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The Management of Mental Health: Exploring the Relationship of Self-Esteem with Depression, Anxiety and Stress among University Students

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Abstract
This research investigates the association between self-esteem and mental health outcomes, specifically depression, anxiety, and stress, within a university student population. The all 7000 undergraduate students of University of Malakand was considered the population of this study. Sixteen departments were taken randomly as a sample by using simple random sampling technique. They include pure Sciences, social Sciences, arts and Computer sciences. The research scale DASS42 has 42 items that was used. There were four options never, sometimes, often and always, to measure the level of depression, anxiety and stress. The reliability of depressions scale was .726, anxiety scale was .756 and stress scale was.764. For measuring relationship of self-esteem Rosenberg self-esteem scale was used with 10 items, has also four options strongly agreed, agree, disagree and strongly disagree. The reliability of self- esteem Rosenberg self-esteem scale was used. Both questionnaires were administered to the same student. The questionnaires were administered to 210 students by using simple random sampling technique. The study revealed a statistically significant correlation between self-esteem and mental health outcomes, including depression, anxiety, and stress. Notably, the results indicated a negative correlation, suggesting that higher levels of self-esteem are associated with lower levels of depression, anxiety, and stress. Further, this study examined that female had more depression, anxiety and stress level and low self-esteem than male.

***Keywords*:** Management, Mental Health, Self-Esteem, Depression, Anxiety, Stress, University Student

Introduction
William James (1890) defined self-esteem in relations of a balance among individual's reality-based achievements comparative to individual's goals or aspirations. Sedikides and Gress (2003). Self-esteem is a global self-evaluation construct that encompasses cognitive appraisals of one's self-worth and positive experiences, influencing overall self-assessment. According to Holloway (2016), self-esteem can be defined as an individual's perceived value, emotional self-regard, self-confidence, and optimism or pessimism regarding their self-concept. Hewitt (2002) proposed a paradigm shift in understanding self-esteem, transitioning from a global mental attitude and motivational force to a socially constructed emotion that is influenced by contextual factors and

mood states. Gilani & Dashipour (2016) the all-round affecting assessment of an individual's own importance, respect, or significance, as identified as Self-esteem.
Depression, anxiety, and stress are worldwide occurrences. Depression is a psychological disorder, regression (low level of energies for duties), unwillingness of selection of maturity rather than selection of childish attitude, avoidant from complications rather than finding of solutions for them, getting of direct satisfaction rather than long period satisfying results (Ali et al., 2014). Weber at al. (2023) Depression is described by temper changes, loss of attention or desire in everyday activities, and the connected symptoms of sleep and eating issues, loss of energy, lack of attention and self-respect. Perrotta (2019) the American Psychiatric Association, define anxiety, designates anxiety by way of the expected expectation of an upcoming hazard or harmful occasion, convoyed through moods of difficulty in pronouncing words or physical signs of tension. The features visible to danger might belong to both the inner state and to the real threats in the same way.

Fink (2016), Hans Selye is known as the "father of stress". According to him Stress is the body's general reaction to any stimulus. He noticed that several "non-specific" symptoms, which are the body's typical reaction to stressful stimuli, were present in patients with a wide range of disorders. Giudice et al (2018) referred stress as the exact physical responses to the pressures, involving both undesirable tasks (infection, starvation) and desirable tasks (searching or reproducing opportunities) Stress is the non-specific (increased heart rate, breathlessness) response of a body to any difficult situation placed to it whether it is pleasant or unpleasant. (Fink, 2016). Weber et al. (2023) conducted a study to investigate the prevalence of anxiety, depression, and low self-esteem among athletes studying in college and dissimilarities between sex, educational status, and sport type, and recognize connotations for chance. An important association for depression and anxiety danger was originate with females at risk.

Self-esteem is often absolutely associated with educational achievement, while it seems to be important rather than a reason of great achievement. (Manning, 2007). Self-esteem concerning college life was harmfully connected with anxiety levels. Low self-esteem also applied undesirable effects on the educational involvement and presentation as well as the cheerfulness of learners (Liu et al. ,2022). Crocker and E. Park (2004) People who have high self-esteem have trust on themselves; they consider themselves competent, gorgeous, famous and optimistic about their future. High self- esteem also creates happy moods and creativity. Auttama et, al. (2021) the harshness of psychological health problems between university students in rural regions can disturb the consequences of their studies. The aim of this study was to recognize issues connected with self-worth, resilience, psychological health, and mental self-care between university students. Sex, incurrent disease, apparent weightiness status, connection with friends and family were related with self-esteem, flexibility, psychological health, and mental well-being among university students.

A person who has low self-esteem abhors himself, has low level of respect about him and undesirable behavioral issues. (Muchesi, 2024). Low self-esteem is the main reason for violence, psychological disorders (depression, anxiety, and stress). Low self-esteem leads to pessimism and ultimately results in low performance. (Auttama et, al. 2021). Students' low self esteem is the source of smoking, violence in addition drinking alcohol (Crocker and E. Park 2004). Low self-esteem is frequently related to a high regularity of anxiety sign (Liu et al., 2022) Reynolds & County Schools (1993), Low self-esteem is supposed to motivate countless complications such as educational underachievement, medication addition, violent behavior, adolescent pregnancy, and breaking of law.

Alhalalmeh (2023) Self-esteem, or the point to which an individual opinion himself, whether it is high or low, is connected to human manners. Self-esteem is critical since it unlocks the gate to all other kinds of accomplishment that are wanted, worthlessness results in feeling of low self-esteem in which one consider self as incapable, incompetent, and worthless of success. Momani and Naim

(2012) Established a statistically important reverse relationship between whole self-esteem and distress about the upcoming life. Lee (2020) The aim of this research was to investigate whether societal provision (familiar and unfamiliar) and self-esteem can relate between life stress and psychological health among college students. Reverse relation interpreted that learners who practiced more stressful life occasions described high level of depression and anxiety. Peixoto & S. Almeida (2010) self-concept or self-esteem (self-representations) is frequently connected with academic achievements. In an educational environment, self- concept or self-esteem are certainly connected with educational attainment, inspiration and outlooks to an institute. Holloway F. (2016) Self-esteem is also connected with private hopefulness, skillfulness, capacity, and social closeness. Self-esteem might be clear as the self-judgment and expressive conceptual interpretation that persons make and uphold with respect to themselves. (Holloway F, 2016). Li et al (2024) The aim of this study was to examine the relationship between family socioeconomic status (SES) and teenagers' learning conformity and self-esteem. In this study, they found that male teenagers who came from the families which have higher socioeconomic status (SES) showed comparatively greater intensities of individual self esteem as associated to females. According to the research, pleasure and self-efficacy are intensely correlated with comfort, mainly a great level of self-esteem (Zeimmerman, 2000).

Gromoske and Maguire-Jack (2012) studied 2,000 schoolboys who remain punished physically once in the previous year showed anxiety or depression and they felt evil about themselves and mal-adjusted in their surroundings. Bordin, et. al. (2009) suggested that physical punishment is not helpful whether parents do care or not. Gershoff et. al. (2010) Directed a study containing 292 mothers and their youngsters of ages 8- to 12 years, in six countries i.e. India, Thailand, China, Italy, Kenya and Philippines. He originated that corporal punishment to kids has connection with anxiety. Water (2017) specified that physical punishment can lead to acute depression and anxiety. Audrey et al (2020) Self-esteem, is constructed by various aspects of self-evaluation, and physical appearance and overall outlook. Javaid & Ajmal (2019) The aim of the existing study was to discover the effect of physical appearance on self-esteem in teenager's males and females. The findings revealed a positive correlation between teenage males' self-confidence in their physical appearance and their overall self-esteem. Additionally, the results indicated that older adolescent females tended to exhibit higher heights of once' self esteem related to their younger counterparts.

McAuley et al (2000) a random organized experimental inspected the progress and practice of multidimensional individual self esteem. The degree to which variations in physical fitness limitations and physical self-efficacy were connected to alterations in insights of good-looking physique, strong suit, physical conditioning, and self-esteem was also intended to. POP (2016) physical approval is one of the first characteristics of an individual noticed by others and that has a significant effect on societal relations. Because of the statistical associations calculated for self-esteem, physical appearance disappointment and BMI (Body Mass Index), the study found that self-esteem is well interrelated to biased limitations (physical appearance) than with unbiased and comparatively constant quantities. According to French et al. (1995), individuals with low self-esteem are more likely to experience weight gain and obesity. Low self-esteem might be one of the harmful social and psychological consequences of fatness. Muchesi (2024) Physical appearance is the psychological images of individuals they have about their physical appearance. University learners who had negative opinion about their physical appearance had high inclinations towards low level of self esteem, depressing illness, anxiety, poor nurturing habits, suicidal thinking, addiction of internet, fake harassment and dangerous health habits containing use of alcohol, medication misuse and insecure erotic activities. This produces the necessity to comprehend the association among physical image, self-worth and health-related behaviors. Furthermore, physical functions such as appetite, food ingesting and body weight are complicatedly linked near psychological constructs such as body image and self-confidence. A study pinpointed that there is a positive connection among students who have lower self-esteem level with undesirable physical appearance and harmful behaviors. Teenagers who have practiced body embarrassing have higher

levels of undesirable physical appearance and low self-esteem. (Muchesi, 2024).

Research Objectives

1. Examine the connection between depression and self-esteem.
2. Investigate the relationship between anxiety and self-esteem.
3. Explore the association between stress and self-esteem levels.
4. Conduct a comparative analysis of depression, anxiety, stress, and self-esteem levels across genders

Problem Statement

Self-esteem is a crucial determinant of human well-being, whereas depression, anxiety, and stress are prevalent mental health concerns affecting individuals globally. This research seeks to investigate the relationship between self-esteem and these mental health outcomes among undergraduate university students, with a particular emphasis on identifying gender-specific differences.

Research Hypotheses

$H0_1$: Self-esteem and depression are unrelated, with no statistically significant correlation between the two variables.
$H0_2$: There is no statistically significant correlation between self-esteem and anxiety.
$H0_3$: Self-esteem and stress are unrelated, with no statistically significant correlation between the two variables.
$H0_4$: The mean self-esteem scores do not differ significantly between males and females in relation to depression.
$H0_5$: There is no significant gender-based difference in mean self-esteem scores related to anxiety.
$H0_6$: The mean self-esteem scores do not differ significantly between males and females in relation to stress.
H07: Gender does not have a significant effect on mean self-esteem scores.
$H0_8$: The mean self-esteem scores do not differ significantly across semesters in relation to depression levels.
$H0_9$: There is no significant difference in mean self-esteem scores across semesters related to anxiety levels.
$H0_{10}$: The mean self-esteem scores do not differ significantly across semesters in relation to stress levels.
$H0_{11}$: Mean self-esteem scores do not differ significantly across semesters.

Significance of Study

An investigation was conducted to explore the relationship between self-esteem and mental health outcomes, specifically depression, anxiety, and stress, within a university student population. This research will benefit various stakeholders, including policymakers, educators, parents, students, healthcare professionals, and university administrators. Its findings will be applicable across all institutions enrolling undergraduate students. People who have high self-esteem have trust on themselves; they think about themselves that they are competent, gorgeous, famous, optimistic about their future, high self- esteem also creates happy moods and creativity. (Crocker and E. Park, 2004)

Delimitations of Study

The current study has been limited to the university of Malakand and BS level students. The study has just related to the undergraduate university students. The study has only limited to the exploration of depression, anxiety and stress level with the relationship of self- esteem.

Research Methodology

Research Design

Correlational research design was used to investigate the relationship between self-esteem and mental health outcomes, statistical analyses were conducted using Independent Sample t-test and Pearson correlation coefficient (r). Specifically, the study examined the correlations between self-esteem and depression, anxiety, and stress. Comparison of self- esteem on the bases of gender and for comparison of semester wise exploration of self-esteem among undergraduate university students. ANNOVA test was used to test different semester groups. Questionnaire was used as a

mean of data collection. Total sample of 210 male and female undergraduate students were randomly selected from sixteen (16) departments of University of Malakand. Data was analyzed by using SPSS.

Population of the Study

The study's target population consisted were all students of University of Malakand. There were 9000 students enrolled in 27 departments of University of Malakand in which approximately 5000 students are enrolled in undergraduate programs and for this purpose all undergraduate students were selected at university of Malakand.

Sample and Sampling

There are 27 departments In the University of Malakand. The total population of the university were nine thousand students in which approximately 5000 are undergraduate. 16 departments were randomly selected from all departments such as Chemistry, Zoology, Botany, Physics, English, Urdu, Islamic studies, Economics, Political science, Archeology, Commerce, Biotechnology, Psychology, Computer Science and Information Technology, Law and Education. For sample, from each department 210 students were selected through simple random sampling technique.

Instrument

This study utilized two standardized assessment tools to measure the variables of interest. The Depression, Anxiety, and Stress Scales (DASS-42) was employed to assess levels of stress, anxiety, and depression. This 42-item scale consists of three subscales (stress, anxiety, and depression), each comprising 14 items, with a 4-point response scale. To evaluate self-esteem, the Rosenberg Self-Esteem Scale (RSES) English version was used, featuring a 10-item Likert scale with response options ranging from 'Strongly Agree' to 'Strongly Disagree'.

Validity of the Scales

Both scales DASS-42 and Rosenberg self-esteem were standardized and already validated.

Reliability of the study

Table 1: DASS-42, Depression items Reliability

Case Processing Summary

		N	%
Cases	Valid	210	100.0
	Excluded	0	.0
	Total	210	100.0

Reliability Statistics

Cronbach's Alpha	Items
.726	14

Cronbach’s Alpha reliability for depression is .726 which is acceptable reliability.

Table 2: DASS-42, Anxiety items Reliability

Reliability Statistics

Cronbach's Alpha	Items
.756	14

Cronbach’s Alpha reliability for anxiety is .756 which is acceptable reliability.

Table 3: Reliability of DASS-42, Stress items

Reliability Analysis	
Reliability Score	**Items**
.764	14

Cronbach's Alpha reliability for stress is .726 which is acceptable reliability.

Table 4: Reliability of Rosenberg Self-esteem items

Reliability Analysis	
Reliability Score	**Items**
.7	10

Reliability score of Cronbach's Alpha for self-esteem is .7 which is acceptable reliability.

Table 5: Correlation Statistics of Depression and Self- Esteem

$H0_1$: Self-esteem and depression are unrelated, with no statistically significant correlation between the two variables.

Correlations			
		Summse	**Summd**
Summse	Pearson Correlation	1	-.382**
	Sig. (2-tailed)		.000
Summd	Pearson Correlation	-.382**	1
	Sig. (2-tailed)	.000	

***. Correlation is significant at the 0.01 level (2-tailed). N= 210*

The result of hypothesis $H0_1$ shows that Null hypothesis is rejected because there is significant moderate negative correlation (Pearson r is -.382) between depression and self-esteem on Rosenberg scale and DASS-42. The study shows an inverse relationship between depression and self esteem as shown in table no 5.

Table 6: Correlation Statistics of students' self- esteem and anxiety

$H0_2$: There is no statistically significant correlation between self-esteem and anxiety

Correlations			
		Summse	**Summa**
Summse	Pearson Correlation	1	-.417**
	Sig. (2-tailed)		.000
Summa	Pearson Correlation	-.417**	1
	Sig. (2-tailed)	.000	

*** Correlation is significant at the 0.01 level (2-tailed). N= 210*

The result of hypothesis $H0_2$ is that (there was no significant correlation $p>0.01$ between self- esteem and anxiety). Null hypothesis is rejected as there is significant moderate negative correlation (Pearson r is -.417) between self-esteem and anxiety on Rosenberg scale and DASS-42. Table 6 showed that a student with a high level of self-esteem would have a low level of anxiety.

Table 7: Correlation Statistics of students' Self Esteem and Stress

$H0_3$: Self esteem and stress are unrelated, with no statistically significant correlation between the two variables.

Correlations			
		Summse	**Sums**
Summse	P. Correlation	1	-.335**
	Sig (2 - tailed)		.000
Sums	P. Correlation	-.335**	1
	Sig. (2-tailed)	.000	

***Correlation is significant at the 0.01 level (2-tailed).* *N=210* P=Pearson

The result of hypothesis $H0_3$ showed that Null hypothesis (H_0) is rejected because its presenting significant weak negative correlation amid (Pearson r is -.335) self-esteem and stress on Rosenberg scale and DASS-42. The results on table 7 interpreted that self-esteem has an inverse relationship with stress among students.

Table 8: The level of depression gender wise of undergraduate students

$H0_4$: The mean self-esteem scores do not differ significantly between males and females in relation to depression

Independent Sample T-Test						
Gender Group	**No.**	**Df**	**Mean Score**	**Std. Dev.**	**T-Value**	**Sig.**
(Male)	105		26.65			
		208		5.94	-4.112	.000
(Female)	105		30.22			

The analysis of $H0_4$ illustrating that "The mean self-esteem scores do not differ significantly between males and females in relation to depression". Thus, H_0 is rejected because Df = 208, T = - 4.112, Sig = . 000. The results on table 8 showed that females have more depression than male.

Table 9: Analysis of students anxiety level

$H0_5$: There is no significant gender-based difference in mean self-esteem scores related to anxiety

Independent Sample T-Test						
Gender Group	**N**	**Df**	**Mean Score**	**SD**	**T**	**Sig.**
(Male)	105		28.05			
		208		6.042	-4.164	.000
(Female)	105		31.47			

The results of $H0_5$ is leading to with the rejection of Null hypothesis because Df = 208, T = -4.164, Sig = . 000. Table 9 showed that female exposed more to anxiety than male.

Table 10: Analysis of undergraduate students' Stress Level

Independent Sample T-Test						
Gender Group	**No.**	**Df**	**Mean Score**	**SD**	**T**	**Sig.**
(Male)	105		27.63			
		208		6.38	-4.462	.000
(Female)	105		31.51			

The above table $H0_6$ is that ($H0_6$: The mean self-esteem scores do not differ significantly between males and females in relation to stress). Thus, null hypothesis (H_0) is rejected because Df =208, T = -4.462, Sig. = . 000. Table 10 showed that females exposed more to stress than male.

Table 11: Analysis of undergraduate students' Self-Esteem level

H07: Gender does not have a significant effect on mean self-esteem scores

Gender Group	No.	Df	Mean Score	SD	T	Sig.
(Male)	105		29.28			
		208		6.38	-4.164	.001
(Female)	105		27.26			

The result of hypothesis $H0_7$ is that (Gender does not have a significant effect on mean self-esteem scores). H_0 is rejected which interpreted that males have high level of self-esteem than females.

Table 12: Analysis of undergraduate students' Depression Semester wise

$H0_8$: The mean self-esteem scores do not differ significantly across semesters in relation to depression levels

ANOVA

Summa	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1125.134	3	375.045	11.278	.000
Within Groups	6850.433	206	33.255		
Total	7975.567	209			

As p< .05 therefore there is difference in depression semester wise

Multiple Comparisons

Independent Variable: summd

Tukey HSD

(I) sems	(J) sems	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	4th	2.01608	1.34709	.441	-1.4731	5.5052
2nd	6th	4.38893*	1.12534	.001	1.4742	7.3037
	8th	1.23951	1.25414	.756	-2.0089	4.4879
	2nd	-2.01608	1.34709	.441	-5.5052	1.4731

4th	6th	2.37285	1.29466	.261	-.9805	5.7262
	8th	-.77657	1.40806	.946	-4.4236	2.8705
	2nd	-4.38893*	1.12534	.001	-7.3037	-1.4742
6th	4th	-2.37285	1.29466	.261	-5.7262	.9805
	8th	-3.14942*	1.19765	.045	-6.2515	-.0474
	2nd	-1.23951	1.25414	.756	-4.4879	2.0089
8th	4th	.77657	1.40806	.946	-2.8705	4.4236
	6th	3.14942*	1.19765	.045	.0474	6.2515

**. The mean difference is significant at the 0.05 level*

The table 12 hypothesis $H0_8$ (*$H0_8$: The mean self-esteem scores do not differ significantly across semesters in relation to depression levels*) shows that Null hypothesis is rejected as $p < .05$ there is difference in depression level among semesters, for semester 2nd and 6th is .001, semester 4th and 2nd is .001, semester 6th and 8th is .045, and semester 8th and 6th is .045. There is significant difference found semester wise.

Table 13: Analysis of undergraduate students' anxiety Semester wise

$H0_9$: There is no significant difference in mean self-esteem scores across semesters related to anxiety levels

ANOVA

Summa	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1125.134	3	375.045	11.278	.000
Within Groups	6850.433	206	33.255		
Total	7975.567	209			

As $p < .05$ therefore there is difference in anxiety semester wise

Multiple Comparisons

Dependent Variable: summa

Tukey HSD

(I) sems	(J) sems	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	4th	2.49561	1.22766	.179	-.6842	5.6754
2nd	6th	4.67754*	1.02557	.000	2.0212	7.3339
	8th	-.89931	1.14295	.860	-3.8597	2.0611
	2nd	-2.49561	1.22766	.179	-5.6754	.6842
4th	6th	2.18192	1.17988	.253	-.8741	5.2380
	8th	-3.39493*	1.28322	.043	-6.7186	-.0712
	2nd	-4.67754*	1.02557	.000	-7.3339	-2.0212

6th	4th	-2.18192	1.17988	.253	-5.2380	.8741
	8th	-5.57685*	1.09147	.000	-8.4039	-2.7498
	2nd	.89931	1.14295	.860	-2.0611	3.8597
8th	4th	3.39493*	1.28322	.043	.0712	6.7186
	6th	5.57685*	1.09147	.000	2.7498	8.4039

**. The mean difference is significant at the 0.05 level.*

This table 13 hypothesis $H0_9$ illustrating that null hypothesis is rejected as p< .05 therefore there is difference in anxiety level among semesters, for semester 2nd and 6th is .000, semester 4th and 8th is .043, semester 4th and 2nd is .000, semester 6th and 6th is .000, semester 8th and 4th is .043, and semester 8th and 6th is .000. The results indicate that there is significant difference of anxiety found among students' semester wise.

Table 14: Analysis of undergraduate students' Stress Semester wise

$H0_{10}$: The mean self-esteem scores do not differ significantly across semesters in relation to stress levels

ANOVA

summs	**S.S**	**Degree of Freedom**	**M.S**	**F-Value**	**Sig. (P)**
Between-Groups	898.279	3	299.426	7.586	.000
Within-Groups	8131.002	206	39.471		
Total	9029.281	209			

As p< .05 therefore there is difference in self-esteem in semester wise *(SS=* Sum of Squares *M. S=Mean Square)*

Multiple Comparisons

Dependent Variable: sums

Tukey HSD

(I) sems	**(J) sems**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95% Confidence Interval**	
					Lower Bound	**Upper Bound**
	4th	2.47515	1.33749	.253	-.9891	5.9394
2nd	6th	4.67037*	1.11732	.000	1.7764	7.5644
	8th	.15751	1.24520	.999	-3.0677	3.3827
	2nd	-2.47515	1.33749	.253	-5.9394	.9891
4th	6th	2.19523	1.28543	.322	-1.1342	5.5247
	8th	-2.31763	1.39803	.349	-5.9387	1.3034
	2nd	-4.67037*	1.11732	.000	-7.5644	-1.7764
6th	4th	-2.19523	1.28543	.322	-5.5247	1.1342
	8th	-4.51286*	1.18911	.001	-7.5928	-1.4329
	2nd	-.15751	1.24520	.999	-3.3827	3.0677

8th	4th	2.31763	1.39803	.349	-1.3034	5.9387
	6th	4.51286*	1.18911	.001	1.4329	7.5928

**. The mean difference is significant at the 0.05 level.*

This table 14 hypothesis $H0_{10}$ (*The mean self-esteem scores do not differ significantly across semesters in relation to stress levels*).Thus, null hypothesis is rejected as p< .05 therefore there is difference in stress level among semesters, for semester 2nd and 6th is .000 which is significant difference of 2nd and 6th semester in stress, semester 4th and 2nd is .000 significant difference of stress, semester 6th and 8th is .001 significant difference of stress, and semester 8th and 6th is .001which is also significant difference of stress between 8th and 6th semester students.

Table 15: Analysis of undergraduate students' Self-Esteem Semester Wise

$H0_{11}$ There is no mean significant difference between self-esteem in semester wise

ANOVA

summse	S.S	Degree of Freedom	M.S	F-Value	Sig. (P)
Between- Groups	186.816	03	62.272	3.570	.015
Within-Groups	3593.165	206	17.443		
Total	3779.981	209			

As p< .05 therefore there is difference in self-esteem in semester wise (SS= Sum of Squares *M. S=Mean Square)*

Multiple Comparisons

Dependent Variable: summse

Tukey HSD

(I) sems	(J) sems	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2nd	4th	.60673	.88911	.904	-1.6962	2.9096
	6th	-1.65110	.74275	.120	-3.5749	.2727
	8th	.41228	.82777	.959	-1.7317	2.5563
4th	2nd	-.60673	.88911	.904	-2.9096	1.6962
	6th	-2.25782*	.85451	.044	-4.4711	-.0445
	8th	-.19444	.92936	.997	-2.6016	2.2127
6th	2nd	1.65110	.74275	.120	-.2727	3.5749
	4th	2.25782*	.85451	.044	.0445	4.4711
	8th	2.06338*	.79048	.047	.0159	4.1108
8th	2nd	-.41228	.82777	.959	-2.5563	1.7317
	4th	.19444	.92936	.997	-2.2127	2.6016
	6th	-2.06338*	.79048	.047	-4.1108	-.0159

**. The mean difference is significant at the 0.05 level.*

This table 15 hypothesis $H0_{11}$ (*There is no mean significant difference between self-esteem in semester wise*). Thus, null hypothesis was rejected as $p < .05$ therefore there is difference in self-esteem level among semesters, for semester 4^{th} and 6^{th} is .044, semester 6^{th} and 4^{th} is .044, semester 6^{th} and 8^{th} is 047, and semester 8^{th} and $6^{th}$is.047.the results show significant difference of self-esteem level among students' semester wise.

Summary

The investigation examined the correlation between self-esteem and psychological problems such as depression, anxiety, and stress among undergraduate students at the University of Malakand. The statement of the study intended to explore how self-esteem relates to these psychological problems. The objectives of the study were:

1. To determine the levels of self-esteem, depression, anxiety, and stress among the students.
2. To investigate whether significant differences exist between males and females in terms of self-esteem, depression, anxiety, and stress levels.
3. To analyze the variations in these psychological issues across different semesters of study.

To accomplish these objectives, the correlational research method was employed. This design involved collecting data through standardized questionnaires: The Depression, Anxiety, and Stress Scale (DASS-42) to assess levels of depression, anxiety, and stress, and the Rosenberg Self-Esteem Scale to measure self-esteem.

A sample of 210 undergraduate students was randomly chosen from 16 departments at the University of Malakand. The data collection followed by a detailed analysis procedure. Descriptive statistics, such as mean, standard deviation, and frequency distributions, were calculated to determine the levels of self-esteem, depression, anxiety, and stress among the learners.

Inferential statistics were also employed to analyze the associations between variables. Pearson's correlation coefficient was used to determine the strength and direction of the associations between self-esteem and psychological problems (depression, anxiety, and stress). Independent sample t-tests were conducted to relate the mean levels of self-esteem, depression anxiety, and stress among male and female learners, detecting any significant gender differences in these variables. One-way Analysis of Variance (ANOVA) was used to assess the variations in self-esteem, depression, anxiety, and stress across different semesters, with post hoc tests directed if the ANOVA consequences were significant to determine which semesters diverged from each other.

The results of the investigation showed significant inverse correlation among self esteem and each of the mental problems. Specially, self-esteem and depression had a Pearson correlation coefficient of -0.382, self-esteem and anxiety had a Pearson correlation coefficient of -0.417, and self-esteem and stress had a Pearson correlation coefficient of -0.335. The findings indicate a negative correlation between self-esteem and mental health outcomes, suggesting that learners with higher self-esteem tend to experience lower levels of depression, anxiety, and stress.

The study revealed significant gender differences in mental health outcomes. Notably, the findings revealed that female students tended to experience elevated levels of depression, anxiety, and stress, in contrast to male students, who generally reported higher levels of self-esteem. These findings suggest that female university students may be more vulnerable to mental health concerns, while male students have a tendency to to report more favorable self esteem. The analysis of variations across different semesters revealed that students in the lower semesters experienced higher levels of stress

compared to those in higher semesters, signifying that as learners' development through their university education, their stress levels tend to decrease.

This study revealed a significant link between self-esteem and psychological well-being among undergraduate students. The findings highlight the critical role of self-esteem in promoting mental health and suggest that boosting self-esteem may be a valuable approach to reducing the incidence of depression, anxiety, and stress among university students. The results have essential implications for policymakers, educators, and university administrators, who can use this data to develop approaches and interferences aimed at supporting mental health of students and their well-being, such as counseling services, self-esteem building programs, and stress management workshops. Overall, the study gives valuable understandings into the psychological health of university students and highlights the need for targeted support to help learners navigate the challenges or difficulties of university life.

Findings

Based on literature review and analysis of collected data the following results are found:

The hypothesis $H0_1$ (*Self-esteem and depression are unrelated, with no statistically significant correlation between the two variables*). Thus, null hypothesis was rejected. The result interpreted that there was significant moderate negative correlation (Pearson r is -.382) amid students self esteem and depression on Rosenberg scale and DASS-42. The study revealed a significant inverse relationship between self-esteem and depression, suggesting that students with higher levels of self-esteem tend to experience lower levels of depression.

The hypothesis $H0_2$ (*There is no statistically significant correlation between self-esteem and anxiety*). Thus, null hypothesis was rejected as there was significant moderate negative correlation (Pearson r is -.417) between self-esteem and anxiety on Rosenberg scale and DASS-42. It showed that with a high level of self-esteem a student would have a low level of anxiety.

The hypothesis $H0_3$ (*Self-esteem and stress are unrelated, with no statistically significant correlation between the two variables*). Thus, null hypothesis was rejected as there was significant moderate negative correlation between (Pearson r is -.335) self-esteem and stress on Rosenberg scale and DASS-42. It is interpreted from the result that stress level would be low if a student would have high level of self-esteem.

The hypothesis $H0_4$ (*The mean self-esteem scores do not differ significantly between males and females in relation to depression*). The null hypothesis was rejected as 0.01, Df = 208, T = - 4.112, Sig. = . 000. The result in the study showed that female students tend to have more depression as compared to male students.

The hypothesis $H0_5$ (*There is no significant gender-based difference in mean self-esteem scores related to anxiety*). The full hypothesis was rejected as 0.01, Df = 208, T = - 4.164, Sig. = .000. The result of the study showed that female students have high level of anxiety than male students.

The hypothesis $H0_6$ (*The mean self-esteem scores do not differ significantly between males and females in relation to stress*). The Null hypothesis was rejected as Df = 208, F = - 4.462, Sig. = .000. The level of stress was also found high in female students as compared to male students.

The hypothesis $H0_7$ (*Gender does not have a significant effect on mean self-esteem scores*). The null hypothesis was rejected as Df = 208, T = - 4.164, Sig. = .001.The result interpreted that male students have high level of self-esteem than female students.

The hypothesis $H0_8$ (*The mean self-esteem scores do not differ significantly across semesters in relation to depression levels*). Null hypothesis was rejected as p<.05. There was significant difference in depression level among semesters, for semester 2nd and 6th was .001, semester 4th and 2nd was .001, semester 6th and 8th was .045, and in semester 8th and 6th was .045.

The hypothesis $H0_9$ results showed that Null hypothesis was rejected as p< .05 therefore there was significant difference in anxiety level among semesters, for semester 2nd and 6th was.000, semester 4th and 8th was .043, semester 4th and 2nd was .000, semester 6th and 8th is .000, semester 8th and 4th was .043, and semester 8th and 6th was .000.

The hypothesis $H0_{10}$ is (*The mean self-esteem scores do not differ significantly across semesters in relation to stress levels)*. Null hypothesis was rejected as p<.05. There was significant difference in stress level among semesters, for semester 2nd and 6th was .000, semester 4th and 2nd was .000, semester 6th and 8th was .001, and semester 8th and 6th was .001.

The hypothesis $H0_{11}$ (*Mean self-esteem scores do not differ significantly across semesters*). Null was rejected as p< .05. There was significant difference in stress level among semesters, for semester 4th and 6th was .044, semester 6th and 4th was .044, semester 6th and 8th was 047, and semester 8th and 6th was .047.

Discussion

The study found that there was significant moderate negative correlation (Pearson r is -.335) between self-esteem and depression on Rosenberg scale and DASS-42. The research highlighted that self-esteem had an inverse relation with depression which further suggested that if a student had a high level of self-esteem, they would have low level of depression. Aboalshamat et al (2017) the analysis of the research suggested that there was significant negative correlation between self-esteem and depression (p<0.001, R – squared = 0.083).

The study found that there was significant moderate negative correlation (Pearson r is -.417) between self-esteem and anxiety on Rosenberg scale and DASS-42. It showed that if the level of self-esteem increases the anxiety of that individual would decrease. Aboalshamat et al (2017) the analysis of the study showed that there was significant negative correlation between self-esteem and anxiety.

According to this study the results were found that there was significant moderate negative correlation between (Pearson r is -.335) self-esteem and stress on Rosenberg scale and DASS-42. It showed that self-esteem increases stress of that individual decreases. Aboalshamat et al (2017) the analysis of the study showed that there was significant negative correlation between self-esteem stress (p<0.001, R-squared = 0.024).The results of this research found that there is a significant negative correlation of self-esteem with depression, anxiety and stress.

According to this study the results were found that female students have high level of depression as compared to male students. As the value of P is 0.01, Df = 208, T= -4.112, Sig. = .000. According to Fauzi et al (2021) males and females did not have difference in depression levels (p = 0.329). Bayram and Bilgel (2008) also investigated those females exposed to depression more frequently than males. The results found in this research as female students have high level of anxiety as compared to male students. As the value of P is 0.01, Df = 208, T = - 4.164, sig= .000 Fauzi et al (2021) suggested that males and females do not have difference in anxiety levels (p = 0.119). Bayram and Bilgel (2008) also investigated those females exposed more anxiety than males. According to this study the results shown that female students have high level of stress as compared to male students. As the value of P is 0.01, Df = 208, T= - 4.462, sig= .000. According to Fauzi et al (2021) males and females do not have difference in stress levels (p = 0.645). Bayram and Bilgel (2008) also investigated that females have high level of stress than males. This research found that male students have high level of self-esteem as compared to female students. As the value of P is 0.01, Df = 208, T = -4.164, Sig = .001. According to Mura & Paria on gender basis, it was originated that female students had better self-esteem than

male students (p 0.05) which is contradictory with the results of present study.Bayram and Bilgel (2008) suggested that females have more levels of depression, anxiety and stress than males while according to Fauzi et al (2021) males and females do not have difference levels of depression, anxiety and stress. The present study suggested that male exhibited more self-esteem than female while in the study of Mura & Paria female exhibited more anxiety than male students. According to this study there is a difference in depression level among semesters, for semester 2nd and 6th is .001, semester 4th and 2nd is .001, semester 6th and 8th is .045, and semester 8th and 6th is .045. Moutinho (2016) investigated that the level of depression is F (11,745) = 2.410, p = 0.006, between first and second semesters (p = 0.045).

According to this study there is a difference in anxiety level among semesters, for semester 2nd and 6th is .000, semester 4th and 8th is .043, semester 4th and 2nd is .000, semester 6th and 8th is .000, semester 8th and 4th is .043, and semester 8th and 6th is .000. Moutinho (2016) investigated that the level of anxiety is F (11,743) = 2.536, p = 0.004, between first and tenth (p = 0.048), and first and eleventh (p = 0.025) semesters. According to this study there is a difference in stress level among semesters, for semester 2nd and 6th is .000, semester 4th and 2nd is .000, semester 6th and 8th is .001, and semester 8th and 6th is .001. The study of Mehta et al (2015) has found that there was significant difference among students' stress level that were studying in lower classes and higher. Similarly, according to Tessema's et al (2019) study also established that there was significant difference among students' level that were studying in lower classes and higher. Dachew et al (2015) investigated that it can be a probable reason for new students to face challenges because of separation from friends and family members in terms adjustment in new environment.

The separation from the family members and their friends or societal support that they were accustomed to. As well they need to form new social relations with new friends, teachers and other seniors. They also face challenges and get stress in adjustment with new students who have relation with different cultural backgrounds. Siraj et al (2014) practiced that high-grade students are mature and dedicated to managing their time and grooming their skills over time whereas the students of lower classes have to take time to groom and get mature which as a consequence create stress. Moutinho (2016) investigated that the level of stress between seventh and twelfth (p = 0.044), tenth and twelfth (p = 0.011), and eleventh and twelfth (p = 0.001) semesters which suggested high level of stress among lower grades.

This research established that there is significant difference in self-esteem level among semesters, for semester 4th and 6th is .044, semester 6th and 4th is .044, semester 6th and 8th is 047, and semester 8th and 6th is .047. Gulzar (2024) investigated that the first semester students' self-esteem was compared with the last semester's university's students' self-esteem was low. Other studies such as Mehta et al (2015), Tessema et al (2019), Dachew et al (2015), Siraj et al (2014), Moutinho (2016). Gulzar (2024) examined that the last semester's students possessed higher self-esteem than that of the 1st semester students. There is significant difference among students who are studying in lower classes and higher. It confirmed that the students of last semester students have a higher level of self-esteem than the first semester students.

Conclusion

It was concluded that the students with low levels of self esteem were leading to higher level of depression, anxiety and stress and students with high level of self-esteem were leading to lower level of depression, anxiety and stress. Male students had better self-esteem as compared to female students. That is why male students possessed lower level of depression, anxiety and stress while female students possessed higher level of depression, anxiety and stress.

Recommendations

Some of the future recommendations,

- Other scales can be used for data collection rather than DASS42 and Rosenberg self-esteem scales.
- The present study had a limited scope, focusing exclusively on the relationship between self-esteem and mental health outcomes (depression, anxiety, and stress) among younger university students, thereby excluding other age groups and populations."
- Data were collected only from semester 2nd, 4th, 6th and 8th.

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