress and three items of Depression were removed, the exploratory factor analysis showed clear loadings for both the dependent variables of our study.

Table 4: *Rotated Component Matrix – Somatic Stress & Depression*

Rotated Component Matrix (Initial)			Rotated Component Matrix (Final)		
	Component			Component	
	1	2		1	2
Somatic1	0.595	0.448	Somatic2	0.659	
Somatic2	0.677		Somatic6	0.830	
Somatic3	0.601	0.545	Somatic7	0.755	
Somatic4		0.524	Somatic8	0.899	
Somatic6	0.802		Depress1		0.637
Somatic5	0.481	0.546	Depress3		0.830
Somatic7	0.741		Depress5		0.750
Somatic8	0.878		Depress6		0.772
Depress1		0.617			
Depress2	0.643	0.508			
Depress3		0.849			
Depress4	0.506	0.487			
Depress5		0.657			
Depress6		0.787			
Depress7	0.481	0.664			

Note: The factor loadings equal and less than 4 are suppressed & Cronbach's alpha values for all the sets of items mentioned in Final Rotated Component Matrix was more than 70%.

Regression Analysis

To test the results, regression analysis was conducted between different variables including student stressors as independent variables while somatic stress & depression as dependent variables. The results are as under:

Tables 5a *Regression Analysis (Somatic Stress as Dependent Variable)*

(a) Model Summary

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.504 ^a	19.105	5	94	0.000

a. Predictors: (Constant), TeacherSupport, FinProb, Terrorism, WOverLoad, FamProb

Tables 5b *Regression Analysis (Somatic Stress as Dependent Variable)*

(b) Coefficients^a

Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std. Error	Beta			
	1	(Constant)	-0.009	0.249		
	FamProb	0.301	0.090	0.340	3.352	0.001
	FinProb	0.267	0.093	0.241	2.862	0.005
	WOverLoad	0.386	0.087	0.421	4.424	0.000
	Terrorism	0.008	0.088	0.008	0.092	0.927
	TeacherSupport	-0.100	0.090	-0.116	-1.118	0.266

a. Dependent Variable: SOMATIC_STRESS

Summary of the Findings / Results (Somatic Stress as Dependent Variable)

Student Stressors as independent variable against Somatic Stress dependent variable

- 1- Family Problems has a highly significant positive impact on Somatic Stress. (Beta = 0.301^{**})
- 2- Financial Problems has a highly significant positive impact on Somatic Stress. (Beta = 0.267^{**})
- 3- Work Overload has a highly significant positive impact on Somatic Stress (Beta = 0.386^{**})
- 4- Vulnerability to Terrorism & Teachers' Support has no significant impact on Somatic Stress.

Table 6a *Regression Analysis (Depression as Dependent Variable)*

(a) Model Summary

Mode	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	,448 ^a	15,280	5	94	,000

a. Predictors: (Constant), TeacherSupport, FinProb, Terrorism, WOverLoad, FamProb

Tables 6b *Regression Analysis (Depression as Dependent Variable)*

(b) Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
	(Constant)	0.068	0.254		0.268	0.789
	FamProb	0.224	0.092	0.261	2.442	0.016
	FinProb	0.197	0.095	0.184	2.069	0.041
1	WOverLoad	0.349	0.089	0.394	3.918	0.000
	Terrorism	0.195	0.090	0.187	2.157	0.034
	TeacherSupport	-0.108	0.092	-0.130	-1.184	0.239

^aDependent Variable: Depression

Summary of the Findings / Results (Depression as Dependent Variable)

Student Stressors as independent variable against Depression dependent variable

- 1- Family Problems has a significant positive impact on Depression. (Beta = 0.224^{*})
- 2- Financial Problems has a significant positive impact on Depression. (Beta = 0.197^{*})
3. Work Overload has a highly significant positive impact on Depression. (Beta = 0.349^{**})
4. Vulnerability to Terrorism has a significant positive impact on Depression. (Beta = 0.195^{*})
5. Teachers' Support has no significant impact on Depression

Discussion and Conclusion

Our results in the last section revealed that most of our independent variables i.e. family problems, financial problems, work overload and vulnerability to terrorism have a significant positive relationship with somatic stress & depression. However, teachers' support did not reveal any significant relationship with both our dependent variables. Most of our results corroborate with the studies of past researches in the same domain e.g. Presnall (2008) revealed that high stress causing academic problems affected students' emotional and mental health and that the main causes of stress were financial matters, family problems and extracurricular activities whereas Rakesh and Shailendra (2007) found role overburden and role stagnation as the most significant stressors, which the students experienced. Our results also revealed work-overload as one of the most significant stressor ($p=.000$) leading to somatic stress & depression. Thus it is important for the academicians to further identify the reasons due to which the students feel overburdened which leads to stress & depression (as revealed by our results) and may finally lead to low performance.

It's very obvious that students' problems related to finances have increased during the last decade, specifically the tuitions and college fees are getting expensive day by day. Students and their families are struggling hard to meet their financial requirements and this has a spillover effect on other important attributes of life. In our case, we found financial problems as a significant contributor towards somatic stress & depression among students and our results corroborate with few of the studies in past e.g. Towbes and Cohen (1996), Larson (2006), Presnall (2008) and few others. However there are different options which can be considered in order to provide assistance for students in this regard (Alicia, 2012) and these will be further discussed in the forthcoming section i.e. recommendations.

Surprisingly, teachers' support revealed no significant relationship either with somatic stress or with depression. This doesn't mean that teachers' support as a variable should be taken for granted in such studies. One cannot make a sweeping statement and generalize these results on other institutes of higher education. We had a small (convenience based) sample of hundred students who may not have any issues pertaining to teacher's support or our respondents may not have understood this variable the way we were expecting.

As mentioned earlier, the terrorist attacks on students affect their immediate health and life, and it also leaves long term psychological wounds of aggression against those who are involved in it (Argyrides & Downey, 2004; Pyszczynski, et al., 2002). Our results also revealed a significant relationship of "Vulnerability to Terrorism" with depression. The variable related to "terrorism" was specifically added to our study though to the present date a very little amount of research has been done on the students stress related to terrorism. As mentioned earlier, Pakistan in general and KP province in particular have been in hot waters because of issues pertaining to terrorism. To be more specific, after the two terrorists incidents in KP province i.e. Army Public School in 2014 and Bacha Khan University in 2016, vulnerability to terrorism has increased which in turn has increased the security concerns with particular reference to terrorism. As very few instances have been noted in West, where the students were directly targeted by terrorism, and it was a perception that educational institutions will

not be the main targets of terrorism very little research covers this aspect. In current scenario particularly in the context where this research endeavor has been done, it is important to know and understand students' perception related to terrorism and its impact on stress which in turn will help us to suggest managerial implications to overcome its negative impact.

Recommendations

As discussed earlier, stress can be subjective by one's ability to well manage with stressful matters and situations (Segal, 2013). For example when the students cannot deal with stress effectively, they feel nervous with too much worrying because of the failure to cope with their negative thoughts. In this context (of coping) with particular reference to our results (already discussed), we recommend the following suggestions to be incorporated on the primary, secondary or tertiary level in the institutes of higher education either by the captains of the institute or the students and their families:

Coping with Financial Problems

As discussed earlier, there are different options which can be considered in order to provide assistance for students to overcome the financial issues (Alicia, 2012) e.g. student's funds & loans by the university, government or NGOs which provide financial assistance to the students in their education. The funds which are provided by them can help the students to overcome their temporary financial problems and tuition fees. Such loans can be paid back by the students in installments once they get their jobs. Such loans should have fixed longer payback period and so they should be repaid however the donor bodies must make sure that such funds and loans are distributed among the needy students only.

In the west, there is another type of financial assistance called payday loans which are cash loans given to needy students, for a limited time of a month or two. These payday loans are very easily approved and processed. If such type of facility is considered to be started in Pakistan, this will be quite helpful for the students.

While it is impossible to get a fulltime or part-time job for the students during their education, the students can meet their financial problems if the university provides them internship opportunities (on-the-campus or off-the campus). Such initiatives also augment students' confidence and may help the students to fetch jobs easily once they complete their studies.

Last but not the least, the financial literacy of students should be increased through which the students should be made aware of the funds & loans for which they are entitled. The financial literacy and personal finance seminars/workshops should be conducted.

Coping with Terrorism Fear

As discussed earlier, fear of terrorism is one of the stressors factor it has long lasting emotional and physical effects on students and the main aim of coping is to reduce the level of stress and stress causing factors (Fleishman, 1984). The stress related to terrorism and its fear has very deep psychological and mental effects, it can be reduced and minimized by the employment of trained security staff, installation of necessary security related equipment which includes walk through gates, small handy scanners, CCTV and alarm systems etc. One of the psychological effects of this measure is that students generally consider such equipment reliable and feel mentally relaxed and safe.

In addition, self-defense trainings should be initiated, which are given to the students regarding their self-defense in any problematic situation. it helps the students to understand and identify the threat and also shows the best possible ways to save themselves and get out of such panic situation, if occurs. These trainings are considered to be very helpful to minimize the stress related to terrorist activities.

Overcome Family Problems

As discussed earlier, students' family problems has a direct influence on their stress and some recommendations for the family members (particularly parents) in which they can help their children are

1. The parents should make sure to be aware of their child's emotions and feelings with particular reference to their studies & performance pressures.
2. Family members should encourage the students to tell and express their feelings.
3. Friendships and good social interactions must be encouraged by the family members and the children should be supported in case of their failures.
4. The use of drugs alcohol and other harmful activities must be discouraged by the family. In addition, good nutrition and sports activities should be kept in consideration by the parents along with other requisites of life.

Work Over Load Management

Many of the Universities and colleges focuses on stress management interventions and trainings, so that their students are able to cope with stress but the root cause of stress is ignored, which is work over load (Mueller, 2015) which can be firstly reduced by setting priorities, organizing & planning i.e. prioritize different jobs according to their significance, high value jobs are needed to be completed at first and then should move forward towards low priority tasks.

It has been seen that mostly when the students get stressed because of overload, they start panicking, and may expect the worst results and it is very important for the student to control his/her feelings and emotions.

During the times when students are overloaded with tasks (e.g. during examinations, projects etc.), not necessarily all the tasks are important. Unnecessary

and useless tasks, which are time consuming, should be completely eliminated from to-do list. Such tasks are needed to be eliminated, and they should not be carried on, so that time is saved and other necessary works are completed.

The habit of procrastination should be avoided as it adds a lot to work overload. When the tasks are not completed in time intentionally, because of lethargy or any other reason, the tasks pile up and later on the students are unable to differentiate between urgent & important tasks, cannot prioritize and many important tasks remain pending. In this context we also recommend that the educational institutes should regularly conduct workshops on “Time Management”.

Limitations and Scope for further research

One of the limitations of this exploratory study was that because of shortage of time and resources, it targeted a small sample of 100 students of a private sector using convenience based sampling. Based on this initial small scale pilot study, there is so many scope for future research for example a comparative analysis of public and private sector universities can be researched. We didn't used coping as a moderating or mediating variable so for the future researches, it is suggested to use the coping variables being used by students e.g. proactive planning, avoidance, turning to religion, social support etc.

Students performance is one of the important variable which is usually on top priority for academicians (Shah, Rahman, & Abbas, 2015) but this important variable has not been studied in current research (because of shortage of time in inaccurate data). Thus relationship between stressors, stress, coping skills and performance can be focused with reference to different type of departments and different types of universities by the future researchers. Furthermore in future the control variables e.g. gender, department, status in etc. should also be considered to see the impact of these demographics on different dimensions of stress. One of the limitations of this study is that it is a cross-sectional research rather than longitudinal. We also recommend the future researchers to conduct longitudinal studies in this domain.

References

- Abbas, S. G., & Ahmed, J. (2014). Quantitative and qualitative dimensions of stress: A snapshot approach. In *ECRM2014-Proceedings of the 13th European Conference on Research Methodology for Business and Management Studies: ECRM 2014* (p. 373).
- Abbas, S. G., Saleem, I., & Roger, A. (2014). Investigating the missing linchpin between causes and outcomes of psycho-somatic stress. *Pakistan Journal of Social Sciences*, 34(2), 409-422.
- Archer, J, Christina, C., & Redneck, J. E. (2003). *University of Florida Counseling Center 301 Peabody Hall, Gainesville FL 32611* (352) 392-1575.
- Argyrides, M., & Downey, J. L. (2004). September 11: Immediate and long-term effects on measures of aggression, prejudice, and person perception. *North American Journal of Psychology*, 6, 175-188.

- Bedeian, A. G., & Armenakis, A.A. (1981). A Path-Analytic Study of the Role Consequences of Role Conflict and Ambiguity. *Academy of Management Journal*, 24(2), 417-424.
- Bosco, S. M., & Harvey, D. (2003). Effects of terror attacks on employment plans and anxiety levels of college students. *College Student Journal*, 37, 438-446.
- Carroll, J. A. (1963). A model of school learning. *Teachers College Record*, 64, 723-733.
- Chen, F. S., Lin, Y. M., & Tu, C.A. (2006). A study of the emotional intelligence and life adjustment of senior high school students. *World Transactions on Engineering and Technology, Education*. 5(3), 473-476
- Cotton, S. J., Dollard, M. F., & De Jonge, J. (2002). Stress and student job design: Satisfaction, well-being, and performance in university students. *International Journal of Stress Management*, 9(3), 147-162.
- D'Zurilla T. J., & Sheedy, C. F. (1991). Relation between social problem-solving ability and subsequent level of psychological stress in college students. *Journal of Personality and Social Psychology*, 61(5), 841-846.
- Feng, G. F. (1992). *Management of Stress and Loss*. Taipei. Psychological Publishing Co., Ltd.
- Fish, C., & Nies, M. A. (1996). Health promotion needs of students in a college environment. *Public Health Nursing*, 13, 104-111.
- Fleishman, J. A. (1984). Personality characteristics and coping patterns. *Journal of Health and Social Behavior*, 229-244.
- Folkman, S., & Lazarus, R. L. (1984) If it changes it must be a process: study of emotion and coping during 3 stages of a college examination. *Journal of Personality and Social Psychology*, 48, 150-170.
- Hang-yue, N., Foley, S., & Loi, R. (2005). Work role stressors and turnover intentions: A study of professional clergy in Hong Kong. *International Journal of Human Resource Management*, 16(11), 2133-2146.
- Hirsch, J. K., & Ellis, J. B. (1996). Differences in life stress and reasons for living among college suicide ideators and non-Ideators. *College Student Journal*, 30, 377-384.
- Hudd, S. S., Dumlao, J., Erdman-Sager, D., Murray, D., Phan, E., Soukas, N., & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal*, 34(2), 217-228.
- Larson, E. A. (2006). Stress in the lives of college women: Lots to Do and Not Much Time. *Journal of Adolescent Research*; 21(6), 579-606.
- Leskow, A., & Summer, F. (1989) *Academic stress and health changes in female college students*. *Health Education*, 20, 18-21.
- MacGeorge, Samter., & Gillihan, (2005). Depression and college stress among university undergraduates. *Journal of College Student Development*, 49(5), 412-424.

- Nas, Z., Rahman, W., & Rahman, H. (2015). Development administration, human resource development, and the prospects of Pakistan's public sector reforms: The Needs vs. Challenges, *Sarhad Journal of Management Sciences*, 1(1), 1-8.
- Newstrom, J. W., & Davis, K. (1986). *Human Behavior at Work*. New York. McGraw-Hill.
- Northern, J. J., O'Brien, W. H., & Goetz, P. W. (2010). The development, evaluation, and validation of a financial stress scale for undergraduate students. *Journal of College Student Development*, 51(1), 79-92.
- Peden, A. R., Rayens, M. K., Hall, L. A., & Beebe, L. H. (2001). Preventing depression in high risk college women: A report of an 18 month follow-up. *Journal of American College Health*, 49(6), 299-307.
- Perrot, S. (2001). *L'entrée Dans L'entreprise Des Jeunes Diplômés*, Paris, Economica.
- Pyszcynski, T., Solomon, S., & Greenberg, J. (2002). In the wake of 9/11: The psychology of terror. *Washington, DC: American Psychological Association*.
- Rakesh, K. A., & Shailendra S. C. (2007). Examining role stress among technical students in India. *Social Psychology of Education*, 10(1), 77-91.
- Robbins, S. P. (2001). *Organizational Behavior*, 14/E. Pearson Education India.
- Rocha-Singh, I. A. (1994). Perceived stress among graduate students: Development and validation of the graduate stress inventory. *Educational & Psychological Measurement*, 54(3), 714-727.
- Shah R., Rahman W., & Abbas S. G. (2015) An analysis of students academic performance: A case study of Sarhad University, Peshawar, Pakistan. *Sarhad Journal of Management Sciences*, 1(1), 31-41.
- Terluin B., Van Rhenen W., Schaufeli W. B., & De Haan, M. (2004). The four-dimensional symptom questionnaire (4DSQ): Measuring distress in a working population. *Work and Stress*, 18, 187-207.
- Towbes, L. C., & Cohen, L. H. (1996). Chronic stress in the lives of college students: Scale development and prospective prediction of distress. *Journal of Youth and Adolescence*, 25(2), 199-217.
- Volpe, J. F. (2000). A guide to effective stress management. *Career and Technical Education*, 48(10), 183-188.
- Zahirullah & Rahim, A. (2015). Comovement between Pakistani equity market and BRICS countries: An investigation through co-integration analysis. *Sarhad Journal of Management Sciences*, 1(1), 18-30

Web References

- [Alicia M.](http://www.howtolearn.com/2012/09/how-to-overcome-financial-difficulties-while-studying/), (2012). How to overcome Financial difficulties while studying. <http://www.howtolearn.com/2012/09/how-to-overcome-financial-difficulties-while-studying/>
- [Mueller S.](http://www.planetofsuccess.com/blog/2010/how-to-beat-work-overload/s) (2015). How to beat work overload? <http://www.planetofsuccess.com/blog/2010/how-to-beat-work-overload/s>”
- Presnall L. (2008). School-related issues cause anxiety. *The Daily reveille*. <http://exploringpsy.blogspot.nl/2015/04/stress-in-studentslife-stress-levels.html>
- Segal J., Smith M., Robinson L., & Segal R., (2013). Stress at Work. Tips to Reduce and Manage Job and Workplace Stress. www.helpguide.org/articles/stress/stress-at-work.htm
- Walker, J. (1986). Adolescent stress and depression. [*Minnesota Extension Service factsheets*]. <http://www.extension.umn.edu/youth/research/adolescent-stress-and-depression/33-37>