

Gender Differences in Sleep Quality Among University Students

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Abstract—The present study was conducted to examine differences in sleep quality between male and female university students. A total of 60 students ($N = 60$), comprising 30 males and 30 females, were selected from Sri Guru Granth Sahib World University, Fatehgarh Sahib during the academic session 2025–26. The participants were aged between 18 and 23 years and were selected using a random sampling technique. In addition to descriptive statistics, an independent-samples t-test was employed to determine the significance of differences between male and female students. The findings revealed significant differences in subjective sleep quality ($p = .046$), sleep disturbances ($p = .016$) and global PSQI scores ($p = .016$) between male and female university students. However, no significant differences were observed in sleep latency, sleep duration, habitual sleep efficiency, use of sleep medication and daytime dysfunction. Based on these findings, it may be concluded that gender is associated with certain aspects of sleep quality among university students, while other sleep-related dimensions remain comparable between males and females.

Index Terms—Sleep Quality, University Students, Gender Differences, Pittsburgh Sleep Quality Index (PSQI), Sleep Disturbances.

I. INTRODUCTION

Sleep is an essential physiological process that plays a vital role in maintaining physical health, mental well-being, cognitive functioning and overall quality of life. Adequate sleep is necessary for memory consolidation, emotional regulation, learning, and daily performance. However, sleep disturbances have become increasingly common worldwide and can adversely affect academic performance, mental health and general well-being (Asghari et al., 2012).

University students are particularly vulnerable to poor sleep quality because of academic demands, examination stress, social activities, irregular schedules and increased screen time. Insufficient sleep among students has been associated with impaired concentration, reduced memory, daytime sleepiness and decreased academic performance (Hershner & Chervin, 2014).

Previous studies have reported that gender may influence sleep quality, with female students often experiencing poorer sleep than males. Biological, psychological and social factors, including hormonal changes, emotional stress and anxiety, may contribute to these differences (Fatima et al., 2016).

Despite the growing recognition of sleep-related problems among university students, evidence regarding gender differences in sleep quality remains limited in the local university context. Therefore, the present study was undertaken to compare sleep quality between male and female university students using the Pittsburgh Sleep Quality Index (PSQI).

II. PURPOSE OF THE STUDY

The purpose of the present study was to compare the overall sleep quality of male and female university students using a standardized measure, namely the Pittsburgh Sleep Quality Index (PSQI). The study also aimed to evaluate and compare various components of sleep quality, including subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication and daytime dysfunction among male and female university students.

III. INSTRUMENT

Sleep quality among male and female university students was assessed using the Pittsburgh Sleep Quality Index (PSQI), a standardized self-report questionnaire developed by Daniel J. Buysse and colleagues. The PSQI is widely used to evaluate sleep quality and sleep disturbances over the previous month and provides both component scores and a global score for assessing overall sleep quality. It measures various dimensions of sleep, including subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication and daytime dysfunction.

IV. DATA COLLECTION

The data for the present study were collected from 60 university students, including 30 male and 30 female students, selected through a random sampling technique. Before administering the questionnaire, the participants were informed about the purpose of the

study and assured that the information provided by them would be kept confidential and used only for academic purposes. Their willingness to participate was obtained prior to data collection. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI) questionnaire. The participants were asked to respond to all items based on their sleep experiences over the past month. After collecting the completed questionnaires, the responses were carefully reviewed, organized and prepared for statistical analysis.

IV. STATISTICAL ANALYSIS

The collected data were analysed using SPSS software (version 23.0). Descriptive statistics, including mean and standard deviation, were computed to summarize the sleep quality scores of male and female university students. To examine the differences in sleep quality and its components between the two groups, an independent samples t-test was employed. Statistical significance was set at $p < .05$.

V. RESULTS

Table 1 Comparison of sleep quality scores between male and female university students

Variables	Gender	Mean	Std. Deviation	Std. Error Mean	t-value	Sig.
Subjective Sleep Quality	Male	0.50	0.57	0.104	-2.037	0.046*
	Female	0.93	1.01	0.185		
Sleep Latency	Male	0.80	0.714	0.130	-1.376	0.174
	Female	1.07	0.785	0.143		
Sleep Duration	Male	0.33	0.661	0.121	-1.884	0.065
	Female	0.70	0.837	0.153		
Habitual Sleep Efficiency	Male	0.03	0.183	0.033	-.913	0.365
	Female	0.13	0.571	0.104		
Sleep Disturbances	Male	0.97	0.414	0.08	-2.470	0.016*
	Female	1.27	0.521	0.095		
Use of Sleep Medication	Male	0.00	0.000	0.000	-1.649	0.105
	Female	0.20	0.664	0.121		
Daytime Dysfunction	Male	0.67	0.547	0.100	-.356	0.723
	Female	0.73	0.868	0.159		
Global PSQI	Male	3.27	1.911	0.349	-2.488	0.016*
	Female	5.03	3.388	0.619		

* Significant at the 0.05 level.

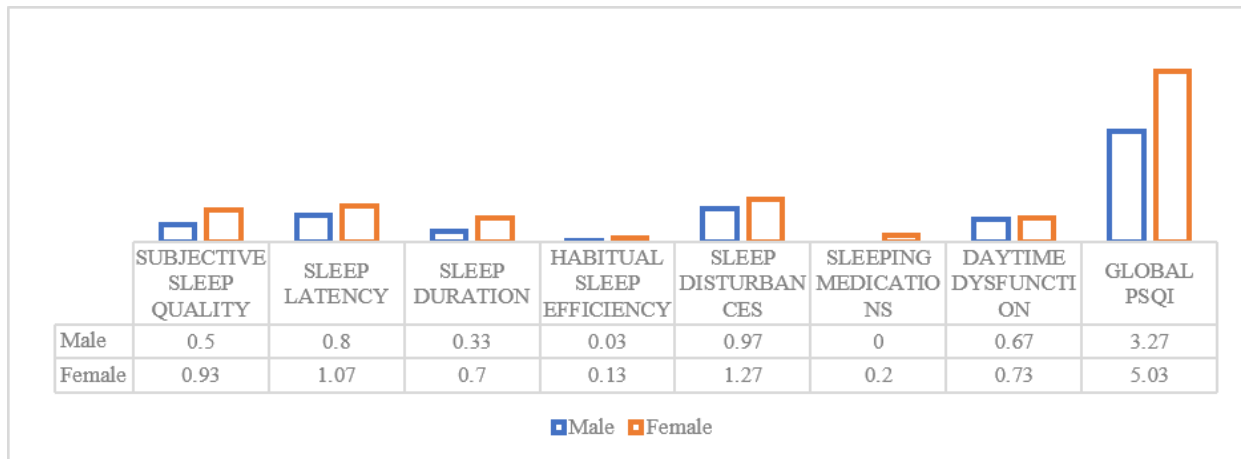


Figure 1. Mean Scores of Pittsburgh Sleep Quality Index (PSQI) Components Among Male and Female University Students.

Table 1 presents the mean, standard deviation, t-values and significance levels of sleep quality among male and female university students across different components of the Pittsburgh Sleep Quality Index. The mean and standard deviation values for male and female students, respectively, were: Subjective Sleep Quality (0.50 ± 0.57 and 0.93 ± 1.01), Sleep Latency (0.80 ± 0.71 and 1.07 ± 0.79), Sleep Duration (0.33 ± 0.66 and 0.70 ± 0.84), Habitual Sleep Efficiency (0.03 ± 0.18 and 0.13 ± 0.57), Sleep Disturbances (0.97 ± 0.41 and 1.27 ± 0.52), Use of Sleep Medication (0.00 ± 0.00 and 0.20 ± 0.66), Daytime Dysfunction (0.67 ± 0.55 and 0.73 ± 0.87), and Global PSQI (3.27 ± 1.91 and 5.03 ± 3.39).

The results of the independent-samples t-test indicated that there were statistically significant differences between male and female university students in Subjective Sleep Quality ($p = .046$), Sleep Disturbances ($p = .016$) and Global PSQI scores ($p = .016$), as the p-values were less than the 0.05 level of significance. However, no significant differences were found in Sleep Latency ($p = .174$), Sleep Duration ($p = .065$), Habitual Sleep Efficiency ($p = .365$), Use of Sleep Medication ($p = .105$) and Daytime Dysfunction ($p = .723$), as their p-values exceeded the 0.05 threshold. Overall, these findings suggest that gender differences in sleep quality are present in certain components, particularly in overall sleep quality and sleep disturbances, while most other sleep parameters remain comparable between male and female university students.

VI. CONCLUSIONS

The present study was conducted to compare sleep quality between male and female university students using the Pittsburgh Sleep Quality Index (PSQI). The findings of the study indicate that significant gender differences exist in selected components of sleep quality. Female students demonstrated poorer overall sleep quality, greater sleep disturbances and significantly higher global PSQI scores than male students. However, no significant differences were observed between male and female students in sleep latency, sleep duration, habitual sleep efficiency, use of sleep medication and daytime dysfunction.

The findings suggest that gender influences certain aspects of sleep quality among university students, particularly overall sleep quality and sleep disturbances, while most other sleep parameters remain comparable between male and female students. These findings highlight the need for further attention to sleep health among university students, especially female students, to promote better academic performance and well-being.

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