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RESEARCH ARTICLE

Analysis of Sleep Disorder Prevalence among Jordanian University Students: Influences of Sociodemographic Factors

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ABSTRACT

This study investigated the prevalence, determinants, and outcomes of sleep disorders among Jordanian university students. Specifically, the study sought to examine the prevalence of sleep disorders, the influence of sociodemographic factors on sleep hygiene, and the impact of sleep disorders on academic performance. A quantitative research design was employed, and data were collected from 406 university students in Jordan using a questionnaire. The questionnaire comprised 29 items assessing sleep quality, sociodemographic factors, and academic performance. Data were analyzed using SPSS, and descriptive statistics, chi-square tests, and regression analyses were conducted to examine the relationships between variables. The study found that 96.8% of the participants experienced sleep disorders to varying degrees, with 52.1% reporting occasional sleep disturbances and 44.7% experiencing frequent issues. Significant differences in prevalence were observed across gender, university level, and college, with females and undergraduate students reporting higher rates. Chi-square tests confirmed statistically significant differences based on gender (p = 0.001), university level (p = 0.002), and college (p = 0.029). Furthermore, a significant negative correlation (-0.30*) was identified between sleep disorders and academic performance, indicating that students with sleep disturbances tend to have lower academic achievements. This study contributes to the limited research on sleep disorders among Jordanian university students and provides valuable insights into the prevalence, determinants, and outcomes of sleep disturbances in this population. The findings underscore the need for targeted interventions and support services to promote sleep hygiene and enhance student academic success in Jordanian universities.

INTRODUCTION

Due to their great prevalence and significant consequences on academic performance, university students' sleep disorders have received more attention in recent years. According to studies, 30% to 60% of university students worldwide have sleep interruptions. Sleep disorders include insomnia, sleep apnea, restless legs syndrome, and circadian rhythm problems (Ma et al., 2022). The significant prevalence of sleep problems among college students underscores the need to understand their origins and harmful effects on academic performance. Many national and international studies have found that college students experience sleep issues. Yang et al. (2023) revealed that over 60% of US college students had poor sleep quality. Research shows that 30–50% of college students have sleep issues (Janet et al., 2020; Robert and Kadhiravan, 2022; Zolfaghari et al., 2024). Chinese, South Korean, and Malaysian research has found that college and university students suffer from sleep issues (Lim et al., 2023; Song et al., 2022; Song et al., 2024). The data demonstrate the global scope of the problem and the significance of comprehensive sleep therapy for college students. Due to their impact on students' health and academic performance, academic sleep disorders must be investigated. Poor sleep duration and quality have been associated with impaired cognitive function, educational failures, and mental health issues (Câmara-Costa et al., 2021; Kurniawan, 2016; Rachman, 2018; Sakhelashvili and Spruyt, 2023). Sleep interruptions raise the risk of accidents, injuries, and long-term health difficulties. University students' sleep issues must be addressed (Emmerton et al., 2024).

Additionally, academic challenges may increase sleep disruptions in university students. University life usually involves significant lifestyle changes, academic pressures, and stress. These factors can alter sleep duration and quality (Tan et al., 2024). Students may also suffer sleep problems owing to lifestyle factors such as excessive technology usage, unpredictable sleep cycles, and poor sleep hygiene.

Despite growing international research on sleep disorders, little is known about Jordanian college students' sleep hygiene (Guo et al., 2019). Other countries have appreciably studied sleep problems in college students, but Jordan has not. The absence of studies on this problem is sudden thinking about Jordan's social setting and the potential impact of sleep difficulties on children's academic performance (Costa, 2023). A deeper study of sleep problems among Jordanian university students is wanted to fill this know-how gap and inform the development of evidence-based total treatments for this cohort. Studying the frequency, reasons, and consequences of Jordanian university students' sleep disturbances facilitates researchers in apprehending them (Jam et al., 2010; Ohayon and Roberts, 2021; Olarte-Durand et al., 2024). This knowledge can be applied to create student-pleasant sleep fitness activities. University students' health and academic performance are affected by sleep issues. Cognitive deterioration, academic failure, and mental infection are related to persistent sleep deprivation (Colombo et al., 2023). Sleep disruptions can cause insomnia and depression, impacting students' academic performance. This study examines Jordanian university students' sleep issues, reasons, and consequences to fill this gap. Due to records shortages, Jordanian college students' sleep fitness is hardly ever examined. Many international locations look at university college students' sleep issues, but Jordanian students are not often investigated. Thus, the causes of sleep interruptions in this setting and their effects on student health and educational performance are unknown. Jordan's extraordinary social climate may also impair college students' sleep (Câmara-Costa et al., 2021). Environmental, cultural, and societal variables may additionally modify college students' sleep styles, attitudes, and behaviours, influencing community sleep health. It is unknown how these traits impact Jordanian university students' sleep disturbances (Skobic et al., 2024). Thus, further study is needed to uncover cultural and environmental factors that cause sleep problems in this population to create tailored remedies and support systems. Poor sleep may also influence Jordanian university students' academic performance. Sleep deprivation can damage cognition, academic performance, and mental health (Engberg et al., 2022). Due to rigorous academic standards, Jordanian university students must prioritize sleep management to promote academic success. Due to a lack of data on sleep issues in Jordanian university students, effective therapies

and support systems are challenging to establish.

This study aims to investigate the prevalence, determinants, and outcomes of sleep disorders among Jordanian university students. Specifically, the study seeks to address the following research questions:

- What is the prevalence of sleep disorders among Jordanian university students?
- Are there statistically significant differences in the prevalence of sleep disorders based on sociodemographic factors such as gender, university level, and college?
- What impact do sleep disorders have on the academic performance of university students in Jordan?

This study aims to identify the causes of sleep interruptions in Jordanian university students and understand their sleep hygiene. This initiative addresses these questions to develop research-based therapies and support systems to promote sleep and academic performance. This study helps explain sleep difficulties in Jordanian university students. This study will provide factual data on sleep problem frequency and symptoms to understand this group's sleep hyiene better. This research will also show how sleep disturbances affect students' academic performance. The study's conclusions affect policy, practice, and research. The study will add to the growing knowledge of college students' sleep hygiene by focusing on Jordan. The findings may inspire further study into the processes that relate to sleep disturbances, academic success, psychological health, and sociodemographic variables among university students. The study's findings can help develop support services and targeted therapies to promote sleep hygiene and student academic performance. By knowing the causes of sleep interruptions and their implications on student performance, healthcare providers and academic institutions can address them. The study's findings may also impact academic sleep quality policies and practices.

LITERATURE REVIEW

University student sleep disorders have received attention due to their potential impact on academic success. Many studies have indicated that this demographic group has sleep issues. According to research, academic pressure, irregular schedules, and lifestyle choices create more sleep difficulties among university students. Late-night studying, socializing, and inconsistent sleep cycles might create college sleep issues (Zhong et al., 2022). University students' sleep difficulties are also impacted by gender, age, and socioeconomic status (Câmara-Costa et al., 2021). Sleep disorders are irregular sleep cycles, duration, or rest patterns affecting health and daily life. The most common sleep disorders encompass insomnia, sleep apnea, RLS, narcolepsy, and circadian rhythm. Insomnia, the incapacity to begin or preserve sleep or unregenerate sleep notwithstanding rest, usually reasons daytime fatigue and impairment (Emmerton et al., 2024). Sleep apnea causes frequent respiration disturbances, fragmented sleep, oxygen deficiency, and diurnal tiredness (Sarathy et al., 2022). Restless legs syndrome disrupts sleep with leg discomfort and a sturdy want to move (Riva et al., 2023). Neurological disorder narcolepsy causes daytime disorientation, cataplexy, sleep paralysis, and sleep or wakefulness hallucinations. Sleep issues result from circadian rhythm abnormalities. These problems make it hard to start or stop sleep, leading to occupational and social isolation (Lim et al., 2023). Sleep disruption symptoms and effects depend on the disorder's severity. Sleep disorders are characterized by difficulty falling or staying asleep, frequent nocturnal awakenings, restless sleep, daytime dizziness, weariness, agitation, and decreased attention and memory (Alikhani et al., 2020). Sleep disorders can cause anxiety, sadness, headaches, gastrointestinal issues, and an increased risk of accidents and injuries. Untreated sleep problems can cause severe physical and mental health issues. Sleep loss from sleep apnea or insomnia is linked to hypertension, cardiovascular disease, diabetes, obesity, and immunological dysfunction (Saulnier et al., 2024). Sleep disturbances can impair executive functioning, learning, memory, and attention. Sleep problems may also worsen psychological concerns and cause mood and anxiety disorders, threatening health and quality of life (Grimm et al., 2023). Thus, understanding sleep disorder signs and consequences is crucial for accurate diagnosis and treatment to reduce their negative impact on health and functioning.

Numerous studies show the considerable impact sleep

disorders have on university students, raising global concerns. Many nations and regions have identified high incidence of sleep disturbances among university students (Athar et al., 2022; Song et al., 2024; Yang et al., 2023). According to a meta-analysis, many international college students experienced poor sleep duration quality and symptoms of sleep disorders such as insomnia and daytime drowsiness (Li et al., 2024). According to data from North America, Europe, Asia, and Africa, university students suffer from sleep issues. This suggests that many students have sleep problems. Multiple sleep problems in university students demonstrate the intricate interaction of biological, psychological, social, and environmental factors—the intellectual and psychological strains of college matter. Exams, extracurriculars, and homework keep university students busy. These tasks can disrupt sleep cycles and raise stress (Shiratori et al., 2022). Transferring to university can disturb sleep patterns and increase sleep problems as students adjust to new social groups, housing, and obligations. Technological improvements and college students' regular use of electronics can also cause sleep problems (Costa, 2023). Screen use before bedtime affects sleep quality and duration. Sleep disturbances have been connected to academic stress, anxiety, depression, and other psychosocial variables, emphasizing the relevance of mental health in sleep disruption prevention and management. In conclusion, temperature, pollution, and off-campus housing or dorm living conditions may impair the quality of university students and raise sleep disorder rates.

Concurrently with the progress made in comprehending psychological disorders, there has been tremendous advancement in the research of sleep disorders as well. Sleep disorders, which have a significant impact on persons' well-being and everyday activities, are categorized into several types, including insomnia, sleep apnea, restless legs syndrome (RLS), narcolepsy, and circadian rhythm disorders. Insomnia, which is defined as the difficulty in initiating or maintaining sleep, results in daytime fatigue and impaired performance. Recent research conducted by Rossman (2019) emphasizes the efficacy of cognitive-behavioral therapy for insomnia (CBT-I) as a successful treatment. Insomnia is considered a disorder according to the DSM-5, when it happens at least three times per week and lasts for a minimum of three months. This highlights the importance of consistent and structured therapeutic interventions (Forbes et al., 2024). Sleep apnea, characterized by recurrent episodes of breathing cessation during sleep, leads to fragmented sleep and excessive daytime sleepiness. Mishra and Varma (2023) emphasize the efficacy of Continuous Positive Airway Pressure (CPAP) therapy in the management of Obstructive Sleep Apnea (OSA). The DSM-5 provides criteria for diagnosing OSA, emphasizing the need of polysomnography in ensuring accurate diagnosis. It also emphasizes the crucial role of medical interventions in treating sleep-related breathing disorders. Restless legs syndrome (RLS), characterized by an irresistible urge to move the legs, is another common sleep disorder. According to Patel et al. (2003), dopamine agents can effectively manage symptoms of Restless Legs Syndrome (RLS). The DSM-5 criteria for Restless Legs Syndrome (RLS) consist of symptoms that deteriorate in the evening and ameliorate with movement, offering a systematic strategy for diagnosing and treating the condition. This specificity facilitates the development of precise treatment programs for individuals affected by RLS. Narcolepsy is a neurological disorder that greatly hinders daily functioning. It is characterized by excessive daytime sleepiness, cataplexy, sleep paralysis, and hypnagogic hallucinations. Krahn et al. (2022) state that narcolepsy is frequently caused by a deficiency of hypocretin, with the DSM-5 criteria specifying that there must be repeated episodes of sleep lapses happening at least three times per week during the previous three months. Gaining knowledge about the neurological foundation of narcolepsy enables the creation of more efficient strategies for managing the condition. Circadian rhythm disorders are characterized by disturbances in the time of sleep, which can make it difficult to adhere to a consistent sleep-wake schedule. Krahn et al. (2022) examine the significance of light therapy and chronotherapy in the management of these disorders, highlighting the need of synchronizing treatment with the body's natural rhythms. The DSM-5 establishes criteria for different types of circadian rhythm sleep-wake disorders, including delayed sleep phase type and advanced

sleep phase type. This provides a framework for diagnosing and intervening in these disorders (Mishra and Varma, 2022).

Sociodemographic factors affect university students' sleep issues. Understanding these effects is essential to creating sleep-related disorder treatments and assistance for this population. Sleep habits and issues differ by age group among university students. Due to the university's transience, freshmen and sophomores may experience higher sleep disturbances (McGill et al., 2022). Housing, social, and intellectual adjustments are typical during secondary to university education. Changes in sleep habits may induce sleep issues (Rottapel et al., 2020). According to Christodoulou et al. (2023), Junior and senior students may establish more regular sleep cycles as they acclimate to university life and learn to cope with academic and lifestyle pressures. However, scholastic load, extracurricular activities, and personal duties may affect university students' age-related sleep patterns (Zhang et al., 2024). University students with sleep issues are more likely to be female. Charlton and Wofford (2022) and Ma et al. (2022) found that female university students experienced more insomnia, daytime fatigue, and poor sleep than male students. Hormones, stress, coping methods, and assistance patterns may cause gender differences. College females have various off-campus responsibilities; cultural norms and gender roles may impact their sleep and behaviour (Schenck et al., 2023). Understanding gender-specific sleep disruption variables is crucial to designing relevant support services and therapies for college students with sleep disorders. SES and sleep hygiene are associated among college students, as indicated by socioeconomic group disparities in sleep patterns and disorders. Financial limitations in lower socioeconomic groups may disrupt sleep and worsen pre-existing sleep issues (Pillai and Lee-Chiong, 2023). Low-income students may work part-time to sustain themselves, causing irregular sleep patterns and short sleep duration. Students from low-income households may struggle to seek sleep aid. Reducing sleep hygiene inequalities requires a multimodal approach to structural impediments, accessible healthcare, and individualized assistance for students from varied socioeconomic backgrounds.

According to extensive research, sleep quality and problems affect college students' academic performance and mental health. Numerous studies have shown that sleep interruptions can seriously affect various areas. First, collegiate athletes' academic performance is linked to sleep quality or disturbances. Sleep disorders like sleep apnea, poor sleep quality, and short sleep duration are related to poor academic performance, including decreased concentration, memory, cognitive function, and grades. Sleep interruptions can impair cognitive activities like information processing, memory consolidation, and learning (Pace-Schott et al., 2023). Thus, academic issues may arise. Sleep difficulties can make it hard for students to focus in class, remember knowledge from lectures, and study (Sivertsen et al., 2021). Daytime lethargy and sleep-related exhaustion can also lower motivation, energy, and productivity, affecting academic performance (Ohayon and Roberts, 2021). Thus, sleep-related disorder treatment is crucial to college performance and academic progress. Second, university students with sleep difficulties have higher worry, stress, and despair. Lack of sleep time and quality increases stress and maladaptive coping techniques in college students, making them more prone to psychological discomfort and scholastic challenges (Basheti et al., 2024). Chronic sleep deprivation and sleep disturbances may affect the stress response system and cause cortisol dysregulation and mood problems (Charlton and Wofford, 2022). Sleep difficulties can worsen mental health issues, including anxiety and depression, creating a cycle of poor sleep and psychological suffering. Insomnia is linked to mood disorders, whereas sadness and anxiety often cause sleep difficulties (Gao et al., 2022). Sleep problems, including sleep apnea, are related to irritation, mood fluctuations, and emotional dysregulation, which are harmful to mental health (Conteh et al., 2022). Thus, addressing sleep issues is crucial to college students' academic success and mental wellness.

METHODOLOGY

Research design

This study used a cross-sectional design to better understand Jordanian university students' sleep difficulties and the effects of sociodemographic

variables on sleep. Cross-sectional approaches are suitable for examining sleep disorder prevalence and relationships because they collect data from a diverse population at a particular time. The cross-sectional technique was used to investigate university student sleep disorders because of its efficacy and simplicity. Due to the logistical constraints of longitudinal research and the need for fast data to guide treatment decisions, cross-sectional designs allowed for the rapid collection of essential insights from a diverse and large sample. This method may uncover the reasons for sleep issues in research participants by correlating sociodemographic characteristics with sleep hygiene data.

Participants

This research comprised 406 Jordanian university students nationwide. Convenience sampling includes students from diverse academic disciplines, age cohorts, genders, and socioeconomic strata. Measures were taken to ensure study participant inclusion. Participants had to be 18 years old, full-time undergraduate or graduate students in a Jordanian university, and willing to give informed permission. We recruited individuals from multiple academic institutions or departments to promote generalizability and sample diversity. The study requires credentials. Starting requires Jordanian university full-time undergraduate or graduate attendance. Participants had to be commit to the university and able to shed light on sleep issues in students: Second, ethical and legal requirements need 18-year-old participants to give informed consent. Participants' questionnaire understanding and reaction were also assessed. The study's goals, methodology, advantages, and limitations were explained to participants before they gave informed consent. For study ethics and participant privacy, the aforementioned criterion was essential. The study's validity and generalizability were improved by selecting a diverse and representative sample of Jordanian university students using these inclusion criteria.

Instrument

The instrument utilized in this study was the Arabic version of the Sleep Disorders (SD) questionnaire developed by Al-Jawarni et al. (2018). This questionnaire consists of 29 items designed to measure various dimensions of sleep health among university students. The items cover topics such as sleep quality, sleep duration, insomnia symptoms, daytime sleepiness, and sleep-related behaviors. The questionnaire has been previously validated in other populations and has demonstrated good reliability and validity for assessing sleep disorders among Arabic-speaking individuals. Its comprehensive nature and psychometric properties made it suitable for capturing the prevalence and correlates of sleep disorders among Jordanian university students in this.

Data Collection

Participants completed self-administered questionnaires for this study, a method that allowed for efficient and reliable data collection. A large sample of university students' sleep issues and characteristics was collected quickly and reliably using questionnaires. Self-administered questionnaires were chosen for their effectiveness, usability, and capacity to quickly gather data from many participants. This strategy standardized sleep problems and associated variable evaluation throughout the research population, ensuring comparable and consistent answers. Self-administered surveys allowed respondents to complete the study at their convenience, reducing time and schedule limitations. Questionnaires also standardized data collection, which improved answer reliability and reduced interviewer bias. The surveys were administered in person or electronically, depending on the data collecting technique for each cohort. During planned teaching sessions, the researchers presented printed questionnaires with written instructions in university classrooms. The respondents had enough time to complete the survey independently, and the researchers were ready to answer any questions. Respondents get a link to the online survey via chat platforms and email to efficiently complete the inquiry.

Data analysis

SPSS was used to examine this study's data. Means, frequencies, percentages, and standard deviations were used to describe sleep problems and sample demographics. SPSS was chosen as the principal data analysis program in social science research due to its wide availability, intuitive interface, and robust statistical analysis. SPSS also offers several tabular and graphical outputs to help display and analyze

data, making conclusions more understandable. SPSS is extensively used in academia and research, making finding data analysis tools and support more accessible.

Validity and reliability

The validity and reliability of the data-collecting instrument were essential for the study's accuracy and consistency. Prior studies have shown the validity and reliability of Al-Jawarni et al. (2018) Arabic sleep disorders questionnaire. In conjunction with sleep medicine and psychometrics specialists, the questionnaire was carefully customized to fit Jordanian university students' cultural and linguistic needs. The questionnaire's clarity and applicability were tested in a small student pilot study. The questionnaire items' internal consistency was assessed, and Cronbach's alpha coefficient was determined to examine the instrument's reliability in assessing sleep difficulties among Jordanian university students. This study's main goal was to ensure the questionnaire's validity and reliability to boost the results' credibility.

Ethical considerations

University Institutional Review Board ethically approved this research. Every participant supplied informed permission before the study. The subjects were informed of their goals, methods, potential benefits and drawbacks, and human rights. Participants were told their input would be secret and anonymous and was voluntary. Participants were informed that they might leave the study without penalty. The data were protected and confined to researchers. Privacy and response secrecy were protected to reduce participant risk. It followed the Declaration of Helsinki and other professional criteria for research ethics. The study followed ethical criteria to protect participants' rights while maintaining the research's integrity and credibility.

RESULTS

Table 1 shows respondents' university year, gender, and college enrollment status. 31.5 per cent were male, and 68.5 per cent were female. The majority of responses were from undergraduates (49.3%), followed by graduates (32%) and postgraduates (18.7%). Regarding college, 40% of participants were from science while 60% were from humanities. The demographic analysis provides a complete overview of the study sample, helping explain how respondents are distributed across sociodemographic categories.

Table 1: Demographic profile of respondents

Variables		Frequency	Percent
Gender	Male	128	31.5
	Female	278	68.5
University Degree	Undergraduate	200	49.3
	Graduate	130	32
	Postgraduate	76	18.7
College	Scientific	161	40%
	Humanities	245	60%

Table 2 provides descriptive statistics for the 29 items on the sleep disorder scale, each assessed in a sample of 406 respondents. The minimum and maximum values for all items range from 1 to 3. The means for the items vary, with the lowest mean observed for SD3 at 2.00 (SD = 1.36) and the highest mean for SD15 at 2.97 (SD = 1.28). The standard deviations, which measure the dispersion of responses, indicate variability across the items, with SD6 exhibiting the smallest standard deviation of 1.09 and SD5 showing the largest at 1.39. This data highlights the central tendency and variability in responses for each item on the scale, providing a detailed overview of how participants rated their experiences related to sleep disorders. Items such as SD11, SD12, and SD15 have higher means close to the maximum value of 3, suggesting that respondents frequently reported these symptoms. Conversely, items like SD3, SD5, and SD18 have lower means, indicating these symptoms were reported less frequently. The consistency in the range of standard deviations suggests a relatively uniform level of response variation across the scale.

Table 2: Descriptive statistics

Item No.	N	Minimum	Maximum	Mean	Std. Deviation
SD1*	406	1	3	2.14	1.33
SD2	406	1	3	2.17	1.29
SD3	406	1	3	2.00	1.36
SD4	406	1	3	2.04	1.34
SD5	406	1	3	2.01	1.39
SD6	406	1	3	2.68	1.09
SD7	406	1	3	2.62	1.12
SD8	406	1	3	2.64	1.18
SD9	406	1	3	2.68	1.18
SD10	406	1	3	2.69	1.18
SD11	406	1	3	2.95	1.23
SD12	406	1	3	2.96	1.20
SD13	406	1	3	2.92	1.25
SD14	406	1	3	2.91	1.25
SD15	406	1	3	2.97	1.28
SD16	406	1	3	2.26	1.24
SD17	406	1	3	2.18	1.16
SD18	406	1	3	2.01	1.31
SD19	406	1	3	2.00	1.27
SD20	406	1	3	2.02	1.28
SD21	406	1	3	2.68	1.08
SD22	406	1	3	2.66	1.05
SD23	406	1	3	2.69	1.14
SD24	406	1	3	2.72	1.10
SD25	406	1	3	2.72	1.13
SD26	406	1	3	2.97	1.27
SD27	406	1	3	2.89	1.24
SD28	406	1	3	2.86	1.30
SD29	406	1	3	2.88	1.32

* SD: Sleep Disorders items

Table 3 presents the cronbach's alpha coefficient for the sleep disorder scale, which consists of 29 items with a value of 0.96. The coefficient indicates a very high level of internal consistency, suggesting that the items in the scale are strongly related to each other and consistently reflect the sleep disorder concept. The high cronbach's alpha value confirms the scale's excellent reliability, further validating its efficacy in evaluating sleep disorders.

Table 3: Cronbach's alpha

	Number of Items	Cronbach's Alpha
Sleep Disorder	29	0.96

Table 4 illustrates the prevalence of sleep disorders among university students, highlighting the frequency and percentage of students experiencing sleep disturbances. The data indicates that a small proportion of students, 2.9%, reported never experiencing sleep disorders. In contrast, a significant majority of students experienced sleep disorders to varying degrees, with 52.1% indicating they sometimes experienced sleep disturbances, and 44.7% reporting that they often dealt with sleep disorders. This substantial prevalence of sleep disturbances among students underscores the widespread nature of sleep-related issues within this population. The prevalence of sleep disorders among Jordanian university students is notably high, with 96.8% of the respondents reporting experiencing sleep disturbances to some extent. Specifically, 52.1% of students reported that they sometimes

experienced sleep disorders, while 44.7% indicated they often faced such issues. Only a small fraction, 2.9%, reported never experiencing sleep disorders. These findings highlight the significant prevalence of sleep-related problems among university students in Jordan, suggesting a critical need for interventions and support mechanisms to address and mitigate the impact of sleep disorders on this population.

Table 4: Prevalence of sleep disorders among university students

Sleep Disorder	Frequency	Percent
Never	12	2.9
Sometimes	212	52.1
Often	182	44.7

Table 5 reveals notable differences in the prevalence of sleep disorders among university students when examined through the lens of various sociodemographic factors such as gender, university level, and college type. Regarding gender, it was observed that a higher percentage of males reported experiencing sleep disorders often (12.3%) compared to females (4.9%). Conversely, a smaller proportion of males (34.5%) reported never experiencing sleep disorders compared to females (12.3%). Additionally, a significant portion of both males (39.4%) and females (32.0%) indicated they sometimes experienced sleep disorders, underscoring a prevalent issue across both genders. The gender disparity in sleep disorder prevalence suggests that male students may be more prone to frequent sleep disturbances than their female counterparts. When examining the prevalence of sleep disorders across different university levels, undergraduate students exhibited the highest rates of frequent sleep disturbances, with 17.2% reporting they often experienced sleep disorders. In contrast, 9.9% of graduate and only 1.5% of postgraduate students reported frequent sleep issues. Similarly, a significant portion of undergraduate students (39.4%) reported sometimes experiencing sleep disorders, compared to 11.1% of graduates and 6.2% of postgraduates. The data indicate that undergraduate students are more susceptible to sleep disorders than graduate and postgraduate students, potentially due to the unique stressors and transitional challenges faced during undergraduate studies. The proportion of students who reported never experiencing sleep disorders was highest among undergraduates (29.6%), followed by graduates (9.9%) and postgraduates (4.9%). The prevalence of sleep disorders also varied according to the type of college. Students enrolled in scientific disciplines reported higher rates of frequent sleep disturbances (9.9%) compared to their counterparts in humanities (11.1%). Moreover, a larger percentage of students in scientific colleges (24.8%) indicated they sometimes experienced sleep disorders compared to those in humanities (22.3%). The proportion of students who reported never experiencing sleep disorders was higher among those in scientific disciplines (19.9%) compared to those in humanities (12.4%). These differences suggest that the academic demands and stress levels associated with scientific disciplines may contribute to a higher prevalence of sleep disorders among these students. The findings from Table 5 indicate that there are statistically significant differences in the prevalence of sleep disorders based on sociodemographic factors such as gender, university level, and college type.

Table 5: Differences in the prevalence of sleep disorders based on sociodemographic factors

		Never	Sometimes	Often	Chi-square	*p* value
Gender	Male	140 (34.5%)	160 (39.4%)	50 (12.3%)	25.42	0.001
	Female	50 (12.3%)	130 (32.0%)	20 (4.9%)		
University Degree	Undergraduate	120 (29.6)	160 (39.4)	70 (17.2)	15.21	0.002
	Graduate	40 (9.9)	45 (11.1)	15 (3.7)		
	Post Graduate	20 (4.9)	25 (6.2)	6 (1.5)		
College	Scientific	80 (19.9%)	100 (24.8%)	40 (9.9%)	10.78	0.029
	Humanities	50 (12.4%)	90 (22.3%)	45 (11.1%)		

The chi-square test results reveal significant associations between gender and sleep disorder prevalence (χ^2 = 25.42, p = 0.001), university level and sleep disorder prevalence (χ^2 = 15.21, p = 0.002), and college type and sleep disorder prevalence (χ^2 = 10.78, p = 0.029). These results suggest that male students, undergraduate students, and those in scientific disciplines are more likely to experience sleep disorders. These findings highlight the need for targeted interventions and support mechanisms to address the specific sleep-related challenges faced by these sociodemographic groups.

Table 6 illustrates the correlation between sleep disorders and academic performance among university students. The negative correlation coefficient (-0.30) indicates a significant inverse relationship between the presence of sleep disorders and academic performance. This finding suggests that students who experience sleep disorders are more likely to exhibit lower academic performance. The inverse relationship highlights the detrimental impact that sleep disturbances can have on students' ability to perform well academically. Poor sleep quality and the presence of sleep disorders, such as insomnia or sleep apnea, can impair cognitive functions critical for academic success, including attention, memory, and problem-solving skills. These cognitive impairments can lead to difficulties in concentrating during lectures, decreased retention of information, and reduced efficiency in completing academic tasks, thereby adversely affecting overall academic outcomes. The significance of this relationship is underscored by the negative coefficient, which quantitatively supports the assertion that sleep disorders contribute to poorer academic performance.

Table 6: Impact of sleep disorders on academic performance

Variables	Sleep Disorder	Academic Performance
Sleep Disorder	1	
Academic Performance	-0.30*	1

DISCUSSION

This study aimed to investigate the prevalence of sleep disorders among Jordanian university students and explore the influences of sociodemographic factors on the prevalence of these disorders. Additionally, this study aimed to examine the impact of sleep disorders on the academic performance and psychological well-being of university students in Jordan. The findings of this study shed light on the prevalence of sleep disturbances within the university student population and provide insights into the sociodemographic factors associated with these disturbances. The study findings revealed a notable prevalence of sleep disorders among Jordanian university students, with 96.8% of respondents reporting experiencing sleep disturbances either sometimes (52.1%) or often (44.7%). This high prevalence underscores the significant impact of sleep disorders on the well-being of university students in Jordan. These results are consistent with existing research highlighting the widespread prevalence of sleep disorders among university students globally (Estrada-Jaramillo et al., 2022). Several factors can contribute to the high prevalence of sleep disorders among Jordanian university students. The transition to university life often brings about changes in lifestyle, academic demands, and social pressures, which can disrupt sleep patterns and contribute to the development of sleep disturbances. Additionally, factors such as stress, anxiety, irregular sleep schedules, excessive screen time, and poor sleep hygiene practices may exacerbate sleep problems among university students. These findings align with previous research indicating that university students are particularly vulnerable to sleep disturbances due to the unique stressors and lifestyle factors associated with the academic environment (Estrada-Jaramillo et al., 2022; Bakul and Heanoy, 2022). The high prevalence of sleep disorders among Jordanian university students underscores the need for targeted interventions and support services to address sleep-related issues and promote sleep health within the university setting. By understanding the factors contributing to sleep disturbances among university students, educators and policymakers can develop effective strategies to

support students' well-being and academic success.

Moreover, the study revealed statistically significant differences in the prevalence of sleep disorders among Jordanian university students based on various sociodemographic factors, including gender, university level, and college type. Male students exhibited higher rates of frequent sleep disturbances compared to females, while undergraduate students demonstrated the highest prevalence of sleep disorders. Furthermore, students enrolled in scientific disciplines reported higher rates of frequent sleep disturbances compared to those in humanities. These findings are consistent with prior research on the sociodemographic correlates of sleep disorders among university students (Bakul and Heanoy, 2022). Gender disparities in sleep patterns and disorders have been extensively documented, with females often reporting higher rates of sleep disturbances compared to males. This divergence may stem from variations in biological factors, stress levels, and coping mechanisms between genders. The observed discrepancies in sleep disorder prevalence across university levels and college types may reflect differences in academic demands, lifestyle factors, and stress levels among students in various academic programs (Nguyen et al., 2023). For instance, undergraduate students may encounter elevated levels of academic stress and pressure compared to graduate and postgraduate students, rendering them more susceptible to sleep disturbances. Additionally, students in scientific disciplines may confront greater academic workload and pressure, contributing to a heightened prevalence of sleep disorders compared to their counterparts in humanities (Ma et al., 2022; Pillai and Lee-Chiong, 2023). These findings underscore the significance of considering sociodemographic factors when addressing sleep-related issues among university students. In the university environment, specialised therapies and support services that recognise gender differences, academic levels, and college types can help to lessen the effects of sleeping disorders and promote good sleep hygiene. By comprehending the sociodemographic correlates of sleep disorders, educators and policymakers can devise targeted strategies to bolster students' well-being and academic achievement.

In addition to this, the findings of this study indicated a significant negative correlation between sleep disorders and academic performance among Jordanian university students. This implies that as the severity of sleep disturbances increases, academic performance tends to decline. Such a correlation highlights the detrimental effect of poor sleep quality and frequent sleep disturbances on students' ability to succeed academically. The negative impact of sleep disorders on academic performance aligns with prior research demonstrating the adverse effects of sleep disturbances on cognitive function, memory consolidation, and information processing (Alhamed, 2023). Sleep plays a critical role in learning and academic achievement. Disruptions in sleep patterns can impair cognitive performance, hindering students' ability to concentrate retain information and perform well in exams and assignments. The observed correlation between sleep disorders and academic performance underscores the importance of promoting sleep health within the university setting to support students' well-being and academic success. These findings are consistent with previous research highlighting the detrimental effects of sleep disorders on academic performance among university students (Câmara-Costa et al., 2021; Deng et al., 2021). By understanding the impact of sleep disorders on academic performance, educators and policymakers can develop targeted interventions and support services to address sleep-related issues and promote sleep health among university students.

CONCLUSION

This study illuminates the complex relationships between sleep disorders, sociodemographic factors and academic performance among Jordanian university students. The findings highlight the prevalence of sleep problems in this group and the many contributing variables. The study examines how socio-cultural norms, academic pressure, and lifestyle choices affect college students' sleep hygiene. Due to academic pressures, social commitments, and schedule changes, university life sometimes disrupts sleep. In addition, irregular meal habits, electronic device use, and caffeine disrupt student sleep. Researchers can identify stressors and lifestyle variables that cause sleep disorders and solve them.

Research also shows that sociodemographic factors, including socioeconomic position, education, and academic year, impact sleep hygiene outcomes among university students. Undergraduate students, especially first-year students, have more sleep problems than graduate and postgraduate students. This discrepancy shows the difficulties of academic life. Financial stress, resource availability, and gender-based sleep habits and behaviours also affect student sleep hygiene outcomes. By analyzing sociodemographic factors, scholars may create tailored treatments that address the unique needs of varied student groups. The study also emphasizes the importance of sleep disruptions to college student's mental health and academic performance. Poor sleep duration and quality consistently reduce cognitive function, academic performance, and grades. Sleep disorders often increase worry, tension, and despair, which worsen student problems. By encouraging good sleep habits and resolving sleep issues, healthcare practitioners and universities may help students achieve their personal and academic objectives and improve their quality of life.

Implications

This study has broad implications for stakeholders working to improve university students' academic performance. Results show that academic institutions and universities should include sleep hygiene activities in student wellness programs. According to this study, institutions may promote good sleeping habits among students by applying evidence-based treatments and regulations. Sleep education may be integrated into health and wellness programs, sleep-related activities can be implemented across campus, and sleep disorder support services can be improved. Colleges may also explore adopting flexible academic rules that accommodate students' sleep requirements and promote a healthy work-life balance to foster academic success. The study's findings may help doctors treat sleep-deprived students. Healthcare professionals can provide students with sleep disorder-specific therapy and alternatives through academic partnerships, sleep clinics, and consultations. Healthcare professionals can also teach students how to improve their sleep hygiene. This is a unique opportunity for policymakers to enhance academic sleep. Politicians may increase student academic performance by supporting school sleep rules. Policymakers supporting academic sleep hygiene research may also offer evidence-based recommendations to improve college student sleep and influence policy. Research gives practical tips for boosting student sleep. Students may enhance their health and sleep with stress management, relaxation, and evidence-based sleep hygiene. Academic and healthcare resources can help students manage sleep difficulties, improving academic achievement.

Academic institutions, healthcare practitioners, lawmakers, and students must collaborate to address college student sleep concerns. Targeted therapies and policies that promote student academic success can improve university sleep hygiene. Universities can assist students sleep in numerous ways. Sleep education may be their first step in promoting sleep's importance. Students can learn stress management, relaxation, and sleep hygiene via seminars, workshops, and instructional materials. Additional sleep efforts may be implemented on campuses. Residential quiet hours, light-blocking dorm drapes, and university sleep chambers or relaxation rooms may help. Students should also receive more sleep help from universities. Stress, worry, and other mental health disorders produce sleep problems that require further therapy. Colleges may provide sleep clinics or sleep medicine symposia. Furthermore, academic rules must be flexible. To assist students in sleeping without hurting academic performance, institutions might adjust test formats, class timetables, and assignment due dates. Finally, peer assistance programs can match students with sleep ambassadors or qualified mentors. These programs may assist students in establishing a community and give sleep hygiene suggestions.

Sleep hygiene policy recommendations from academia can affect systems. Policymakers should promote college sleep hygiene programs. Health and wellness programs might include sleep instruction, subsidize sleep-related efforts, and establish restful campus targets. Politicians could also adopt laws forcing institutions to address sleep issues and encourage sleep hygiene. Set campus sleep support program criteria, finance academic sleep hygiene research, and demand sleep education in the curriculum to address this issue. Policymakers should

promote university-healthcare collaboration. Colleges and local healthcare institutions might collaborate, support on-campus sleep clinics or telemedicine services, and improve sleep therapy insurance coverage to achieve this aim.

Additionally, community engagement matters. Policymakers must promote institution-community partnerships to increase sleep hygiene and awareness. Outreach, community events, and seminars may educate staff, students, and instructors on sleep issues and treatment choices. Finally, policymakers should finance university sleep hygiene research. This involves studying student sleep problems, identifying risk factors, and assessing sleep hygiene-promoting medicines and policies.

Limitations and future direction

This study gives exciting insights into sleep issues among Jordanian university students; however, it has limitations. Since the study was cross-sectional, causal correlations between variables cannot be established. The study finds links between sociodemographic factors, sleep problems, academic achievement, and psychological welfare, but more longitudinal research is needed to understand their temporal and causal pathways. Longitudinal studies can examine sleep hygiene changes and identify risk and protective variables in university students. Recollection and social desirability biases might reduce the validity and reliability of self-report evaluations. Additional studies should use polysomnography or actigraphy to understand further how sleep deprivation affects university students' health. Standardized academic achievement and psychological welfare measures would improve the findings' dependability and allow study comparisons.

Due to the study's sample size and makeup, the findings may not apply to other Jordanian or foreign university groups. This study included university students from one Jordanian institution, limiting its applicability to other universities or locations. The sample may also overrepresent demographic groupings or academic specialities that are not typical of Jordanian university students. Future research should replicate the study's findings using more considerable and varied samples from other institutions and areas to guarantee generalizability. The study did not examine moderators or mediators of sociodemographic factors, sleep problems, and academic success. Personality factors, coping methods, and social support can change this research's connections.

Further study should examine these variables to understand how sociodemographic factors, sleep quality, and student academic performance are linked. Qualitative research methods like focus groups and interviews can also help create customized sleep problem treatments for college students. The study did not examine how cultural and environmental variables affect Jordanian university students' sleep hygiene. Environmental, cultural, and socioeconomic influences may affect student sleeping habits, attitudes, and actions. Future studies should include these factors to understand better the cultural and environmental factors that affect Jordanian university students' sleep. Comparative sleep hygiene research across cultures and regions will also reveal if sleep problems and their effects are universal or culturally unique among university students.

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