

## Perceived Stress and Satisfaction with Life Among Basic Sciences Medical Students: A Single Center Study

Asma Suleman,<sup>1</sup> Ayesha Piracha,<sup>2</sup> Syed Ayan Zulfiqar Bokhari,<sup>3</sup> Ammara Abid<sup>4</sup>

### Abstract

**Objectives:** The objective of this study was to measure the frequency of perceived stress and life satisfaction among basic sciences students as well as to determine the association between perceived stress and life satisfaction.

**Materials and Methods:** From June to September 2022, a cross-sectional study was conducted among basic sciences students of 1st and 2nd Professionals. The sampling was done through non-probability convenient sampling. From a target population of 1200, a sample size of 177 was calculated using Raosoft. Questionnaires which included the Perceived Stress Scale (PSS-10) and Satisfaction with Life Scale were distributed among the students. Descriptive analysis (frequencies  $\pm$  SD) and correlation were analyzed using SPSS version 21.

**Results:** A significant negative correlation ( $R = -0.337$ ;  $p = 0.000$ ) was found between perceived stress and life satisfaction. Among the surveyed students, 70.3% ( $n = 130$ ) reported moderate perceived stress levels, and 31.4% ( $n = 58$ ) had moderate satisfaction levels based on the Satisfaction with Life Scale.

**Conclusion:** Perceived stress and life satisfaction correlated negatively with each other depicting that when perceived stress increases, satisfaction with life decreases. Overall, stress levels are greater than life satisfaction among medical students.

**Keywords:** Perceived stress, Life satisfaction, Medical students, SWLS scale, PSS-10.

**How to cite:** Suleman A, Piracha A, Bokhari SAZ, Abid A. Perceived Stress and Satisfaction with Life Among Basic Sciences Medical Students: A Single Center Study. *Esculapio - JSIMS* 2023;19(04):445-448.

**DOI:** <https://doi.org/10.51273/esc23.251319414>

### Introduction

The medical field is known for its demanding nature, leading to mental health challenges among students. The rigorous coursework and exams lead to higher perceived stress levels as compared to other students and the general population. Perceived stress is an individual's overall perception of their stress levels.<sup>1</sup> Students in healthcare professions are seen to have a greater incidence of depression, anxiety, and psychological distress than their non-medical peers as a study has shown,<sup>2</sup> in addition to cognitive effects such as increased levels of

depression, burnout and reduced well-being.<sup>3</sup> Medicine, a prestigious yet competitive field, requires students to find satisfaction and contentment for future success as practitioners. Life satisfaction has been defined as 'the extent to which a person optimistically analyzes the overall quality of his or her life as a whole'<sup>(4)</sup>. There are many factors that could predict students' life satisfaction; mental health is one very important factor among all of them. As proven through literature, individuals who have better mental health are more satisfied in life.<sup>5</sup> A study conducted by M.H.Sani in Saudi Arabia showed 71.9% stress levels among medical students.<sup>8</sup> In a similar research conducted in Pakistan, 22% students showed mild stress, 23% showed moderate & 16% showed severe stress.<sup>5</sup> In a study conducted by Michal Machul in Poland, in the Polish students' group, females reported lower life satisfaction than males. In the group of foreign students, males showed decreased life satisfaction than females.<sup>9</sup> Iram Fatima conducted research in

1-4. Foundation University Medical College, Islamabad

### Correspondence:

Syed Ayan Zulfiqar Bokhari, Final year MBBS Student, Foundation University Medical College, Islamabad.

Submission Date:	24-10-2023
1st Revision Date:	14-11-2023
Acceptance Date:	14-12-2023

Bahawalpur, Pakistan, where results showed that life satisfaction is linked with mental well-being.<sup>11</sup> The purpose of medical training is to bring about efficiency, knowledge, and skills required in a graduate to construct a quality healthcare system. Therefore, there is no doubt that the life satisfaction of medical students is vital and should be addressed.<sup>6</sup> Despite this, not much research has been conducted in Pakistan regarding these two variables. Therefore, we embarked on a journey to conduct a study with aims of finding correlation between perceived stress and life satisfaction among medical students.

## Material and Methods

A cross sectional study was carried out from June to September 2022 amongst the basic sciences medical students of a university of Islamabad. From the target population of 1200, a sample size of 177 was calculated with confidence interval of 85% and margin of error of 5% using Raosoft Software. The sampling technique was non probability convenience sampling. The inclusion criteria included all the attending available students of Basic Sciences while the exclusion criteria included students that didn't give consent, were studying in fields other than the medical and were undergoing any psychiatric treatment. Questionnaires were used that included Perceived Stress Scale (10 questions with scores ranging from 1-4) and Satisfaction with Life Scale (5 questions with scores ranging from 1-7). Consent was taken after reassuring the students that their confidentiality will be maintained. Ethical approval was taken from the Ethical Review Committee of Foundation University School of Health Sciences. IBM SPSS Statistics version 21 was used to determine the Pearson correlation between perceived stress and satisfaction with life.

## Results

Demographic analysis showed that out of 185, 182 (98.4%) students belonged to the age group of 18-22 years, 1 (0.5%) was <18 years and 2 (1.1%) were <22 years old. 69 (37.3%) students were males and 116 (62.7%) were females. 101(54.6%) students were from 1st Professional year and 84 (45.4%) were from 2nd year.

Out of the 250 questionnaires distributed, 185 were completely filled and met the inclusion criteria, while 5 did not meet the inclusion criteria, and the remainder were either incorrect or incompletely filled. These 185

questionnaires were further analyzed for the study. As shown in table 1, 26 (14.0%) students reported low level of perceived stress, 130 (70.3%) students showed moderate level and 29 (15.7%) reported high levels of perceived stress. Table 3 Pearson's correlation was applied which came out to be negative with an 'r' value of -0.337 and 'p' value of 0.000. As shown in table 2, 5 students (2.7%) were extremely dissatisfied, 16 (8.6%) were moderately dissatisfied, 27 (14.6%) were slightly dissatisfied, 8 (4.3%) were neutral, 47 (25.4%) were slightly satisfied, 58 (31.4%) were moderately satisfied and 24 (13.0%) were extremely satisfied with life.

**Table 1:** Shows the frequency and percentage of different levels of perceived stress among basic sciences medical students.

Level of perceived stress (scores)	Frequency (%)
Low (0-13)	26 (14.0)
Moderate (14-26)	130 (70.3)
High (27-40)	29 (15.7)

**Table 2:** Shows the frequency and percentages of different levels of satisfaction with life among basic sciences medical students

Level of satisfaction with life (scores)	Frequency (%)
Extreme dissatisfaction (5-9)	5 (2.7)
Moderate dissatisfaction (10-14)	16 (8.6)
Slight dissatisfaction (15-19)	27 (14.6)
Neutral (20)	8 (4.3)
Slight satisfaction (21-25)	47 (25.4)
Moderate satisfaction (26-30)	58 (31.4)
Extreme satisfaction (31-35)	24 (13.0)

**Table 3:** As shown in table 3, Pearson's correlation was applied which came out to be negative with an 'r' value of -0.337 and 'p' value of 0.000.

Total satisfaction with life		
Total perceived stress	r= -0.337	p = 0.000
P value < 0.05, Significant		

## Discussion

An increasing amount of attention is being given to mental health worldwide over the past decade. It is also a widely acknowledged fact that medical students are subjected to serious amounts of stress throughout their college years due to their hectic study and exam schedules. To become proficient practitioners who are able to treat their patients most efficiently, it is extremely crucial for each medical student to take care of their stress levels, and therefore, mental well-being. In this

study, we tried to address stress levels and life satisfaction among Basic Sciences Medical students. Demographic analysis showed that out of 185, 182(98.4%) students belonged to the age group of 18-22 years, 1 (0.5%) was <18 years and 2(1.1%) were <22 years old. 69 (37.3%) students were males and 116 (62.7%) were females. 101(54.6%) students were from 1st Professional year and 84 (45.4%) were from 2nd year. The results of this study showed that 130 (70.3%) students were moderately stressed. This percentage is lower than a similar study conducted by Amany Edward Seedhom in Egypt where the levels of perceived stress among medical students were 88.9%.<sup>7</sup>

Another study conducted by M.H.Sani in Saudi Arabia<sup>8</sup> showed 71.9% stress levels among medical students. In a study conducted by Michal Machul in Poland using the PSS-10 scale, Polish students had greater stress levels in comparison to their foreign colleagues.<sup>9</sup>

In a research conducted by Babar T Sheikh in a medical university in Pakistan, more than 90% of the students mentioned that they have had bouts of stress while in college at least once.<sup>10</sup> In another research conducted in Pakistan, 22 % students showed mild stress, 23% showed moderate & 16% showed severe stress.<sup>5</sup> Regarding satisfaction with life, this study showed that 58 (31.4%) were moderately satisfied with life. In a study conducted by Michal Machul in Poland, in the Polish students' group, females reported lower life satisfaction than males. In the group of foreign students, males showed decreased life satisfaction than females.<sup>9</sup> Iram Fatima conducted research in Bahawalpur, Pakistan, where results showed that life satisfaction is linked with mental well-being.<sup>11</sup>

This study also showed that there is a significant negative correlation ( $r=-0.337$ ,  $p=0.000$ ) between perceived stress and satisfaction with life among medical students which means that excessive amounts of stress leads to decreased satisfaction with life. This is in accordance with several other studies, including one conducted in Pakistan where the spearman's correlation value for life satisfaction had a significantly negative correlation with stress.<sup>12</sup> Similarly, another research done in Pakistan by Furqan Ahmed Siddiqi showed a significant negative correlation between stress and life satisfaction.<sup>13</sup> However, not all studies showed a significant negative correlation; for example, one study conducted by Agnes Mary Khine Myint Oo in Myanmar showed that stress does not predict life satisfaction amongst medical students. The reason given for these results is that medi-

cal education in Myanmar is considered a separate life and although the students do experience stress during their academic hours, it does not affect their life as a whole.<sup>6</sup>

Sociodemographic factors aside, stress appears directly linked to the demanding workload in university and hospitals, coupled with the pressure to excel throughout a student's journey to becoming a doctor. This stress, negatively correlated with life satisfaction, stems from the hectic schedules of medical students, potentially impacting grades, concentration, and overall life satisfaction. This study was restricted to the evaluation of perceived stress and life satisfaction exclusively within the confines of Basic Sciences students. This constraint constitutes a limitation of our research.

## Conclusion

The majority of basic sciences showed a high frequency of moderate stress on PSS and less than half of them showed moderate satisfaction on SWLS. Perceived Stress and Satisfaction with life have significant negative correlation such that if stress increases and satisfaction with life decreases.

**Conflict of Interest:**

*None*

**Funding Source:**

*None*

## References

1. Phillips A. Perceived stress. [Internet]. [cited 2022 Dec 27]. Available from: [https://link.springer.com/referenceworkentry/10.1007/978-1-4419-1005-9\\_479](https://link.springer.com/referenceworkentry/10.1007/978-1-4419-1005-9_479)
2. Heinen I, Bullinger M, Kocalevent R. Perceived stress in first-year medical students - associations with personal resources and emotional distress. *BMC Med Educ.* 2017;17(1). doi:10.1186/s12909-016-0841-8
3. Duarte I, Alves A, Coelho A, Ferreira A, Cabral B, Silva B, et al. The mediating role of resilience and life satisfaction in the relationship between stress and burnout in medical students during the COVID-19 pandemic. *Int J Environ Res Public Health.* 2022;19(5):2822. doi: 10.3390/ijerph19052822
4. Ackerman CE. Life satisfaction theory & 4 contributing factors (+ scale) [Internet]. [cited 2022 Dec 27]. Available from: [https://positivepsychology.com/life-satisfaction/#:~:text=%E2%80%9CLife%20satisfaction%20is%20the%20degree,\(1996\)](https://positivepsychology.com/life-satisfaction/#:~:text=%E2%80%9CLife%20satisfaction%20is%20the%20degree,(1996))
5. Kumar H. Psychological distress and life satisfaction among university students. *J Psychol Clin Psychiatry.* 2016;5(3). doi:10.15406/jpcpy.2016.05.00283

6. Khine Myint Oo AM, Mohanan SA. Stress And Life Satisfaction Among Medical Students In Myanmar: The Mediating Role Of Coping Styles. *Scholar Human Sci.* 2019;11(2):313. Available from:<http://www.assumptionjournal.au.edu/index.php/Scholar/article/view/3459>
7. Mohammed E, Seedhom A, Kamel E, Raouf N. Predictors of perceived stress among medical and nonmedical college students, Minia, Egypt. *Int J Prev Med.* 2019; 10(1):107. doi:10.4103/ijpvm.ijpvm\_6\_18
8. Sani M, Mahfouz M, Bani I, Alsomily AH, Alagi D, Alsomily NY, et al. Prevalence of stress among medical students in Jizan University, Kingdom of Saudi Arabia. *Gulf Med J.* 2012;1:19-25.
9. Machul M, Bieniak M, Chałdaś-Majdańska J, Bąk J, Chrzan-Rodak A, Mazurek P, et al. Lifestyle practices, satisfaction with life and the level of perceived stress of Polish and foreign medical students studying in Poland. *Int J Environ Res Public Health.* 2020; 17(12): 4445. doi:10.3390/ijerph17124445
10. Shaikh B, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N, et al. Students, stress and coping strategies: A case of Pakistani medical school. *Educ Health (Abingdon).* 2004;17(3):346-353. doi:10.1080/13576280400002585
11. Iram Fatima, Muhammad Waqar Naeem, Hafiz Muhammad Zeeshan Raza. Life satisfaction and psychological wellbeing among Young Adults. *World J Adv Res Rev.* 2021;12(2):365-371. doi:10.30574/wjarr.2021.12. 2. 0599
12. Kumar H. Psychological distress and life satisfaction among university students. *J Psychol Clin Psychiatry.* 2016;5(3). doi:10.15406/jpcpy.2016.05.00283
13. Siddiqi FA, Azim ME, Babur MN, Osama M, Waheed A, Memon AR. Psychological Stress and Satisfaction with Life among Physical Therapy Students of Rawalpindi / Islamabad, Pakistan. *J Pakistan Med Assoc.* 2019; 69(7):973-975.

#### **Authors Contribution**

**AS:** Conceptualization of Project  
**AS, AP, SAZB:** Data Collection  
**AS, AP, SAZB:** Literature Search  
**AS, AP, SAZB:** Statistical Analysis  
**AS, AP, SAZB:** Drafting, Revision  
**AS, AP, SAZB:** Writing of Manuscript