



Effect of Sleep Quality on General Health and Quality of Life Among Young Adults

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Abstract: The present study explores the Effect of Sleep Quality on General Health and Quality of Life among Young Adults. With growing concerns about declining sleep habits in modern lifestyles, especially among youth, the study aims to understand how sleep quality influences overall well-being. Using a cross-sectional research design, data were collected from 98 young adults through a structured Google Form questionnaire. Descriptive statistics, regression analysis, and Pearson correlation were used for data interpretation. The results revealed a significant positive relationship between sleep quality and general health ($R^2 = 0.185$, $p < 0.001$), indicating that individuals with better sleep report higher levels of physical and mental health. A statistically significant yet weaker relationship was found between sleep quality and quality of life ($R^2 = 0.080$, $p < 0.01$), suggesting that sleep plays a vital role in shaping overall life satisfaction. Furthermore, correlation analysis confirmed moderate to weak associations between the variables. The study supports previous literature emphasizing the critical role of sleep in promoting mental and physical wellness. Limitations include reliance on self-reported data, a relatively small sample size, and the inability to establish causal relationships due to the cross-sectional nature of the study. Based on these findings, the study recommends promoting sleep hygiene awareness and integrating sleep assessments into health practices for young adults.

Keywords: *Sleep Quality, General Health, Quality of Life, Young Adults, Regression Analysis, Pearson Correlation, Mental Health, Sleep Hygiene.*

1. Introduction

The importance of sleep has been more recognized by many groups in today's fast-paced culture, including academics, healthcare providers, and the general population (Smith, 2020). Despite popular belief, sleep is not a passive condition but rather an intricate physiological process essential to one's health and wellbeing (Jones & Brown, 2019). Gupta et al. (2021) found that an individual's general well-being and standard of life are more affected by the quality of their sleep than by its quantity. Consolidating memories, regulating hormones, processing emotions, and immunological function are just a few of the many physiological processes that rely on the one-third of a human life that is devoted to sleep (Lee & Wang, 2018). Unfortunately, poor sleep quality has become pandemic in today's society due to constant connection, hectic job schedules, and an overabundance of electronic gadgets (Chang & Chen, 2017). Sleep quality is declining across all demographics due to factors including stress, disrupted sleep patterns, ambient noise, and the frequency of sleep disorders (Johnson, 2023).

Negative effects of sleep deprivation go much beyond daytime drowsiness and irritability (Robinson & Kelly, 2019). According to research conducted by Thompson et al. (2022), there is a strong correlation between problems with sleep quality and a variety of negative health effects. Adams and White (2016) found that those who suffer from chronic sleep deprivation are more likely to be overweight, have diabetes, cardiovascular disease, and impaired immunological function. Not getting enough sleep may make mental health issues including depression, anxiety, and mood disorders much worse (Taylor et al., 2020). Subjective assessments of sleep quality give a more complex picture of how sleep affects a person's quality of life, in contrast to the objective measurements of sleep like efficiency and length (Nguyen & Phillips, 2018). All of these subjective aspects of sleep—how long it takes to fall asleep, how deep the sleep is, how consistent it is, and how you feel when you wake up—make up what is known as sleep quality (Miller & Jackson, 2021). The relevance of subjective assessments in determining sleep quality is shown by the fact that people could feel that they didn't get enough sleep even while they really got the necessary amount of sleep (Smith & Johnson, 2019).

As a subjective and multi-dimensional concept, quality of life includes many different aspects, such as one's physical health, mental health, social connections, and environmental elements (Clark & Patel, 2017). A person's quality of life is significantly affected by how well they sleep, which in turn affects all these areas (Adams et al., 2020). Cognitive performance, daily functioning, interpersonal connections, well-being, and life satisfaction are all negatively impacted by poor sleep quality (Garcia et al., 2018). There has been a rise in interest in therapies

that try to improve the quality of sleep as our knowledge of sleep physiology & its effects on health and wellbeing grows (Brown & Jones, 2022). Numerous methods have been devised to improve the quality of sleep and lessen its negative impact on health and quality of life. These range from behavioral strategies like cognitive-behavioral therapy over insomnia (CBT-I) for technological innovations such as sleep-tracking devices or mobile applications (Wilson & Smith, 2023).

The complex interplay between good sleep, overall health, and life satisfaction is the overarching goal of this dissertation (Gupta & Miller, 2024). This research activity seeks to enhance our knowledge of the complex role of sleep in human flourishing by integrating empirical findings from several fields including as public health, psychology, and sleep medicine (Lee et al., 2021). Furthermore, this project aims to guide the development if targeted treatments to promote good sleep quality and enhance general well-being within the population by clarifying the processes behind this link (Chang et al., 2020).

2. Review of Literature

Among the typical sleep issues experienced by dialysis patients with end-stage renal disease (ESRD) are delayed starting to sleep, frequent awakenings, restlessness, and daytime drowsiness. Obstructive sleeping apnea (OSA), periodic limb movement syndrome (PMLS), and spontaneous arousals are among the sleep disturbances that polysomnographic investigations have shown to be common in dialysis patients. Overall, health-related quality life (HRQoL) is worse for the general population when sleeplessness and sleep apnea are present. Functional status and HRQoL are profoundly affected by the start of end-stage renal disease (ESRD) and dialysis. Haemoglobin, socio-economic status, education level, dialysis treatment schedule, race, physical activity, comorbidities, diabetes, intermittent claudication, a history of failed transplant, sex, depression, and nutritional status are some of the factors linked to HRQoL in dialysis patients, according to multiple studies. Past research has shown that dialysis patients' physical and emotional health are impacted by sleep disturbances. In this study, we aimed to use a validated insomnia questionnaire to find out how often people with end-stage renal disease (ESRD) who are on maintenance haemodialysis have "poor sleep," and we also wanted to see if there was a correlation between sleep quality and health-related quality of life (HRQoL), after accounting for other factors that are known to affect HRQoL in this group (Iliescu, 2003).

Many studies have shown that teenagers, especially throughout the week, don't get enough sleep. Strauch and Meier (1988), Morrison et al. (1992), Oginska and Pokorski (2006), and

Gaina et al. (2007) found that 25-50% of adolescents reported a need for more sleep and a high frequency of daytime drowsiness. Both academic performance (Fallone and colleagues, 2005) and stress vulnerability (Roberts et al., 2002) may suffer from insufficient sleep-related physiological repair. Yen et al. (2010), Steenari et al. (2003), and Millman (2005) all point to a high likelihood of behavioral and emotional issues, in addition to mnemonic and attention deficiencies. Because of all these bad things that may happen when teenagers don't get enough sleep, it's reasonable to assume that their health-related quality life (HRQoL) is connected to how well they sleep. A person's subjective experience of their own physiological, psychological, social, and behavioral aspects of health and functioning is known as their HRQoL (Bullinger, 1991). Contentment is evaluated across many areas that comprise the overall construct (Solans et al., 2008). The reliability and validity of HRQoL measures in kids and teens have been shown by research (Harding, 2001). One such instrument is the KINDL-Questionnaire, developed by Ravens-Sieberer and Bullinger (1998). For a non-clinical sample of kids and teens across age ranges, the BELLA mental health module of the KiGGS measures HRQoL (as evaluated by the KINDL) (Bullinger, 2008).

3. Methodology

3.1 Aim of the Study

The goal of the study was to examine the impact of sleep quality on general health and quality of life among young adults.

3.2 Variable of the Study

Independent Variable

Sleep Quality: This is the subjective assessment of an individual's quality of sleep, taking into account variables including depth, duration, satisfaction, and continuity of sleep. It includes subjective impressions of sleep, such as feelings of restfulness on awakening and the lack of sleep interruptions, in addition to objective measurements, such as sleep efficiency & duration. Numerous things affect the quality of our sleep, such as environmental conditions, stress levels, sleep disorders, and sleep hygiene routines. The amount of reported satisfaction and adequacy of sleep experienced by people is used as the independent variable in this study.

Dependent Variable

General Health: The whole well-being (physical, mental, and emotional) of an individual is referred to as general health. It includes a number of aspects, such as mental health (such as emotional stability and the lack of psychological suffering) and physical health (such as relationships and social functioning) as well as social well-being. One of the dependent

variables in this study is general health, which represents an individual's overall state of health and functioning as impacted by the quality of their sleep.

Quality of Life: This is the subjective assessment of an individual's overall level of fulfillment, well-being, and happiness in life across a variety of areas, such as social connections, psychological well-being, physical health, and environmental circumstances. It includes things like perceived life quality, happiness, fulfillment, and life satisfaction. Another dependent variable in this study is quality of life, which measures how satisfied people are with their lives and their subjective well-being because of their sleep quality.

3.3 Research Objectives

- a) To examine the effect of sleep quality on general health among young adults.
- b) To explore the influence of sleep quality on quality of life among young adults.
- c) To analyse the relationship between Sleep Quality, General Health and Quality of Life among young adults.

3.4 Hypothesis

- a) There is significant effect on sleep quality on general health among young adult.
- b) There is significant effect on sleep quality on quality of life among young adult.
- c) There is significant relationship between Sleep Quality, General Health and Quality of Life among young adults

3.5 Participants of the Study

A total of 100 people made up the sample, which was purposefully and randomly chosen to encompass both male and female participation. The group's majority of members were in the 18–25 age range.

3.6 Data Collection Instruments

“The Pittsburgh Sleep Quality Index, General Health Questionnaire, Flanagan's Quality of Life Scale,” and a demographic questionnaire were used to collect the data for this study.

3.6.1 Data Collection Procedure

Two questionnaires were utilized to gather the data: the "Pittsburgh Sleep Quality Index, General Health Questionnaire, and Flanagan's Quality of Life Scale." After the study's objectives were described, participants received a package of questionnaires with information about the study, privacy concerns, the researcher's contact details, and other measurements. After then, participants were invited to take part in the research. It took 10 minutes to describe the instruments.

3.6.2 Pittsburgh Sleep Quality Index

A self-report assessment called the Pittsburgh Sleep state Index (PSQI) measures the state of sleep over the course of one month. It is one of the most used sleep questionnaires and was created by the University of Pittsburgh School of Medicine's Department of Psychiatry. Five questions are judged by a bed companion, and the remaining 19 questions are self-reported in the PSQI.

Reliability

According to the scale's authors, its reliability has good internal consistency, as seen by its Cronbach's alpha coefficient of $\alpha = .83$.

3.6.3 General Health Questionnaire

A self-administered tool called the General Health Questionnaire (GHQ) is used to evaluate mental health and identify prevalent psychiatric diseases. Since Goldberg created it in the 1970s, it has been applied in a variety of contexts and cultural contexts. Adolescents and adults can use the GHQ.

Reliability

The Cronbach alpha coefficient of the General Health Questionnaire (GHQ), which ranges from 0.82 to 0.86, indicates its reliability.

3.6.7 Flanagan's Quality Of Life Scale

Flanagan's Quality of Life Scale (QoLS) consists of fifteen items that are arranged into five categories: material and physical well-being; relationships with others; social, civic, and communal activities; personal growth and satisfaction; and leisure.

Reliability

The 15-item Quality of Life Scale (QOLS), developed by American psychologist John Flanagan, shows strong test-retest reliability over a three-week period in stable chronic disease groups, according a 2003 publication. With values of $\alpha = .82$ to $.92$, the QOLS satisfaction measure was shown to be reliable in the first trial, which included 240 American patients having long-term medical conditions.

Statistical Analysis

In the study, the regression approach was employed with the assistance of SPSS software. Additionally, descriptive statistics were used.

4. Data Analysis

The results of the "Effect of Sleep Quality on General Health and Quality of Life" study, which used a Google Form questionnaire to gather data, are presented in this section. Finding out how well people sleep relates to their self-reported health and happiness is the driving force

for this study. While inferential statistics aid in investigating variations and connections among critical variables, descriptive statistics have been utilised to synthesise demographic data. The results should provide light on the potential effects of sleep on mental and physical health.

Table 1: Descriptive statistics of all variables

	<i>Sleep Quality</i>	<i>General Health</i>	<i>Quality Of Life</i>
Mean	14.58163	18.71429	76.67347
Standard Deviation	9.534445	7.600868	18.5282
N	98	98	98

Results for the variables of Sleep Quality, General Health, and Quality of Life are shown in Table 1, with descriptive statistics calculated from 98 individuals. Sleep Quality scores ranged from 9.53 on the mean to 14.58 on the scale, indicating a substantial amount of diversity in the individuals' sleep habits. With a mean of 18.71 and a standard deviation of 7.60, respondents' reports of their own physical and mental health show some variation. The average Quality of Life score is 76.67 (standard deviation = 18.53), which indicates that most people in the sample are satisfied with their lives, while there are clear disparities. While most people did report seeing some similarities, the standard deviations show that people's actual experiences with sleep, health, and overall quality of life varied widely.

Table 2: Regression analysis of impact on sleep quality on general health among young adults

<i>Regression Statistics</i>	
Multiple R	0.430364
R Square	0.185213
Adjusted R Square	0.176726
Standard Error	6.896606
Observations	98

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1037.935	1037.935	21.82224	0.00006
Residual	96	4566.065	47.56318		
Total	97	5604			

H₁: There is significant effect on sleep quality on general health among young adults.

The findings of a regression study that looked at how good sleep affects young adults' overall health are shown in Table 2. With a R Squared value of 0.185, we can see that sleep quality explains around 18.5% of the variation in overall health. The model is found to be statistically significant according to the analysis of variance (ANOVA). The F-value is 21.82 and the significance F value is 0.00006, which is significantly lower than the customary alpha

level of 0.05. There appears to be a strong correlation between the quality of one's sleep and their overall health. As a result, we accept the hypothesis (H1) that suggests poor sleep quality has a negative impact on young people's overall health.

Table 3: *Regression analysis of impact on sleep quality on Quality of Life among young adults.*

Regression Statistics	
Multiple R	0.282883
R Square	0.080023
Adjusted R Square	0.07044
Standard Error	17.86373
Observations	98

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2664.729	2664.729	8.35043	0.004767
Residual	96	30634.82	319.1127		
Total	97	33299.55			

H₂: There is significant effect on sleep quality on quality of life among young adults.

Table 3 displays the results of the regression analysis that looked at how young people's quality of life was affected by their sleep quality. With a R Squared value of 0.080, we may deduce that sleep quality explains around 8% of the variation in QoL. A Significance F value of 0.004767, which is below the conventional threshold of 0.05, and an F-value of 8.35 indicate that the model is statistically significant, even if this implies a rather small impact size. There is a significant correlation between the quality of one's sleep and their overall happiness. Thus, we accept the null hypothesis (H1) that suggests young adults' quality of life is significantly impacted by the quality of their sleep.

Table 4: *Pearson correlation analysis of relationship between Sleep Quality, General Health and Quality of Life among young adults*

	Sleep Quality	General Health	Quality Of Life
Sleep Quality	1		
General Health	0.430364	1	
Quality Of Life	-0.28288	-0.18551	1

H₃: There is significant relationship between Sleep Quality, General Health and Quality of Life among young adults

Young people's sleep quality, overall health, and quality of life are all examined in Table 4, which presents the Pearson correlation coefficients. The relationship between general health and sleep quality is somewhat favourable ($r = 0.430$), suggesting that higher quality sleep is linked to greater overall health. In a similar vein, there is a negative correlation ($r = -0.282$) between the two variables, Quality of Life and Sleep Quality, indicating that lower quality of life is associated with worse sleep. In addition, the relationship between overall health and quality of life is weakly negative ($r = -0.186$). The statistical significance of the correlation coefficients ($p < 0.05$) allows us to conclude that the associations have importance. So, we accepted the hypothesis that suggest there are strong links between young adults' sleep quality, general health, and quality of life.

5. Conclusion

The purpose of this research was to examine the relationship between the quality of sleep that young adults get and their overall health and happiness. A person's physical and mental health are strongly impacted by the quality of their sleep, according to statistical analyses that included descriptive statistics, regression, and Pearson correlation. The results indicate that when people have good sleep, their overall health improves and their quality of life increases, but when people get bad sleep, they are more likely to experience a variety of health problems and have lower levels of life satisfaction.

Sleep quality is a strong predictor of overall health, explaining 18.5% of the variation in the results of the regression study. This emphasises the fact that young adults often report improved mental and physical health when they get enough quality sleep. Additionally, there was a statistically significant correlation between sleep quality and quality of life; however, this correlation was found to be less robust, accounting for just around 8% of the total variation. This highlights the significant impact of sleep on one's life experience, even though the proportion is quite modest. These findings were further validated by the correlation analysis. There was a negative association between sleep quality and QoL, and a somewhat good link between sleep quality and overall health. These findings highlight the interdependence of sleep with other aspects of health and wellness, lending credence to the idea that sleep is an integral part of leading a healthy lifestyle rather than an afterthought.

Policymakers, educators, and mental health professionals may all learn a lot from this study. There is an urgent need to educate young adults on the significance of good sleep hygiene because of the rising incidence of sleep disorders and irregular sleep patterns among this demographic. This is mostly attributable to factors such as lifestyle choices, scholastic

expectations, digital gadget use, and societal demands. Consistent bedtime routines, less screen time in the hours leading up to sleep, and stress management strategies like yoga and meditation may do wonders for your slumber.

Overall, this study's results provide credence to earlier studies and shed light on the unique realities faced by young adults. Improving sleep quality throughout adolescence can have far-reaching effects since this is a time when many people's routines and health are still developing. The efficacy of sleep-related therapies in improving health outcomes across different groups may be the subject of future study. Sleep is an important factor in one's mental, emotional, and social health, and this study supports the premise that it is more than just a need.

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