

EXPLORING THE RELATIONSHIP BETWEEN PSYCHOLOGICAL DISTRESS AND SLEEP QUALITY AMONG TEACHERS OF BALOCHISTAN UNIVERSITY QUETTA

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ABSTRACT

The current study aimed to investigate the relationship between psychological distress and sleep quality among university teachers and whether there are any gender based contrast in the levels of psychological distress and sleep quality. Convenient sampling was utilized to pick the sample of 100 teachers (49 males and 51 females) from the University of Balochistan, Quetta. The degree of psychological distress and sleep quality were evaluated using Kessler Psychological Distress Scale (Kessler et al., 2003) and Pittsburg Sleep Quality Index ((Buysse et al., 1989), respectively. For statistical analysis SPSS 23 was utilized to analyze Pearson product-moment correlation and independent sample t-test. The results indicated moderate positive correlation ($r = .418^{**}$, $p < .01$) between psychological distress and sleep quality among university teachers. Furthermore, independent sample t-test showed no statistically significant differences in the levels of psychological distress and sleep quality among male and female teachers.

Keywords: Psychological distress, Sleep quality, University teachers

INTRODUCTION

Professional development, social interaction, and intellectual interests are all centered on the academic workplace, especially in a university setting. University professors face a variety of obstacles in their employment, including heavy workloads and conflict with coworkers, which can negatively affect their general wellbeing. These difficulties could interfere with sleep cycles and worsen psychological discomfort, which would affect university instructors' well-being and output. Acknowledging the importance of resolving these issues is essential to creating a positive and effective learning environment. (Viertio et al., 2021)

Stress is the natural response to external or psychological pressures, while distress is the emotional state that arises when one struggles to cope with these stressors. Consistent exposure to stress can gradually erode both physical and mental health, leading to a persistent sense of unease, ultimately transitioning from stress to distress (Anuradha, 2021). Psychological distress, a complex emotional state encompassing various nonspecific symptoms

tied to stress, anxiety, and depression, stands as a significant indicator of compromised mental well-being (Farooq, K., Aslam, N., Bashir, S., Nadeemullah, M., & Ali, A, 2022)). When psychological distress escalates, it gives rise to a multitude of distressing emotions such as sadness, anxiety, and an inability to focus, thereby significantly elevating the risk of experiencing adverse health conditions due to heightened stress levels (Bistami, 2021). Notably, Advidsdotter et al. (2015) pointed out that this distress often emerges from a profound disparity between an individual's self-concept and their aspirational ideal self. Advidsdotter et al. (2015) highlighted how work-related aspects, such as excessive demands and inadequate support, play a pivotal role in its development. On the other hand, the presence of social support emerges as a critical buffer, protecting individuals from the onset or exacerbation of distress (Farooq, K., Aslam, N., Bashir, S., Nadeemullah, M., & Ali, A, 2022a).

It's worth noting that lifestyle choices exert a notable influence on psychological well-being. Habits such as smoking and excessive alcohol consumption, recognized for their detrimental impact on physical health, also cast a shadow on mental well-being by heightening the risk of depressive symptoms (Viertio et al., 2021).

Sleep quality refers to an individual's subjective evaluation of their sleep, considering factors like duration, continuity, depth, and restorative effects (Grandner, 2017). Sleep is a vital physiological process crucial for bodily functions (Thomas, 2019). It's a vital aspect of overall well-being, influencing physiological and psychological processes (Cappuccio et al., 2017). Various factors impact sleep quality; conditions like insomnia and sleep disorders can disrupt it (Sateia et al., 2017). Lifestyle elements such as irregular schedules, caffeine, poor diet, and screen time affect sleep negatively (St-Onge et al., 2017). Persistent stress and anxiety lead to racing thoughts, making it hard to relax and sleep, while physical symptoms worsen sleep quality (Benazir, B., Bashir, S., Zarar, R., Ahmed, M., & Farooq, 2021). Medical conditions like chronic pain can also interfere with sleep (Buysse, 2014). Poor sleep quality leads to daytime fatigue, reducing cognitive performance and attention (Lund et al., 2010). It's linked to mood disorders and affects memory, learning, problem-solving, and creativity (Baglioni et al., 2014; Walker, 2009). In modern times, it's a common issue among young adults, impacting over 10% of adults (Zhai et al., 2018).

Chronic poor sleep quality heightens the risk of cardiovascular diseases, obesity, diabetes, and compromised immune function (Cappuccio et al., 2011). It lowers overall well-being and satisfaction (Grandner et al., 2013). Mood disturbances from poor sleep can strain relationships (Troxel et al., 2009). Reduced alertness due to poor sleep quality can lead to accidents and errors (Williamson & Feyer, 2000). Inadequate sleep is linked to heightened negative emotional reactions and reduced positive emotions (How sleep deprivation impacts mental health, 2022). Reduced sleep duration and daytime sleeping increase the risk of vehicle and occupational accidents (Jalali et al., 2020).

Various studies have explored the complex connections between sleep quality and psychological distress. Madrid-Valero et al. (2022) investigated the

hereditary and ecological impacts on the association between poor sleep quality and psychological distress on twin sample from Spain, with an emphasis on sex contrasts. The exploration tracked down serious areas of strength for an affiliation (44%) between unfortunate rest quality and mental misery, and there were no significant sex contrasts in these impacts.

Lee Tracy et al., (2022) examined the association between sleep quality and psychological distress in couples overseeing type 1 diabetes. Both cross-sectional and everyday journal strategies were utilized with 199 people with T1D and their life partners. Results showed that more unfortunate rest quality was related with higher mental misery among people with type 1 diabetes and their life partners, both in cross-sectional and day to day journal information. Zhang et al., (2022) explored the connection between sleep quality and psychological distress in older adults, focusing on the mediating roles of activities of daily living (ADL), physical activity, and perceived social support. A survey involving 3,250 Chinese adults aged 60 or above utilized various assessments. Results revealed a direct impact of sleep quality on psychological distress in older adults.

Alhousseini et al., (2022) at Alfaisal College in Riyadh, Saudi Arabia, investigated the connection between sleep quality, scholastic execution, and psychological distress among clinical understudies. The examination uncovered a positive and direct connection between mental misery and rest quality. Also, understudies with better rest quality exhibited higher scholastic execution. Kazakoff et al., (2022) studied the association between lung transplant recipients' (LTRs') sleep quality and influencing factors. Findings revealed the need of post-transplant sleep for recuperation and pinpoints variables linked to inadequate sleep, such as psychological discomfort. Individuals who showed signs of psychological discomfort were more likely to experience insufficient sleep. There may be a link between psychological discomfort and physical symptoms, as evidenced by a notable correlation between the burden of physical symptoms and clinically significant distress. Murphy et al. (2021) conducted a study on athletic scholars, confronting difficulties in adjusting scholastic and athletic requests, frequently experience deficient sleep.

Findings of this study indicated clear connection between poor sleep quality and heightened psychological distress, with unsettling influences and sporadic timetables worsening the issue.

King, (2019) investigated the association between psychological distress and sleep quality among understudy medical caretakers, taking into account factors, such as, work plan, nursing stage, melancholy, nervousness, and stress. Results showed a moderate positive connection ($r = .35$) between psychological distress and sleep quality. Be that as it may, there were no huge contrasts in distress levels among different attendant gatherings. Melancholy, nervousness, and feelings of anxiety additionally showed no huge varieties across these gatherings.

In contrast, Wolfe and Patel (2019) challenged the assumption that entrepreneurs sleep less, highlighting the mediating role of psychological distress. In HIV-positive individuals, psychological distress was associated with disrupted sleep, potentially influencing immune function (Cruess et al., 2003). Scott et al. (2013) established the connection between psychological distress, physical health, and poor sleep quality, emphasizing the need for a holistic approach. Golizer et al. (2010) revealed that shorter sleep duration corresponds to heightened psychological distress in young adults.

These studies collectively underscore the complex interplay between sleep, psychological distress. By investigating this relationship, they contribute to a comprehensive understanding of the multifaceted factors influencing human behavior.

Rationale

This study explored the relationship between psychological distress, and sleep quality among the teachers of Balochistan University, as these factors can significantly impact employees at workplace. Psychological stress decreases cognition, attention, and decision-making, all of which are critical for job performance. Poor sleep impairs memory, attention, and cognitive functions, which reduces accuracy, concentration, and problem-solving skills. This study has focused on a significant gap in existing literature, particularly in the context of Pakistan, and more specifically, in Quetta. Balochistan, the largest but least populated province is home to multiple ethnic groups residing together and facing different challenges due to Afghan migrant's influx, the

region's important strategic position, and financial strain, these factors are the basic cause of dissatisfaction among workers, as they contribute to poor sleep quality. Limited prior research has investigated the critical issues of psychological distress, and sleep quality, among university employees. The study aims to shed light on the significance of disturbed sleep quality and psychological distress to gain a deeper understanding of individuals in University of Balochistan which is the oldest university of this province.

METHODOLOGY

The study aimed to investigate the relationship between psychological distress and sleep quality, among university teachers.

Objectives

To examine the relationship between psychological distress and sleep quality among Balochistan university's teachers in Quetta.

To investigate the differences in demographic variables (gender) in terms of psychological distress and sleep quality among Balochistan University's teachers in Quetta.

Research design

The study carried out a quantitative correlational research design.

Variables of the Study

The variables of the study are defined below:

Psychological Distress

Psychological distress is predominantly understood as an emotional state marked by indicators of depression (such as diminished interest, sadness, and hopelessness) and anxiety (including restlessness and heightened tension) (Mirowsky and Ross 2002 as cited in Drapeau et al., 2012). Psychological distress in this study was defined as scores of the research participants on Kessler Psychological Distress Scale (K10)

Sleep Quality

Sleep quality is the measurement of how well you're sleeping—in other words, whether your sleep is peaceful and restorative (*What is sleep quality?* 2020). Sleep quality in this study was considered as

the scores of research participants on Pittsburg Sleep Quality Index (PSQI)

Demographic Variables

The demographic variables for this study were age, gender, education, department, designation and marital status.

Instruments

Following instruments were used in the study:

Kessler Psychological Distress Scale (K10)

The Kessler Psychological Distress Scale, formulated by Ronald C. Kessler in 1992, is a generalized assessment tool consisting of 10 questions. Each item within the scale is rated on a scale from 0 (none of the time) to 5 (all of the time). High scores reflect psychological suffering at high levels, and low scores indicate low psychological distress (Kessler et al., 2003). In this study, the scale exhibited a reliability of $\alpha = .77$

Pittsburg Sleep Quality Index (PSQI)

In 1989 Daniel J. Buysse and his colleagues introduced PSQI, comprised of 19 items, designed to evaluate sleep disturbances and quality over a month (Buysse et al., 1989). Scores for each question range from 0 to 3, with a cutoff score of 5. Total score ≤ 5 is associated with good sleep quality whereas, score > 5 is associated with poor sleep quality. (Buysse et al., 1989). In this study, the scale exhibited a reliability of $\alpha = .74$

Sample

The study involved a sample size of 100 teachers, recruited from the university of Balochistan. Participants were be selected by convenient sampling.

Procedure

Permission was obtained from the institutes for the data collection concerned. Informed consent was taken from the participants, assuring them that their details will be kept private and confidential. Participants were given the right to withdraw from the study at any time. After all ethical considerations were addressed; the participants were surveyed and asked to fill out the questionnaires.

Results

The data was analyzed using SPSS 23. Pearson product moment correlation was utilized to quantify the connection among psychological distress and sleep quality. Independent sample t-test was used to measure the variances across gender.

Table 1:
Demographics description of participants (N=100)

Characteristics	Frequency
Percentage	
Age (years)	
24-33	39 39.0
34-43	40
44-53	20
20.0	More than 53
1	1.0
Gender	
Male	49 49.0
Female	51 46.0
Qualification	
Graduation	35
35.0	
Post-graduation	45
45.0	
PhD	20
20.0	
Departme	
Science	51
51.0	
Arts	49
49.0	
Designation	
Lecturer	71 71.0
Assistant professor	22 22.0
Associate professor	7 7.0

Marital status

Married	63	63.0
Unmarried	37	37.0

Note: N= Total number of participants

Table 2
 Correlation between psychological distress and sleep quality among university teachers. (N=100)

Variables	k10	PSQI
K10	-	.418**
PSQI	-	-

Note: K10= Kessler psychological distress scale; PSQI= Pittsburg sleep quality index
 **p< .01.
 Table 2 shows a moderate positive correlation (r = .418**, p< .01) between psychological distress and sleep quality among university teachers.

Table 3
 Difference between Male and Female on Psychological distress and Sleep Quality (N=100)

Variables	Male (n= 49)		Female (n=51)		t (98)
	M	SD	M	SD	
95% CL	LL	UL	LL	UL	
K10	24.12	9.68	26.04	7.48	-1.11
.27	.22	-5.34	1.05		
PSQI	7.12	3.76	7.65	3.31	-0.74
.46	.14	-1.93	0.88		

Note: K10= Kessler Psychological Distress scale, PSQI= Pittsburg Sleep Quality Index

Table 3 revealed no significant mean differences on psychological distress with $t(98) = -1.11, p > .05$. Findings showed that females exhibited higher scores on psychological distress ($M=26.04, SD=7.48$) compared to males ($M=24.12, SD=9.68$). but this difference is not statistically significant. The value of *Cohen's d* was .22 which indicated small effect size. Findings also revealed non-significant mean difference on sleep quality with $t(98) = -0.741, p > .05$. Findings showed that females exhibited slightly higher scores on sleep quality ($M=7.65, SD=3.31$) compared to males ($M=7.12, SD=3.76$), which is also not statistically significant.. The value of *Cohen's d* was .14 which indicated small effect size. Negative t-values suggest mean of the second group (female) is greater than the mean of the first group (male). Psychological distress does not

significantly differ based on gender, as indicated by the 95% confidence interval (-5.34 to 1.50), which includes zero. Sleep quality also does not significantly differ based on gender, as indicated by the 95% confidence interval (-1.93 to 0.88), which includes zero.

Discussion & Conclusion

The study aimed at investigating the relationship between psychological distress and sleep quality among the teachers of Balochistan University, Quetta. Results of the study showed that individuals with higher psychological distress have poor sleep quality as compared to individuals with lower distress. The first objective of the study was to investigate the association between psychological distress and sleep quality. The findings of the study revealed a moderate positive correlation between psychological distress and sleep quality, suggesting that higher level of psychological distress is associated with poor sleep quality whereas, lower level of psychological distress is associated with better sleep quality. These findings are in line with previous literature. A strong correlation was found in Chuang et al.'s (2022) study between psychological distress, length of sleep, and sleep disruptions in people with mental illness. According to the findings, this population's lower sleep quality is linked to higher levels of psychological distress. Adults with moderate distress and poor sleep quality during the COVID-19 pandemic were the subject of a study by Benasi and St-Onge (2022). The results imply that psychological distress and sleep quality are significantly correlated. Enhancements in sleep quality may result from therapies aimed at reducing distress. Students in college who are psychologically distressed, exhibiting signs of depression, generalized anxiety disorder (GAD), and posttraumatic stress disorder (PTSD), typically have poor sleep quality (Watson et al., 2023). This population's problems with sleep quality are exacerbated by social, professional, and scholastic pressures, underscoring the aggravating impact of psychological discomfort on sleep (Watson et al., 2023). In Tehran University of Medical Sciences, a research of medical students revealed a substantial correlation between poor sleep quality and elevated levels of stress, anxiety, and depression (Rezaei et al., 2018). In a study published in 2018, Alfian et al. examined the relationship between undergraduate

students' subjective sleep quality and psychological distress in Bandung, Indonesia. The findings demonstrated a strong correlation between low sleep quality and psychological distress, with psychological distress acting as a predictor of low sleep quality. A study was carried out by Goldstein et al. (2020) on a varied sample of adult US citizens. Results showed a positive correlation between severe psychological distress and poor sleep health. Individuals who slept for less than seven hours were more likely to develop serious psychological distress.

The second objective of the study was to investigate gender differences in terms of psychological distress and sleep quality among the teachers of Balochistan university. Results showed that females exhibited higher scores on psychological distress ($M=25.33$, $SD=9.75$) compared to males ($M=24.83$, $SD=7.21$) however, this difference is not statistically significant. Findings also showed that females exhibited slightly higher scores on sleep quality ($M=7.44$, $SD=3.77$) compared to males ($M=7.33$, $SD=3.27$) which revealed statistically non-significant mean difference on sleep quality. These findings are in line with the previous literature but there are also some studies that showed results which are incongruent with these findings. Matud et al., (2014) studied disparities in psychological distress between men and women in Spain where women reported higher levels of psychological distress than males, although their ages and educational attainment were comparable. In another study, compared to their male peers, female students reported feeling more ongoing distress. In addition, women reported worse quality sleep than males did however; there wasn't much of an impact of gender differences in sleep quality (Faber & Schlarb, 2016). Madrid-Valero et al.'s (2022) study examined gender variations in psychological distress and sleep quality. The findings indicated that women experienced higher degrees of psychological discomfort and poor sleep quality than did men. Jamieson et al. (2022) looked at sex-based differences in early adolescent psychological distress, sleep quality, and hippocampus and amygdala sizes. Compared to male participants, females showed higher levels of psychological distress and worse quality sleep. Mercy Idowu et al. (2022) found a significant gender difference in psychological distress among medical

students during the COVID-19 epidemic. Women were more than twice as likely as men to experience psychological discomfort.

Overall, Results showed a moderate positive correlation between psychological distress and sleep quality. Also there were no statistically significant difference between male and female's levels of psychological distress and sleep quality. Variables including age, culture, and particular life circumstances could affect this relationship.

Limitations and Recommendations

The study was conducted only in Quetta, Balochistan, within a designated period of time. Male and Female teachers from the University of Balochistan in Quetta were included in the survey. Future studies could benefit from a wider research scope and a more diversified and larger participant pool to improve generalizability. A qualitative investigation is necessary to have a thorough knowledge of the relationship between teachers' well-being and psychological discomfort and sleep quality. Using a qualitative approach, it may be possible to understand the subtleties of how people's psychological distress and sleep quality have a favorable or negative effect on their performance. Furthermore, a longitudinal study could be helpful in evaluating the long-term impacts of psychological strain on sleep quality and vice versa.

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