



IMPACT OF SLEEP QUALITY ON EMOTIONAL WELL-BEING AMONG YOUNG ADULTS: A QUANTITATIVE ANALYSIS

Psychology

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ABSTRACT

Sleep quality is a critical yet often overlooked determinant of emotional and psychological well-being, particularly among young adults experiencing developmental, social, and academic transitions. This study aimed to examine the relationship between sleep quality and emotional well-being among university students using quantitative methods. Data were collected using validated instruments and analyzed using descriptive and inferential statistics. Findings indicated that poor sleep quality was significantly associated with heightened levels of emotional distress, including anxiety, mood swings, and decreased cognitive functioning. The results suggest a need for increased awareness and intervention strategies aimed at improving sleep hygiene to support emotional regulation and resilience in youth.

KEYWORDS

Sleep Quality, Emotional Well-being, Young Adults, Sleep Hygiene, Psychological Resilience

INTRODUCTION

Sleep is an essential physiological function that profoundly influences cognitive, emotional, and physical health. Despite its importance, modern lifestyles, academic pressures, and digital habits have led to widespread sleep disturbances, particularly among young adults aged 18–25. The National Sleep Foundation (2000) and NIH (2005) emphasize that sleep deprivation impairs learning, mood regulation, and immune functioning, contributing to long-term emotional and psychological dysfunction.

This study investigates how sleep quality affects emotional well-being in young adults, focusing on cognitive functioning, emotional resilience, and the role of behavioral factors such as screen time, caffeine use, and lifestyle habits.

Several studies have established the connection between sleep and emotional regulation. Yoo et al. (2007) found that sleep deprivation weakens prefrontal-amygdala connectivity, leading to emotional reactivity. Similarly, Toner et al. (2024) highlighted poor sleep quality as both a predictor and a consequence of emotional disorders.

Behavioral habits such as bedtime procrastination (Teoh & Wong, 2023), excessive screen time (Riddell et al., 2020), and dietary patterns have been implicated in sleep disturbances. Cultural and gender-specific variations also play a crucial role in how sleep influences emotional outcomes.

Methodology

Research Design

This research adopted a quantitative correlational design to explore associations between sleep quality and emotional well-being among young adults. This method enables the identification of statistical relationships between variables using standardized psychometric tools.

Procedure

The study sample consisted of 100 young adults, aged 18 to 35 years, selected through simple random sampling from the general population, ensuring diversity in occupational and educational backgrounds. The gender distribution was equal (50% male, 50% female), and marital status was also considered (54% unmarried, 46% married).

Data collection was conducted in two sequential phases using the questionnaire method.

In the first phase, participants were administered the Sleep Quality Scale, a screening tool designed to assess their patterns and quality of sleep. The scale consisted of items rated on a 5-point Likert scale, measuring various dimensions of sleep such as duration, disturbances, latency, and satisfaction. Participants completed the scale independently, and responses were collected digitally via an online form.

In The Second Phase, Participants Who Had Completed The

Initial Sleep Quality Assessment Were Asked To Complete Two Additional Psychological Assessments:

The Depression, Anxiety, and Stress Scales (DASS-21), which evaluates emotional distress across three dimensions: depression, anxiety, and stress.

The Positive and Negative Affect Schedule (PANAS), which measures the extent to which individuals experience positive and negative emotions.

All participants were provided with clear instructions before beginning the assessments, and the administration was carried out under standardized and ethically approved conditions. Responses were submitted electronically, ensuring minimal manual bias and facilitating data integrity.

To maintain participant privacy and encourage honest responses, all data were collected anonymously. Informed consent was obtained from every participant before initiating the study, and the research adhered to established ethical guidelines for psychological research.

Instruments

1. Sleep Quality Scale (SQS)

The Sleep Quality Scale (SQS), developed by Yi et al. (2006), was used as a screening tool to assess the participants' overall sleep quality. This self-report scale comprises 18 items, each rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale measures various dimensions of sleep, including: Sleep satisfaction, Daily functioning, Difficulty in falling asleep, Difficulty in getting up, Restoration from sleep, Difficulty in maintaining sleep. The total score ranges from 18 to 90, with higher scores indicating poorer sleep quality. The SQS has demonstrated good psychometric properties in prior studies and is considered a reliable and valid measure for assessing sleep disturbances across various populations.

2. Positive and Negative Affect Schedule (PANAS):

The PANAS (Watson, Clark, & Tellegen, 1988) is a 20-item self-report questionnaire designed to measure two primary dimensions of affect: Positive Affect (PA) and Negative Affect (NA). The scale consists of two 10-item subscales—each item is rated on a 5-point Likert scale ranging from 1 (very slightly or not at all) to 5 (extremely). The PA scale includes terms such as “interested,” “excited,” and “enthusiastic,” while the NA scale includes terms such as “distressed,” “upset,” and “nervous.” Higher scores indicate higher levels of positive or negative affect respectively. The PANAS has shown good internal consistency, with Cronbach's alpha typically ranging from 0.84 to 0.90 for both subscales.

2. Depression Anxiety Stress Scales–21 (DASS-21)

The Depression Anxiety Stress Scales–21 (DASS-21), developed by Lovibond and Lovibond (1995), is a self-report questionnaire designed to measure negative emotional states across three domains: depression, anxiety, and stress. It consists of 21 items, with 7 items per

subscale, rated on a 4-point Likert scale. Scores for each subscale are summed and then doubled to match the full DASS-42 scale. The DASS-21 has demonstrated strong reliability ($\alpha > 0.85$) and validity, making it a widely used tool in both clinical and research settings to assess emotional distress.

RESULTS

This section presents the findings from the study exploring the relationship between sleep quality and various emotional health indicators, including depression, anxiety, stress, and emotional states. The data is presented through tables followed by interpretations.

Table 1: Age Distribution Of Participants

Age Group	Frequency	Percentage (%)
18–21	24	24.0
22–25	21	21.0
26–30	24	24.0
31–35	31	31.0

Participants were relatively evenly distributed across age groups, with the highest proportion (31%) in the 31–35 range. This distribution ensures comprehensive coverage from late adolescence to early middle adulthood, offering a broad developmental perspective on sleep and emotional health.

Table 2: Gender Distribution

Gender	Frequency	Percentage (%)
Female	50	50.0
Male	50	50.0

An equal gender distribution (50% male, 50% female) minimizes gender bias, allowing fair comparison and generalization of emotional health and sleep patterns across genders.

Table 3: Marital Status

Marital Status	Frequency	Percentage (%)
Married	46	46.0
Unmarried	54	54.0

The sample included both married and unmarried participants, with a slight majority (54%) being unmarried. This helps explore how relationship status might affect sleep and emotional well-being.

Table 4: Sleep Quality

Sleep Quality	Frequency	Percentage (%)
Very Poor	14	14.0
Poor	25	25.0
Good	33	33.0
Very Good	19	19.0
Excellent	9	9.0

A majority of participants (33%) reported good sleep quality, but a significant portion experienced poor (25%) or very poor (14%) sleep. Only 9% rated their sleep as excellent.

Table 5: Correlation between Sleep Quality and DASS Variables

	Sleep Quality (SQ)	Anxiety (A)	Stress (S)	Depression (D)
Sleep Quality (SQ)	1	-0.573**	-0.784**	-0.187 (p=0.063)
Anxiety (A)	-0.573**	1	0.644**	0.373**
Stress (S)	-0.784**	0.644**	1	0.315**
Depression (D)	-0.187 (p=0.063)	0.373**	0.315**	1

There are notable correlations between emotional factors—stress (S), anxiety (A), depression (D)—and sleep quality (SQ). While depression shows a moderate negative correlation with sleep quality ($r = -0.187$, $p = 0.063$), anxiety ($r = -0.573$, $p < 0.01$) and stress ($r = -0.784$, $p < 0.01$) have strong, significant inverse relationships with sleep quality, indicating better sleep is linked to lower anxiety and stress. Additionally, depression is positively correlated with both anxiety ($r = 0.373$, $p < 0.01$) and stress ($r = 0.315$, $p = 0.001$), and stress and anxiety are strongly correlated ($r = 0.644$, $p < 0.01$), suggesting these emotional issues often co-occur.

Overall, lower emotional distress is associated with better sleep, with stress and anxiety showing the strongest effects.

Table 6: Correlation between Sleep Quality and PANAS Variables

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Variables	Sleep Quality	Positive Emotions	Negative Emotions
Sleep Quality	1	0.187	0.074
Positive Emotions	0.187	1	-0.345**
Negative Emotions	0.074	-0.345**	1

The correlation between sleep quality and positive emotions was weak and not statistically significant ($r = 0.187$, $p = 0.063$). The correlation with negative emotions was very weak and non-significant ($r = 0.074$, $p = 0.462$). However, a significant inverse relationship was found between positive and negative emotions ($r = -0.345$, $p < 0.01$), indicating that as positive emotions increase, negative ones decrease.

DISCUSSION

One of the most salient findings of this study was the strong negative correlation between sleep quality and stress ($r = -0.784$, $p < 0.01$), and a moderate negative correlation with anxiety ($r = -0.573$, $p < 0.01$). These results align with a broad body of literature that emphasizes the bidirectional link between sleep disturbances and emotional dysregulation (Baglioni et al., 2011; Walker & van der Helm, 2009). Sleep, especially REM sleep, plays a critical role in emotional memory processing and regulation; thus, disruptions in sleep can intensify stress responses and anxiety.

Although depression was negatively correlated with sleep quality, this relationship was not statistically significant ($r = -0.187$, $p = 0.063$). This is consistent with some prior studies that suggest while sleep issues are associated with depression, the strength of this association may vary depending on individual differences, duration of sleep issues, and severity of depressive symptoms (Taylor et al., 2005). The findings suggest that while stress and anxiety may immediately impact sleep quality, depression might require more prolonged or cumulative effects to manifest in sleep disturbances.

In contrast, positive and negative emotions, as measured by PANAS, were not significantly associated with sleep quality. The weak and non-significant correlations ($r = 0.187$ and $r = 0.074$, respectively) may be due to the broader, trait-like nature of affective tendencies measured by PANAS, which might not reflect daily fluctuations influenced by sleep. However, the significant inverse correlation between positive and negative affect ($r = -0.345$, $p < 0.01$) supports the well-established psychological theory that these emotional states are antagonistically related (Watson et al., 1988).

CONCLUSION

The present study underscores the critical role of sleep quality in shaping the emotional well-being of young adults. Findings reveal that poor sleep quality is significantly associated with heightened stress and anxiety levels, indicating that sleep disturbances can compromise emotional regulation and overall mental health. Although the association between sleep quality and depression was not statistically significant, the observed trend suggests that sleep issues may still influence depressive symptoms over time. Interestingly, the relationship between sleep quality and affective states both positive and negative was weak and non-significant, possibly reflecting the more stable, trait-like nature of these emotional constructs.

These insights highlight the importance of promoting healthy sleep habits as a proactive measure to bolster psychological resilience and reduce emotional distress among youth. Educational and behavioral interventions targeting sleep hygiene could serve as effective strategies to enhance emotional stability and improve quality of life. Given the growing prevalence of sleep disturbances in this demographic, the findings of this study call for integrated health programs that emphasize the interdependence of sleep and mental health.

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