JOURNAL OF SOCIAL RESEARCH DEVELOPMENT
www.jsrd.org.pk   editor@jsd.org.pk

IMPACT OF MENTAL HEALTH & WELL-BEING ON ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS

Rabia Tabassum[1], Mahvish Fatima Kashif[2] & Muhammad Jamil[3]

[1]Lecturer, Faculty of Education, Lahore College for Women University, Lahore, Pakistan
[2]Assistant Professor, Faculty of Education, Lahore College for Women University, Lahore
[3]Lecturer, Department of Education, GC Women University, Sialkot, Punjab, Pakistan

KEYWORDS	ABSTRACT
Mental Health, Well-Being, Academic Performance, University Students, Pakistan	The study was conducted to investigate the impact of mental health and well-being on academic performance of university students. Quantitative research design was adopted for the study. The sample of study comprised 300 university students from both private and public sector universities. A random sampling technique was used to select the study sample. Data was collected by a self-constructed questionnaire designed on a 5-point Likert scale. Experts validated the tool's content. Data analysis was done through SPSS, version 22, including independent frequency distribution, sample t-test, ANOVA, and regression analysis. The results of study offer significant information that showed that mental health and well-being significantly impacted the academic performance of university students. Thus, based on conclusion of study, it was recommended that a great focus on judgment and improvement of missing areas of the students' mental health should be considered by universities, their faculties, and their parents. Moreover, this study may open new interdisciplinary horizons for the future researchers by merging education and psychology to consider the different issues in a tailor-made format.
ARTICLE HISTORY	
Correspondence	Rabia Tabassum
Email:	rabia786@lcwu.edu.pk
DOI	https://doi.org/10.53664/JSRD/05-03-2024-04-37-48

INTRODUCTION

Mental health includes the physical, emotional, and social aspects of life, focusing on an individual's self-perception, others' insights & their ability to meet life's demands. World Health Organization (WHO) defines mental health as complete physical, mental, and social well-being, not just absence of disease or infirmity (World Health Organization, 2024). It is also defined as a balance between a person's self, others, and environment, especially in the context of existing culture. Moreover, WHO

emphasizes that mental health is 'vague and ambiguous' concept, and its definition may vary across societies (World Health Organization, 2022). The mental health is considered by emotional well-being, relative freedom from the mental health and disabling systems, and the capacity to establish constructive relations to cope with the stress of life. Mental health problems including interpersonal sensitivity, loneliness, depression, and hostility, can manifest during adolescence and may lead to new illnesses. Severe mental health problems include the psychotic, bipolar, major depression, and schizophrenic patients.

In old age, dementia and depression are major issues, with 20% of older adults suffering from these issues. In the future, one-third of elderly people will be affected by mental illness (Tabassum, Fida, Sabiha, Tahira, Toosy, Rehan & Riaz, 2024). Mental health issues among the elderly are becoming increasingly prevalent, with dementia and depression being the most prevalent (Rehman, Tehmina, Bukhari, Noreen, Shamsi & Abrar, 2024). The rising number of elderly people presents challenges for both developed and developing countries as their attitudes and social values are transitioning. The physical and mental health are interrelated, with distress affecting both physical and mental health, impacting relationships and work abilities (Kashif, Tabassum & Bibi, 2024). The research shows that elderly individuals are more vulnerable to mental and physical health issues compared to younger individuals, requiring more support and assistance as they age. Education and learning as factors of the school are still not sufficient for children and young people to become active citizen adults (Cefai, Simões & Caravita, 2021). In recent studies, impact of teachers' work-family conflict has been found out on students' performance. The education has to go beyond the academic goal of promoting well-being and socio-emotional development and prepare youths to deal with the life's tasks and transitions.

The current study aims to find out the impact that mental health and well-being have on university students' academic performance. Its significance goes beyond students, university administrators, teachers, parents, researchers, and other stakeholders in society. In the case of students, the research will help them to build awareness and seek help from health facilities. The findings will be useful for the university administrators in the formulation of specific policies, distribution of funds, and the establishment of supportive programs. On the other side, the parents will get a glimpse of what to do to improve and have better communication on the matters concerning the mental health of their children. The study is also important for future research; it opens the discussion of the problem in the framework of cooperation between education, psychology, and public health sciences. Also, it helps community organizations & NGOs to develop supportive programs and cooperation with education establishments. So, by filling the existing gap by providing proper support programs for university students, this research will help to curtail such adverse outcomes: lower academic success, reduced level of life satisfaction, ruined interpersonal relations, and increased propensity towards substance abuse and suicide.

Objectives & Questions
1. To find out the level of mental health and well-being among university students in particular context.

2. To determine impact of demographic variables on the academic performance of university students.
3. To analyze impact of mental health and well-being on academic performance of university students.

LITERATURE REVIEW

Health is broadly categorized as well-being, which is the overall health status of individuals; it has three aspects: physical, mental, and social. According to WHO, the well-being involves not only the absence of disease but a positive state of functioning, regarding mental health as ability to achieve development, well-being, and optimal performance and to build a social resource during a person's lifetime (WHO, 2005). Stress and strain can adversely affect academic achievement, as measured by GPA, meaning of obtained marks added over subjective courses. University life brings valuable transformations, as students need to make decisions about academic, social & interpersonal demands that affect their performance. The teachers will get understanding how they can be more effective when it comes to building sympathy in class. For decision-making of twenty-first-century learners, critical thinking and life skills have been focused on in recent literature in the Pakistan, including curriculum, policy, teachers' perceptions, and practices (Jamil, M., Bibi & Shahzadi, 2024; Jamil, Chohan, & Tabassum, 2024; Jamil, Hassan, & Godil, 2024; Jamil, Mahmood, & Masood, 2023; Jamil, Mehmood, & Noorani, 2024; Jamil, Mehmood, & Saleem, 2024; Jamil, Muhammad, & Aslam, 2024; Jamil & Muhammad, 2019; Jamil, Muhammad & Qureshi, 2021; Naseer, Muhammad & Jamil, 2021).

The mental health determines the academic achievement of university students and their overall health. The studies show the mixed picture of the correlation between mental health and academic achievements, that is, positive and negative (Taj, Tabassum & Bibi, 2024). The concept related to mental health is something that is also cultural construct, more so in non-Western and low-middle-income countries, meaning that there is a need to engage a pluralistic approach to mental health knowledge and support (Busari, 2014; Mofatteh, 2021; Park, Kim & Jeong, 2022). A comprehensive framework that encompasses the mental illness, mental health, and well-being has been developed, and a good mental health state, which is referred to as flourishing, is described as the state of having no mental illness and having high well-being (Salari, Far, Jalali, Raygani, Mohammadi & Paveh, 2020; Rahiman, Panakaje, Kulal, Harinakshi & Parvin, 2023). Thus, this framework recognizes the fluidity of the students' psychological well-being needs in emerging adulthood and the role of time, audience, and disclosure in seeking help (Azad & Kaur, 2024; Wang, Ibarra, Ren & Liu, 2022a). therefore, the WHO Health Promoting Institutions framework is another framework that attempts to provide the all-round health care to the students and acknowledges mental health as one of the dimensions of health.

There is evidence about the discipline-specific nature of mental health issues, including so-called 'engineering stress culture' that sanctions the poor mental health among engineers-to-be (Fincham, Strauss, Marin & Cavanagh, 2023). Stress levels and stress enhancement among students have also been worsened by the COVID-19 pandemic (Coninck, Matthijs & Lancker, 2022; Khan & Sabah, 2020). The support received from friends, family, and students, were found to be effective predictors

of stress and depression (Etel & Yagmurlu, 2015; Garcia, 2015; Bai & Gao, 2021). The cultural and situational issues affect the social support and mental health among college students. In Pakistan, regarding adolescents, limited empirical evidence sources indicate a high prevalence of psychiatric morbidity and gender disparity in the adolescents' emotional and behavioral issues. Nowadays, two major problems, including intellectual disability and epilepsy, are increasingly alarming due to early diagnosis and treatment (Tabassum et al., 2024). The country has issues with mental health in as much as there are barriers to access to mental health care services, especially in the rural areas where there are few links to referral and inpatient units (Mitchell, 2020). In recent studies, impact of teachers' work-family conflict has been found out on student performance (Sajid, Jamil & Abbas, 2022) and the effect of mental health problems on university students' performance (Zada, Wang, Zada & Gul, 2021).

RESEARCH METHODOLOGY

The current study utilized quantitative descriptive research to find out the impact of mental health and well-being on university students' academic performance. The participants were selected from the students of Bachelor of Education at public and private sector universities in Punjab for 2020-2024 session, and study sample consisted of 296 individuals using random sampling technique. The data collection involved 10 universities; 5 from public and private each. The data collection tool was a self-developed questionnaire based on 5-point Likert scale including options 'never', 'sometimes', 'usually', 'often' & 'always' to measure mental health and well-being factors. The questionnaire was validated by 10 experts, out of which modifications were made based on their suggestions. The final questionnaire consisted of three parts: informed consent, demographic information & mental health and well-being scale. In process of data collection, the researchers ensured that they complied with the set ethical standards while protecting the participant's identity. The subject participants were informed of the study's nature prior to participating and only proceeded to participate voluntarily. Data were analyzed over SPSS 22. Independent frequency, percentage distribution, t-test, ANOVA and regression analysis were the tests used to analyze data. Following is demographic information about respondents.

Table 1 Demographic Profile of Sample

Variable	Categories	Frequency	Percent
Gender	Males	107	35.7
	Females	193	64.3
Age	>18	57	19.1
	19-20	96	32.2
	21-22	108	36.2
	23-24	37	12.4
University	Public	205	68.8
	Private	93	31.2
Semester	Semester 1	32	10.8
	Semester 3	188	63.5
	Semester 5	41	13.9
	Semester 7	35	11.8
Total		296	100.0

The frequency analysis was made to get original information regarding the students' demographic data. The table shows that males comprise 35.7% of respondents, indicating a smaller proportion than females. Females constitute 64.3% of the respondents, a higher representation in the sample. It means their ratio was almost 1:2. Age-wise distribution revealed that respondents in the largest age group are 21-22 years (36.2%), followed by 19-20 years (32.2%). The university sector distribution revealed that most respondents (68.8%) were from the public universities, while private university students comprised 31.2% of sample (1:2 ratio, respectively). Semester-wise distribution revealed that students in their first-semester account for 10.8% of the respondents, 63.5% from semester III, 13.9% from the semester IV, and 11.8% from semester VII. Thus, most respondents are in their third semester (63.5%).

FINDINGS OF STUDY

Level of Mental Health & Well-Being among University Students

It was made by determining the frequency distribution of each response, calculating the sum of the responses to find the overall mental health and well-being level among university students, and further dividing it into three categories, i.e., low, medium, and high. Thus, the results of the analysis are as follows.

Table 2 Responses of Participants regarding Questionnaire Statements

	Statement	Responses				
		Never	Sometimes	Usually,	Often	Always
1.	I have been feeling optimistic about future	201(60%)	24 (7.2%)	34 (10.1%)	33 (9.9%)	8 (2.4%)
2.	I have been feeling useful	23 (11.2%)	33 (26.3%)	54 (31.7%)	65 (31.7%)	25 (12.2%)
3.	I have been feeling relaxed	32 (15.6%)	44 (16.6%)	56 (28.8%)	34 (23.9%)	29 (12.7%)
4.	I feeling interested in other people	74 (22.1%)	50 (14.9%)	81 (24.2%)	74 (22.1%)	21 (6.3%)
5.	I have had energy to spare	28 (8.4%)	90 (26.9%)	87 (26.0%)	76 (22.7%)	19 (5.7%)
6.	I have been dealing with problems well	50 (14.9%)	42 (12.5%)	92 (27.5%)	101 (30.1%)	15 (4.5%)
7.	I have been thinking clearly	28 (8.4%)	47 (14.0%)	107 (31.9%)	87 (26.0%)	31 (9.3%)
8.	I have been feeling good about myself	29 (8.7%)	35 (10.4%)	120 (35.8%)	82 (24.5%)	34 (10.1%)
9.	I am able to make up my mind about things	44 (13.1%)	65 (19.4%)	80 (24.8%)	83 (24.8%)	28 (8.4%)
10.	I have been interested in new things	76 (22.7%)	142 (42.4%)	49 (14.6%)	22 (6.6%)	11 (3.3%)
11.	I have been feeling loved	127 (37.9%)	88 (26.3%)	37 (11.0%)	37 (11.0%)	11 (3.3%)
12.	I have been feeling cheerful.	42 (12.5%)	134 (50.0%)	68 (20.3%)	43 (12.8%)	13 (3.9%)

The results from this table indicated some common trends among respondents. Most of respondents (60%) were not optimistic about their future. Thus showing a general sense of pessimism; having the perception of self-positivity in terms of usefulness (31.7% each on usually and often); a feeling of relaxation state (28.8% on usually, 23.9% on often); dealing with problems well, was found around "usually" "often," signifying good problem-solving skills; feeling good (majority usually, often) about themselves, reflecting positive self-esteem; clear about their views; having strong decision-making; interest in new things is low, with a majority sometimes or never feeling interested; never feeling to be loved indicating potential issues with social contacts. Interest in others, having energy to spare, feeling cheerful were found to be equally distributed, and almost no group of respondents was high over other. Insights into respondents' emotional states climax optimism, usefulness, relaxation, and

social interest. It points out areas where respondents may struggle, like feeling loved or interested in the new things.

Overall Mental Health

The level of mental health and well-being was analyzed by getting a sum of construct of mental health. Starting from sum of least response values (negative most), the sum was divided into three categories, i.e., low, medium and high. Table 3 shows results regarding overall mental health state of the respondents.

Table 3 Overall Mental Health Frequency

Variable	Levels	Frequency	Percent
Overall Mental Health of Students	Low (<= 20.00_	2	0.7
	Medium (21.00 - 39.00)	191	64.5
	High (40.00+)	103	34.8
	Total	296	100.0

The frequency and percentage of students falling into each category indicated that a significant proportion lies in the medium of mental health and well-being (64.5%). A significant proportion of the respondents are in a high mental health and well-being state (34.8%). On the other hand, the number of the respondents in low mental health and well-being states was low. In this regard, the following pie chart shows a significant number of respondents having a medium mental health and well-being state.

Impact of Demographic Variables on Academic Performance

To find out group difference of demographics in the academic performance of university students, t-test and ANOVA were used. Tables 6-8 below indicate the impact of demographic variables on the academic performance.

Table 4 Group Difference Across Gender and University Sector (DV: GPA)

Independent variables		Group Statistics			Levene's Test		T-Test for Equality of Means		
		N	Mean	SD	F	Sig.	T	Sig.	Mean Diff
Gender	Male	106	2.42	.792	294	.000	-3.919	.000	-.365
	Female	190	2.79	.754					
University	Public	205	2.74	.814	294	.000	2.926	.004	.269
Sector	Private	91	2.47	.689					

Table 4 shows the statistical analysis of group differences of dichotomous variables, i.e., gender and university sector, using t-test statistics. Leven's test for the equality of means for gender indicates a significant mean difference (p = .000) between male and female participants. However, a negative t-value (-3.919) indicates that the mean score for males is lower than that of females. On the other hand, Leven's test for the equality of means for university sector also indicated a significant mean difference (p = .000). The t-value for the same was found to be 2.926, which indicates that the mean scores of the public sector university students are higher than that of the private sector university students. To probe into group differences among multichotomies variables, i.e., age and semester of

the respondents on academic performance, Analysis of Variance (ANOVA) was applied. It is given in table 5 and table 6.

Table 5 Group Difference Across the Age (DV: GPA)

Descriptive				ANOVA			Multiple Comparisons		
Age GRP	N	Mean	SD	MS	F	Sig.	(J) Age	Mean Diff (I–J)	Sig.
>18	57	2.16	.649	7.017	12.689	.000	19–20	-.526*	.000
							21–22	-.750*	.000
							23–24	-.481*	.003
19–20	95	2.68	.704				> 18	.526*	.000
							21–22	-.223*	.034
							23–24	.045	.756
21–22	108	2.91	.803				> 18	.750*	.000
							19–20	.223*	.034
							23–24	.269	.062
23–24	36	2.64	.798				> 18	.481*	.003
							19–20	-.045	.756
							21–22	-.269	.062
Total	296	2.66	.787						

The results of descriptive statistics indicated a gradual alleviation of academic performance scores with the rise of age. The ANOVA results indicate a significant difference in mean scores across age groups ($p < 0.05$). Further, LSD analysis to find out the multiple comparisons indicated significant differences between several age groups, particularly amid youngest (>18) and older groups (19–20; 21–22; 23–24).

Table 6 Group Difference Across the Semester (DV: GPA)

Descriptive				ANOVA			Multiple Comparisons		
Age GRP	N	Mean	SD	MS	F	Sig.	(J) Age	Mean Diff (I–J)	Sig.
Semester 1	32	2.22	.906	13.787	28.517	.000	Semester 3	-.308*	.021
							Semester 5	-.586*	.000
							Semester 7	-1.381*	.000
Semester 3	188	2.53	.682				Semester 1	.308*	.021
							Semester 5	-.278*	.021
							Semester 7	-1.073*	.000
Semester 5	41	2.80	.679				Semester 1	.586*	.000
							Semester 3	.278*	.021
							Semester 7	-.795*	.000
Semester 7	35	3.60	.553				Semester 1	1.381*	.000
							Semester 3	1.073*	.000
							Semester 5	.795*	.000
Total	296	2.66	.787						

Descriptive statistics indicated a gradual rise in academic performance concerning the increasing semesters among the participants. The ANOVA results indicated significant group mean difference

across the semester groups (p < 0.05). The LSD analysis revealed multiple significant comparisons between all groups.

Table 7 Group difference in overall mental health (DV: GPA)

Descriptive				ANOVA			Multiple Comparisons		
Age Groups	N	Mean	SD	MS	F	Sig.	(J) Age	MD (I–J)	Sig.
Low (<= 20.00_	2	3.00	.000	13.540	25.521	.000	Medium (21.00 – 39.00)	.565	.276
							High (40.00+)	-.068	.896
Medium (21.00 – 39.00)	191	2.43	.714				Low (<= 20.00_	-.565	.276
							High (40.00+)	-.633*	.000
High (40.00+)	103	3.07	.757				Low (<= 20.00_	.068	.896
							Medium (21.00 – 39.00)	.633*	.000
Total	296	2.66	.787						

Descriptive statistics indicated that the highest mental health group had the highest mean scores in academic performance but the lowest in medium mental health group. However, the low mental health scores showed no variability (SD =0), indicating that both individuals in this group had the same scores. At the same time, a dispersal of mean scores at medium and high mental health groups was observed with SD = .714 and .757, respectively. The ANOVA results indicated a significant mean difference across mental health groups (F = 25.521, p < 0.05). LSD analysis to explore the multiple comparisons indicated an insignificant mean difference amid low–medium (p = .276) and low–high (p = .896) mental health groups with medium, high mental health scores in academic performance. The participants in low mental health group were fairly very low (only 2), so results can be ignored. Still, a significant mean difference amid medium–high mental health group observed (p = 0.000), indicating that high mental health groups performed better outcomes as compared to with medium mental health scores.

Table 8 Regression analysis

Model-1		ANOVA			Regression Coefficients			
	Pearson R	F	Sig.	Beta	T	Sig.	VIF
Constant				.283	6.141	.000	
Overall Mental Health	.365	45.304	.000	.588	6.731	.000	1.00

The Pearson correlation value r was .356, indicating a moderate positive relationship between the predictor variable(s) and overall mental health. This means overall mental health increases as the predictor variable(s) increases. Regarding the ANOVA results, F = 45.304 indicated a significant portion of the variance in the dependent variable (the overall mental health). The p-value, i.e., .000, further indicates it. It means there is a very low probability that the observed relationship occurred by chance. The results thus provide significant information for reaching the desired conclusion of the study. A high t-value, i.e., 6.731, indicates that the predictor variable significantly contributed to the model. The value of the regression coefficient beta was .588. This means that a 1% increase in the overall mental health and well-being may cause 58.8% rise in students' academic performance and vice versa. Further, the high value of the VIF (1.000) indicates the stability and reliability of the regression coefficients.

DISCUSSION

The number of students lying in the moderate mental health and well-being state indicates that the majority of the students experience some mental health challenges, but which are not very severe. It was explained in literature that significant proportion of student report experiencing psychological distress, self-harm, and even suicidal thoughts (Adegoyega, 2019). Therefore, demand for mental health services on campuses has increased. On other hand, many students were found to have high overall mental health and well-being, indicating a sign of positivity among them. The t-test results indicated significant mean differences between males and females (with females having the higher scores) and between public and private sector university students (with the public sector university students having the higher mean score). The researchers also indicated that although the COVID-19 passed 4-years ago, still its after-effects also exacerbated by mental health issues among students having the experienced online learning, social isolation, and uncertainty about the future (Coninck, Matthijs & Lancker, 2022; Nazari, Hosseinnia, Torkian & Garmaroudi, 2023; OECD, 2021; Wang et al., 2022a).

All of these factors contribute to the increased stress and depression signs among the students. This approach can be considered a relatively inexpensive investment that will bring change for better in two key sectors: education and health. Schools have an excellent opportunity to enhance students' health across various domains as a part of the health promotion process (Fincham, Strauss, Marin & Cavanagh, 2023; Niancai, Zhuonlin & Qi, 2024). The trifurcation of mental health into the low, medium, and high levels in study was also supported by recent research emphasizing importance of targeted interventions for students with high-risk, poor mental health conditions (Cavioni, Grazzani & Ornaghi, 2020; Yang & Yang, 2022). The mental health encompasses emotional, psychological, and social well-being, influencing how individuals think, feel, and behave. Recent studies have identified several factors that significantly influence the mental health of university students. These factors include traumatic conditions faced by students in their childhood (Agorastos et al., 2014), autism spectrum disorders (Kikusui & Hiroi, 2017), adjustment issues to cope with university life (Tabassum et al., 2023).

CONCLUSIONS

The study results led to the conclusion that some positive and negative mental health indicators are prevalent among students, i.e., the negative mental health trends among the students were a sense of pessimism, feelings of isolation, and a lack of sensation of being loved among the respondents. This was more common in males than in females. However, feelings of positivity, usefulness, relaxation, and problem-solving abilities were prevalent and signs of mental health among students. Moreover, most of the students fall into the medium mental health category, with a substantial portion in the high category. At the same time, severe mental health issues were relatively rare. The regression model proved mental health and well-being as statistically significant predictors of the academic performance of university students. These conclusions provide a comprehensive understanding of the respondents' mental health and demographic characteristics, highlighting key areas of strength as well as concern.

Recommendations

1. The university administration should take different steps to enhance optimism and positivity amid students. These steps may include organizing workshops, seminars, counselling services, peer support programs, and other social events to increase social connections and feelings of being loved among the students.

2. Study findings indicated that males were found to have more mental health and well-being issues than that of females. Thus, addressing targeted intervention to specific needs of male students may improve situation. The targeted interventions may include resource allocation and collaboration to support students in different university sectors.

3. Different mental health programs can be tailored to meet the specific needs of different age groups and semesters, e.g., orientation programs that may address transition challenges for the first-year university students.

4. The regular mental health and well-being assessments should be conducted to monitor the students' mental state and conditions and identify areas for improvement, which may also be very fruitful.

REFERENCES

Adegboyega, L. O. (2019). Influence of social media on sexual behaviour of youth in Kwara state, Nigeria: Implications for Counselling Practice. *Canadian Journal of Family and Youth*, 11(1), 85-103.

Azad, P., & Kaur, H. (2024). Academic stress and psychological well-being among boys' and girls' college students. *International Journal of Research & Analytical Reviews*, 11 (1), 510-522.

Bai, H., & Gao, K. (2021). Study of Social Media Alienation in Digitized World. Proceedings of 2021 5th International Seminar on Education, Management & Social Sciences (ISEMSS 2021).

Busari, A. O. (2014). Academic stress among undergraduate students: Measuring the effects of stress inoculation techniques. *Mediterranean Journal of Social Sciences*, 5(27), 599–609.

Cavioni, V., Grazzani, I., & Ornaghi, V. (2020). The Mental health promotion in the schools: A comprehensive theoretical framework. *International Journal of Emotional Education*, 12(1), 65–82.

Cefai, C., Simões, C., & Caravita, S. (2021). A systemic, whole-school approach to mental health and well-being in schools in the EU: Executive summary. Publications Office of the European Union. https://doi.org/10.2766/50546.

Coninck, D., Matthijs, K., & Lancker, W. (2022). The distance Learning and School-Related Stress Among Belgian Adolescents During COVID-19 Pandemic. Frontiers in Education, 7.

Etel, E., & Yagmurlu, B. (2015). Social Competence, Theory of Mind, and Executive Function in Institution-Reared Turkish Children. *International Journal of Behavioral Development*, 39(6), 519–529.

Fincham, G. W., Strauss, C., Marin, J., & Cavanagh, K. (2023). Effect of breathwork on stress and mental health: A meta-analysis of randomized-controlled trials. In Scientific Reports, 13 (1).

Garcia, M. S. S. (2015). The socio-cultural adaptation, openness to culture and success of Sojourn of Foreign Students in Tarlac City, Philippines. World Academy of Science, Engineering and Technology, *International Journal of Cognitive and Language Sciences*, 9(2),10–12.

Jamil, M., Bibi, T., & Shahzadi, U. (2024). Critical thinking skills development among secondary school students: An analysis of Chemistry textbook grade X (2020). *Research Journal for Societal Issues*, 6(2), 1-11.

Jamil, M., Chohan, I. R., & Tabassum, R. (2024). Life skills integration in Pakistan Studies textbook grade-XII: A qualitative content analysis. *Journal of Social Sciences Development*, 3(3), 17-27.

Jamil, M., Hassan, M. A., & Godil, D. I. (2024). Life Skills Integration in English Textbook Grade 5: A Qualitative Content Analysis. *Research Journal for Societal Issues*, 6(3), 23-34.

Jamil, M., Mahmood, A., & Masood, S. (2023). Fostering critical thinking in Pakistani secondary school science: A teacher's viewpoint. *Global Educational Studies Review*, 8(2), 645-659.

Jamil, M., Mehmood, W., & Noorani, Z. (2024). An Analysis of Physics Textbook Grade X for Critical Thinking Skills Development. *Pakistan Journal of Law, Analysis and Wisdom*, 3(4), 39-47.

Jamil, M., Mehmood, W., & Saleem, A. (2024). Biology textbook grade X (2020): Analysis for the development of higher order thinking skills among secondary school science students. *Global Regional Review (GRR)*, 9(1), 29-35.

Jamil, M., Muhammad, N., & Aslam, M. (2024). Critical thinking skills development: An analysis of mathematics curriculum 2006 (Grade-wise). *Global Social Sciences Review*, 9(1), 22-29.

Jamil, M., & Muhammad, Y. (2019). Teaching science students to think critically: Understanding secondary school teachers' practices. *Journal of Research & Reflections in Education* (JRRE), 13(2), 256-272.

Jamil, M., Muhammad, Y., & Qureshi, N. (2021). Secondary school science teachers' practices for the development of critical thinking skills: An observational study. *Journal of Development and Social Sciences*, 2(4), 259-265.

Kashif, M. F., Tabassum, R., & Bibi, S. (2024). Effect of academic stress on mental health issues among university students. *Journal of Social Sciences Development*, 3(2), 170–182.

Khan, S., & Shamama-Tus-Sabah, S. (2020). Stress and its association with positive mental health and academic performance of university students. *Pakistan Armed Forces Medical Journal*, 70(5), 1391–1395.

Kikusui, T., & Hiroi, N. (2017). A self-generated environmental factor as a potential contributor to atypical early social communication in autism. *Neuropsychopharmacology*, 42(1), 378–378.

Mitchell, S. (2020). Report of the Task Force on Managing Student Mental Health.

Mofatteh, M. (2021). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health*, 8(1), 36–65.

Naseer, H., Muhammad, Y., & Jamil, M. (2021). Critical thinking skills in Pakistan studies textbook: Qualitative content analysis. *Pakistan Journal of Social Research*, 4(3), 744-755.

Nazari, A., Hosseinnia, M., Torkian, S., & Garmaroudi, G. (2023). Social media and mental health in students: A cross-sectional study during the Covid-19 Pandemic. *BMC Psychiatry*, 23(1).

Niancai, L., Zhuonlin, F., & Qi, W. (2024). Education in China and the World Achievements and Contemporary Issues (L. Niancai, Ed.; 2nd ed.). Springer, Shanghai Jiao Tong University Press.

OECD. (2021). Tackling the Mental Health Impact of the COVID-19 Crisis: An Integrated, Whole-of-Society Response.

Park, Y. H., Kim, I. H., & Jeong, Y. W. (2022). Stress, and coping strategy of university students during COVID-19 in Korea: The Mediating Role of Ego-Resiliency. *Acta Psychologica*, 227.

Rahiman, H. U., Panakaje, N., Kulal, A., Harinakshi, & Parvin, S. M. R. (2023). Perceived academic stress during a pandemic: Mediating role of coping strategies. *Heliyon*, 9(6).

Rehman, W., Tehmina, D. R., Bukhari, N., Noreen, D. R., Shamsi, F., & Abrar, A. (2024). Nomophobia and academic performance: Exploring the cognitive and behavioral impacts on university students. *Remittances Review*, 9(2), 149–161.

Sajid, S.M., Jamil, M., & Abbas, M. (2022). Impact of teachers' work-family conflict on the performance of their children. *Jahan-e-Tehqeeq*, 5(1), 229-239.

Salari, N., Hosseinian-Far, A., Jalali, R., Raygani, A., Mohammadi, M., & Paveh, B. (2020). Prevalence of Stress, anxiety, depression among the general population during the COVID-19 Pandemic: A systematic review and meta-analysis. *Globalization and Health*, 16(1).

Tabassum, R., & Akhter, N. (2020). Effect of demographic factors on academic performance of university students. *Journal of Research and Reflections in Education*, 14(1), 64–80.

Tabassum, R., Akhter, N., & Iqbal, Z. (2020). Relationship between social competence and academic performance of university students. *In Journal of Educational Research*, 23(1).

Tabassum, R., Kashif, M. F., Shaheen, F., Sadiya Iqbal, H., Fatima, Q., Saleem, N., & Tehmina Naz Bukhari, S. (2024). Relationship of psychosocial factors and academic performance with mediation effect of social competence. *Kurdish Studies*, 12(5), 339–351.

Tabassum, R., Fida, F., Sabiha, Tahira, R., Toosy, M., Rehan, Q., & Riaz, S. (2024). Impact of social skills on high school students' academic performance. *Kurdish Studies*, 12(5), 391–396.

Tabassum, R., Saleem, A., & Fatima, M. (2023). Academic worth correlates of students' performance: A study on adolescents of Lahore. *Journal of Social Sciences Review*, 3(2), 60–69.

Taj, S., Tabassum, R., & Bibi, S. (2024). Impact of stress on the academic performance of university students. *Research Journal for Societal Issues*, 6, 314–325.

Wang, L., Ibarra, V., Ren, F., & Liu, T. (2022a). The influence of college students' academic stressors on mental health during COVID-19: The mediating effect of social support, social well-being, and self-identity. *Frontiers in Public Health*, 1–13.

Wang, L., García-Ibarra, V., Ren, F., & Liu, T. (2022b). The influence of college students' academic stressors on mental health during COVID-19: The mediating effect of social support, social well-being, and self-identity. *Frontiers in Public Health*, 1–13.

World Health Organization. (2005). Promoting the mental health: Concepts, emerging evidence, practice: A report of World Health Organization, Department of Mental Health Substance Abuse in collaboration and the University of Melbourne. World Health Organization.

World Health Organization. (2022). Mental Disorders. WHO? World Health Organization. (2024, March 3). Depressive Disorder. March 31, 2023.

Yang, Y., & Yang, P. (2022). Effect of College Students' academic stress on anxiety under the background of the normalization of COVID-19 Pandemic: The mediating and moderating effects of psychological capital. *Frontiers in Psychology*, 13.

Zada, S., Wang, Y., Zada, M., & Gul, F. (2021). Effect of mental health problems on academic performance among university students in Pakistan. *International Journal of Mental Health Promotion*, 23, 395-408.