

PERCEIVED STRESS AND ITS ASSOCIATION WITH POSITIVE MENTAL HEALTH AND ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS

Safina Khan, Syeda Shamama-Tus-Sabah,

Govt. Post Graduate College Satellite Town, Rawalpindi Pakistan

ABSTRACT

Objective: To investigate the relationship between perceived stress, positive mental health and academic performance among university students.

Study Design: Correlational study.

Place and Duration of Study: Data was obtained from different universities of Rawalpindi and Islamabad, Pakistan including Bahria University, PMAS Arid Agriculture University, Foundation University, COMSATS University and Riphah International University from Dec 2018 to Apr 2019.

Methodology: Sample of 261 students of ages 19-25 years (mean age 21.17 ± 1.71 SD), recruited from BS-programmes from different universities by using purposive sampling technique to explore the relationship between perceived stress, positive mental health and academic performance among university students. Respondents were assessed on Demographic form, Perceived Stress Scale and Warwick-Edinburg Mental Health Wellbeing Scale.

Results: Linear regression was run to study perceived stress as a significant predictor of positive mental health and academic performance of undergraduates. The students mean age was 21.17 ± 1.71 SD. The results showed perceived stress a significant predictor of positive mental health ($R=0.487$; $R^2=0.237$, $F=80.328$, $p<0.01$) and academic performance ($R=0.224$; $R^2=0.050$, $F=13.636$, $p<0.01$).

Conclusion: It is concluded from findings of this research that perceived stress has a significant negative impact on positive mental health and positive impact on academic performance.

Keywords: Academic performance, Perceived stress, Positive mental health.

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INTRODUCTION

Perceived stress is a degree to which our life situations are evaluated as hectic and troubled¹. Transactional Model of Stress by Lazarus and Folkman² states that “stress comprises certain association between an individual and his surroundings that is evaluated by individual as strenuous or surpassing his or her abilities and endangering his or her wellbeing” (p.19). Researchers have extensively acknowledged many stress indicators like lacking vigor, elevated blood pressure, disappointment, escalation in appetite, thinking trouble, annoyance, tension as well as anxiety³⁻⁵.

Previous literature shows two common types of stress which are found to be frequently discussed. First is the negative form called distress

that triggers person for responding destructively and can ultimately causes collapse of body. Second is the positive form called as eustress which is a consequence from trials and persuaders in everyday life of a person which would likely to boost optimum enactment which results in accomplishment of goals and high dignity⁶.

Nowadays, three most important kinds of stressors which have been explored through literature: life events, chronic strains, and daily hassles. Life events comprise uncertain situations which permit changes in behavior for a quite short timespan (e.g. child-birth, separation). Chronic strains include repeated stresses that require modifications over prolonged timespan (e.g. immobilizing injury, scarcity, conjugal complications). Daily hassles are little occasions that appeal for important behavioral changes during the course of a day (e.g. visit of unexpected guests)⁷.

Correspondence: Dr Syeda Shamama-Tus-Sabah, Associate Prof, Govt. Post Graduate College, Satellite Town, Rawalpindi Pakistan
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Positive mental health is described as a supportable and positive state of mind which permits people and nations to prosper and succeed⁸. Positive mental health relates to an individual's psychological working, life-satisfaction and capability to progress and sustain equally profiting relations⁹. Marie Jahoda presented a multi-dimensional model of positive mental health, in which she differentiated six bench-marks: i) person having a self-concerning perspective; ii) the extent of progress, development, and self-actualization; iii) endurance and consistency of behavior; iv) sovereignty and independence; v) genuineness; and vi) conservational proficiency¹⁰. There are two main perspectives of positive mental health which consider two stand points: (i) the individual's experience of pleasure (emotional impact) and satisfaction in life (the hedonic perspective); and (ii) positive psychological working, respectable relations with other people and self-realization (the eudaimonic perspective)¹¹.

Academic performance is elementary benchmark used for evaluation of students' progress in their studies, and it is important to apprehend the aspects which could be accountable for defining, foreseeing, facilitating and instigating discrepancy in academic attainment¹². Academic performance is chiefly measured as the marks gained in various tests and examinations¹³. Undergraduate students mentioned that among all other health factors stress remained the most common aspect that effect their academic performance, because stress detrimentally has an impact on physical as well as psychological health¹⁴. Person Environment Model is one valuable model for gaining insight regarding stress amongst university students. This model proposes that strenuous occasions are apprehended by people as challenging or alarming. Apprehending educational objectives as challenging cause stress and as a result, stress generates proficiency as well as boosts learning competency. Conversely, apprehending education as an alarming take along such stress which causes miserable sense of defeat, thus resulting in poorer academic achievement⁵.

Stress affects wellbeing, physical and mental health and consequently the performance¹⁵. Clearly, stress influences students' academic performance. Various sorts of stressors for instance time management, economic problems, health issues, individual problems, assignments, etc. generate burden on the students which effect their academic performance¹⁶. The current study aimed to assess the association between perceived stress and positive mental health among the university students and how their academic performance would be affected by the perceived stress. As the culture differences exist, the study contributes in elucidating the concepts of perceived stress and positive mental health in Pakistani culture. The current study was conducted to highlight these issues and spread the mental health awareness so that people would be able to overcome the psychosomatic issue they face.

METHODOLOGY

The correlational study was conducted in Rawalpindi and Islamabad. Convenient sampling was used to collect data. A total of 261 students (female= 166, male=95) were selected from five different universities in two cities of Pakistan; Rawalpindi (n=159) and Islamabad (n=102). Sample size was decided according to the formula $50 + 8k$ given by Field¹⁷ where 'k' is the number of predictors. The sample included unmarried students from intact families. Cases of separation or divorced families were excluded to avoid possible confounding.

The demographic form was given to participants to obtaining demographic information which includes roll number, gender, relationship status, university, department, semester and CGPA.

The original 10-item version of Perceived Stress Scale¹ was used to assess the perceived stress of the students. This is 5-point Likert scale with 0, 1, 2, 3 and 4 possible scores ranging from 0 to 40. Items 4, 5, 7 and 8 are reverse scored, e.g. 0=4, 1=3, 2=2, 3=1 and 4=0 and then sum across all 10 items. The scale is applicable to individuals'

age from 18 and older. Overall reliability coefficient range from 0.84 to 0.86.

The original 14-item version of Warwick-Edinburg Mental Health Wellbeing Scale⁹ was used to assess the positive mental health of students. The scoring of the scale can be done by calculating the sum of all responses given to all items responded on 5 point Likert scale (with scores from 1 = 'none of the time' to 5 = 'all of the time'). The range of scores is 14 to 70. The high score indicates a high level of mental wellbeing. There is no "cut off" scores of the scale as it does

The academic performance was evaluated by taking CGPA of all the participants. Data were entered into the SPSS version 20 for analysis. At first the descriptive analysis was done and then for determining association between perceived stress, positive mental health and academic performance. Pearson correlation, t-test and regression analysis were done.

RESULTS

The total 261 students (females = 166, males = 95) were included in the study. The students'

Table-I: Mean, standard deviation of students score on perceived stress scale, positive mental health on WEMWBS and academic performance with alpha co-efficient of scales, (n=261).

Variables	No. of Items	α	M ± SD	Range		Skewness	Kurtosis
				Potential	Actual		
PSS	10	0.69	21.06 ± 5.42	0-40	6-33	0.03	-0.33
WEMWBS	14	0.86	46.12 ± 9.21	14-70	23-69	-0.04	-0.23
Academic Performance			3.16 ± .50	1.50-4.0	1.58-4.0	-0.48	-0.19

M=Mean, SD=Standard deviation, α=Cronbach alpha reliability, PSS=Perceived Stress Scale, WEMWBS=Warwick-Edinburg Mental Health Wellbeing Scale.

Table-II: Correlation between perceived stress scale, positive mental health on WEMWBS and academic performance (n = 261).

	Perceived Stress	
	r-value	p-value
WEMWBS	-0.50**	0.01
Academic Performance	0.22**	0.01

**p<0.01, PSS = Perceived stress scale; WEMWBS = Warwick-Edinburg mental health wellbeing scale.

Table-III: Gender differences on score of perceived stress scale and Warwick-Edinburgh mental health wellbeing scale among undergraduates (n=261).

Variables	M ± SD	M ± SD	t-value	p-value	95% CI		Cohen's d
	Males (n=95)	Females (n=166)			LL	UL	
PSS	19.67 ± 5.66	22.85 ± 5.12	-3.18	0.00	-3.53	-0.83	0.58
WEMWBS	48.01 ± 8.30	45.04 ± 9.54	2.63	0.01	0.74	5.19	0.33

M = Mean; S.D = Standard Deviation, CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; PSS = Perceived Stress Scale; WEMWBS = Warwick-Edinburg Mental Health and Wellbeing Scale, *p<0.01

Table-IV: Prediction of positive mental health by perceived stress.

Predictor Variable	Unstandardized coefficient (B)	95% confidence interval		p-value
		UB	LB	
Perceived Stress	-0.83	-1.01	-0.65	0.00

Table-V: Prediction of academic performance by perceived stress.

Predictor Variable	Unstandardized Coefficient (B)	95% Confidence Interval		p-value
		UB	LB	
Perceived Stress	0.02	0.01	0.03	0.00

not categorize people with low or high positive mental health. WEMWBS was applicable for teenagers aged 13 years and older (WEMWBS Manual, 2008)⁹.

age ranged from 19-25 years (mean age 21.17 ± 1.17 SD). They were unmarried and from intact families. Level of education comprised of undergraduate from different departments including

biochemistry, plant breeding, earth and environmental studies, microbiology, agriculture engineering, psychology, computer sciences, software engineering, media sciences, electrical engineering, biology, english, and computer. The CGPA (Mean CGPA = 3.16 ± 0.50 SD) was obtained from demographic sheet.

Mean and standard deviations and alpha reliability of the students' scores on each scale were calculated. On perceived stress scale, mean = 21.06 ± 5.42 SD and $\alpha = 0.69$; and on Warwick-Edinburgh Mental Health Wellbeing Scale, Mean = 46.12 ± 9.21 SD and $\alpha = 0.86$. Academic performance was assessed by having Mean = 3.16 ± 0.50 SD of their CGPAs (table-I).

Table-II depicts the correlation between perceived stress, positive mental health and academic performance. Table-III tells about gender differences on perceived stress and positive mental health which showed that females perceived more stress than males and positive mental health of males is higher than females. Table-IV showed perceived stress as a significant predictor of low Positive Mental Health and table-V showed perceived stress as a significant predictor of academic performance among undergraduates ($R=0.224$, $F=13.636$, $p<0.01$).

DISCUSSION

The present study aimed to investigate the relationship between perceived stress, positive mental health and academic performance of university students. Both the scales PSS and WEMWBS used in this study have satisfactory reliabilities $\alpha=.69$ and $\alpha=.86$ respectively). These results are in line with the earlier studies done by Cohen, Kamarck and Mermelstein (1983) and Stewart-Brown and Janmohammad (2008) reporting high reliabilities of the scales. For PSS, α is .84, .85 and .86 for three independent samples respectively. For WEMWBS, the alpha reliability reported is .89^{1,9}.

It was hypothesized that perceived stress would be negatively related with positive mental health among undergraduates. The outcomes of research are congruent with the Anand and

Nagle's (2016) study showing negative relationship between stress and psychological wellbeing among 281 male and female college students of India¹⁸. Results also showed perceived stress as a significant predictor of mental wellbeing among students. These findings indicated the importance of stress level on individual's mental health. It seems that students due to lack of management skills and coping strategies perceive more stress which leads to their lowered ability to function well and maintain their sense of autonomy (Stewart-Brown & Janmohammad, 2008)⁹. The other possible reason for high stress among students might be associated to very short time in semester system to complete their desired academic goals. In trying to do so when they feel the strain is above their coping ability, they become exhaust that effect their independence, wellbeing and thus their positive mental health as a whole. When students perceived stress academically they are more susceptible to mental health issues like anxiety and depression which can deteriorate their positive mental health¹⁹.

It was also hypothesized that perceived stress would be a significant predictor of poor academic performance among undergraduates. The hypothesis has not been supported by the findings. Results indicated significant positive relationship between perceived stress and academic performance of students. Literature review showed inconsistent findings. Some studies have reported negative relationship between stress and academic performance. Zia-Ur-Rehman and Sharif (2014) have shown two main stressors course load and social support as significant predictors of poor academic performance among university students²⁰. On the other hand, Kumari and Gartia (2012) have shown positive association between academic performance and stress among senior secondary students which are in line with the present study. Students of high and moderate stress performed better as compared to students with less stress²¹. In the present study, the university students who perceived stress more showed better academic results and vice versa. The reason might be the workload, tough

schedules, and timings which may produce stress among students. Research shows that stress if taken positively improves individual's performance⁶. Therefore, it might be suggested that students who perceive stress and take it as motivator could perform better.

Another intended objective of the study was to find out gender differences in perceiving stress. It was assumed that female students would perceive more stress as compared to male students. The results supported the hypothesis showing that female students perceived more stress as compared to their male counterparts. Anbumalar, Dorathy, Jaswanti, Priya, and Reniangelin (2017) have reported similar results showing females ($M=20.2 \pm 4.79$ SD) having higher stress than males ($M=18.3 \pm 5.23$ SD)²². Another study done by Alsalhi, Almigbal, Alsalhi and Batais (2017) on medical students indicated the same direction showing females (57.4%) high on stress as compared to males (42.6%)²³. The possible explanation for this difference might be attributed to our cultural practices where women socialize and strive for social support as a strategy to manage their stress. However in spite of reducing stress such communication elevates their stress levels. On the other hand, males are likely to engross supplementary vigorous coping and are able to cope with stress effectively by negating the problematic situation.

CONCLUSION

The findings of current study showed that perceived stress is negatively associated with positive mental health and positively related to academic performance. Furthermore, present research also showed that females are more prone to perceived stress than males.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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