



HEALTH-RELATED OUTCOMES OF SLEEP QUALITY IN PAKISTANI AND INTERNATIONAL STUDENTS

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ABSTRACT

Good sleep is essential for general health and wellbeing, especially for students who deal with a variety of social and academic demands. This study was conducted to examine potential disparities in the health-related consequences of sleep quality among international and Pakistani students. A cross-sectional survey was administered to a diverse sample of Pakistani and international students enrolled in various institutions. The survey assessed sleep quality using validated instruments such as the Pittsburgh Sleep Quality Index and mental health outcomes using EQ-5D3L Health Questionnaire. This research explored potential differences in sleep quality and health-related outcomes between the two student populations. The findings of this research will contribute to a better understanding of the sleep health needs of Pakistani and international students.

I. INTRODUCTION

Sleep is considered one of the important components of the body's cardiac rhythm. Lack of sleep makes individuals vulnerable to illnesses like Heart disease, diabetes, depression, falls, accidents, poor cognitive function, and a lower quality of life. While the quality of sleep is affected by typical aging changes, older persons' sleep patterns are often compromised by various medical illnesses and drugs. A thorough evaluation of sleep patterns and quality is the first step in any sleep examination. The medical practitioner may be able to use measures to address the sleep problems right away or collaborate with the medical team to do a more thorough assessment of the problem. The quality of sleep has an impact on health as it plays an essential role in maintaining health. Lack of sleep is a vulnerability to chronic disease, pain, and depression. The first thing to sacrifice is usually sleep, as people feel pressed for time (Umar et al., 2022). Most people view sleep as an indulgence and perceive that reducing time spent on sleep has more benefits than drawbacks. Individuals often neglect possible health outcomes of sleep deprivation and then the final outcome of health errors on time and productivity (Banks et al., 2024; Tufail et al., 2018).

It can be difficult for international students to fully integrate into academic life and the community due to a variety of issues, including language barriers, cultural adjustment, visa complications, financial difficulties, limited access to quality healthcare, navigating local customs, finding suitable accommodation, and potential safety concerns depending on the region. In order to manage their acculturative stress and better adapt to a new cultural setting,

foreign students need financial help, extended stays in their host country, and overall relationship satisfaction (Spencer-Oatey et al., 2017). Acute issues can be linked to sleep loss, which affects mood and performance, among other factors (Banks et al., 2024). An individual's susceptibility to disease and to circadian misalignment, exposure to light at night, dietary practices that are not in line with the best times for consuming nutrients, and circadian misalignment in the brain and other body systems are some of the underlying mechanisms that contribute to health problems (Chaput et al., 2023). A study found a considerable negative correlation between trait anxiety, physical symptoms, and depression score and subjective sleep quality. Compared to sleep time, subjective sleep quality had a greater correlation with sleep start delay (Fabbri et al., 2021).

In the context of Pakistan, the research depicts that Pakistani students face many sleep issues, mostly the job holder faced disturbed sleep due to domestic and societal issues (Riaz & Rafique, 2019). Such as economic pressure, low public facilities like electricity, and other life resources (Tufail et al., 2018; Umar et al., 2022). People were highly affected, especially men, due to busy and bored day-to-night working hours for better economic survival. They slept fewer hours, which produced mental health issues in them. Fatigue, lethargy, lack of motivation, diminished creativity, moodiness and irritability, problem-solving abilities, incapacity to manage stress, and decreased immunity are some of the problems they encountered (Bratti et al., 2015; Frederick et al., 2022). This study examined the cross-cultural variations in health-related outcomes of sleep quality in Pakistani and international students based on earlier research.

METHOD

Participants

A cross-sectional survey research design was used. Sleep quality is an independent variable, and health-related outcomes of sleep are dependent variables of the study. The sample of the study consisted of students ($N = 200$), including students from Pakistan ($n = 100$) and foreign countries ($n = 100$). The data was collected through a purposive sampling technique. Data was collected from Pakistan ($n = 100$), Saudi Arabia ($n = 30$), Japan ($n = 10$), England ($n = 40$), Australia ($n = 10$), and Norway ($n = 10$). The age range of the sample was 20 to 60 years.

Measures

The demographic and biological information, including gender, age, education, parental education, and socio-economic status, was collected through a demographic information sheet. [1] The Pittsburgh Sleep Quality Index (Buysee et al., 1989) was used to analyze the pattern and quality of sleep. The client rates each of these seven sleep domains. A Likert scale of 0 to 3 is used to score responses, with 3 representing the negative end. A sleeper is deemed "poor" if their global total is "5" or higher. [2] The EQ-5D-3L Health Questionnaire (EQ-53-3L Manual Guide, 2021) was used to measure the health outcome. The EQ-5D health questionnaire gives a basic descriptive profile and one index value of health status. It is easy and can be done within a few minutes. The questionnaire has instructions given to the respondents.

Procedure

Participants were assured that their confidentiality was maintained. After that, instruments were distributed among participants, and they were assured that their information would be used only for research purposes. The instruments were filled out by the participants, and they were highly obliged. During data collection, all ethical considerations were ensured. In the end, the participants were thanked. The collected data were entered into SPSS, version 27. Descriptive statistics were computed, and alpha reliability analysis was conducted. Pearson correlation was used for testing the objective.

I. RESULTS

Table 1: Psychometric Properties of Study Variables

Variables	<i>M</i>	<i>SD</i>	Range	α
Sleep quality	14.47	5.19	0-28	.69

Mental health	7.75	2.96	2-15	.78
Mobility	1.91	1.21	0-5	.68
Self-care	1.78	.94	0-3	.69
Usual activity	1.56	1.17	0-3	.77
Pain and discomfort	1.08	1.09	0-3	.75
Anxiety and depression	1.42	.98	0-3	.90
Sleep quality	14.47	5.19	0-28	.69
Mental health	7.75	2.96	2-15	.78

Table 1 shows that the study variables have satisfactory alpha reliability and are reliable for further use.

Table 2: Correlation between study variables among international students

Variables	1	2	4	5	6	7	8
1. Sleep quality	--	.31*	.14	.19	.33*	.13	.12
2. Mental health		--	.63**	.42**	.58**	.63**	.69**
3. Mobility			--	.29*	.23	.12	.21
4. Self-care				--	.31*	-.11	-.07
5. Usual activity					--	.04	.09
6. Pain and discomfort						--	.80**
7. Anxiety and depression							--

* $p < .01$

Table 2 depicts that sleep quality has a positive correlation with pain and discomfort, but non-significantly with sleep quality, mobility, self-care, usual activity, anxiety, and depression. Mental health correlates with mobility, self-care, usual activity, pain and discomfort, anxiety, and depression, with a high degree of positive correlation. Mobility positively correlates with self-care, and there is no significant correlation between mobility and normal activity, anxiety, or depression. The correlation is significant for self-care and usual activity, but non-significant for anxiety and depression. There is a nonsignificant correlation between usual activity with anxiety and depression, and pain and discomfort. There is a positive correlation between anxiety and depression, and pain and discomfort.

Table 3: Correlation between study variables among Pakistani students

Variables	1	2	4	5	6	7	8
1. Sleep quality	--	.58**	.15	.28*	.38**	.54**	.40**
2. Mental health		--	.03	.69**	.73**	.87**	.80**
3. Mobility			--	-.09	-.15	-.17	.11
4. Self-care				--	.71**	.43**	.67**
5. Usual activity					--	.47**	.75**
6. Pain and discomfort						--	.46**
7. Anxiety and depression							--

* $p < .01$

Table 3 indicates that there is a positive correlation between sleep quality and mental health, usual activity, pain, discomfort, and anxiety and depression, but a non-significant association with self-care. Mental health and self-care, usual activity, pain and discomfort, anxiety, and depression have a positive correlation, but no significant relationship with mobility exists. Self-care, usual activity, pain and discomfort, anxiety, and depression have no significant correlation with mobility. Usual activity, pain and discomfort, anxiety, and depression are positively correlated with self-care. Usual activity is positively correlated with pain and discomfort, anxiety, and depression. There is a positive relationship between usual activity, pain and discomfort, anxiety, and depression. There is a good association between anxiety and depression, and pain and discomfort.

II. DISCUSSION

The present research aims to analyze the cross-cultural differences in sleep quality and health-related outcomes (i.e., self-care, mobility, pain/discomfort, anxiety/depression, etc.). For this purpose, the relationship between variables was assessed through the computation of correlation. Research results revealed that health-related issues are more seen in international participants than in Pakistani participants. These findings are also supported by various research studies done in the past, such as sleep quality and health-related outcomes (Riaz & Rafique, 2019). A good night's sleep has been linked to a long and healthy life, according to a recent study. When researchers examined the data more closely, they discovered that people who reported getting little sleep also had declining health (Luyster et al., 2012). Research results revealed that health-related issues are more seen in international participants than in Pakistani participants. Cultural differences have an impact on sleep (Giannotti & Cortesi, 2009). An excellent illustration of how cultural shifts might impact sleep habits is the experience of Japan. Another aspect that drove the Japanese workers to wake up early and go to work early (and often stay late) was a sign of patriotism during the post-war period, when Japan was keen on trying to rebuild and reclaim itself. The nap at the workplace was encouraged as an indication of commitment, whereas it was most likely to become a nightmare during sleep.

Even in the developed world, there are still some significant differences in sleeping behavior. Some of these geographical discrepancies were shown by a 2002 research study conducted in ten major countries. As an example, the findings of different nations fell between 6 hours 53 minutes in Japan and 8 hours 24 minutes in Portugal, as indicated by the survey respondents whose average time at bed daily was almost 7.5 hours. Unlike 42% of Brazilians, 12% of Japanese people used to sleep in the afternoon. Only 1 out of 10 Austrians claimed to struggle to fall asleep, as opposed to almost 32% people in Belgium who claimed to have insomnia and other sleeping problems (Mastin, 2013). Another OECD survey research conducted in 2009 revealed that the average amount of these nine hours a night spent by the French is closely followed by Americans and Spaniards (8.5 hours), whereas Koreans and Japanese are at the bottom of the list with less than eight hours. According to a study conducted with regard to sleep in infants and toddlers in 2008, the duration of sleep per infant (including naps) was observed to range between 11.6 hours in Japan and 13.3 hours in New Zealand, and 12.9 hours in the US. In New Zealand, the babies slept between 7:30 p.m. and 10:45 p.m. In Hong Kong (John, 2015).

Through the research, we managed to detect cultural differences between Pakistani and international students and connect them with statistics on sleep. Nevertheless, this research gave a promising start to the exploration of the sleeping habits and differences in lifestyles used by different countries. The Japanese get the least amount of sleep, which is based on 6 hours and 15 minutes a night. The Northern Europeans (UK, Germany, Sweden, Switzerland) fall asleep and get up earlier than the Southern Europeans (France, Italy, Spain). The sleep and seasonality of Northern Europe are clearly correlated. Indeed, Northern Europeans sleep the shortest in May and June, and the duration of their sleep progressively increases until December, when it is maximal (Estafanous & Sedky, 2023). About one point five million Australian workers are shift workers. The impact of shift work on performance, safety, and health is negative. These relations depend on various factors such as an uncoordinated circadian rhythm, lack, and low quality of sleep, and sleep disorders such as sleep apnoea, insomnia, and shift work disorder (excessive sleepiness and/or insomnia depending on the working hours). This kind of behaviour negatively affects health, social and professional activities, mood, attentiveness, and cognitive functioning. Sleepiness of shorter duration is linked with frequent sleep and is more so among those truck drivers who do their night shifts. Essentially, 36% of the rotating shift workers, 32% of the regular night workers, and 21% of the day and evening nurses reported dozing off at least once a week who occasionally worked night shifts (Rajaratnam et al., 2013).

III. CONCLUSION

Students' lives, including their mental clarity, productivity, emotional equilibrium, creativity, physical health, and even their weight, are directly impacted by the quality of their sleep. Sleeping pills are frequently used by those who have problems falling asleep. While they might be helpful when used periodically, prolonged use of them can result in drug abuse or addiction. Therefore, the present research was designed to explore the cross-cultural

differences in health-related outcomes of sleep quality in the students of Pakistan and international students. The results revealed that international students are more affected as sleep affected their health badly compared to Pakistani students.

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