



Internet Addiction and Its Relation to Sleep Quality and Depression among Young Adults

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Abstract

Excessive and obsessive online activity is a hallmark of internet addiction, which has been connected to poor sleep quality and a higher risk of depression. People may participate in online activities late into the night because of the internet's persistent accessibility, which can cause sleep deprivation. The purpose of this study is to clarify the relationship between young adult sadness, poor sleep, and internet addiction. to give an in-depth understanding of the connections between depression and sleep disorders and internet addiction. A questionnaire-based survey including 100 young individuals who had been using the internet for a year or more was used for the study. Sociodemographic details and data about their internet usage patterns were noted.

Young adults were assessed for internet addiction, depression, and sleep quality using the Internet Addiction Test (IAT), Pittsburg Sleep Quality Index (PSQI), and Patient Health Questionnaire (PHQ-9). With a 0.000 sig. (2 tailed) significance level ($0.000 < 0.01$), Internet addiction exhibits a significant connection of 0.716 with sleep quality and depression of 0.716 and 0.789, respectively. Higher degrees of online addiction were linked to worse sleep quality and more severe depressed symptoms, according to the data, which also showed positive relationships between internet addiction scores and both sleep quality and depressive symptoms.

Keywords: Internet Addiction, Depression, Sleep Quality, Sleep Apnea

CHAPTER 1: INTRODUCTION

1.1. Comprehending Internet Addiction

Internet addiction has become a significant issue, especially for young individuals, and studies have concentrated on the multifaceted effects it has on several aspects of wellbeing. Owing to the extensive usage of digital gadgets and the internet, an increasing amount of research is showing a connection between internet addiction, depression, and sleep quality in this population. The connection between excessive internet use and its impact on mental health has been the subject of numerous studies. Excessive screen time and internet use have been shown to disrupt sleep cycles, leading to lower-quality sleep.

Blue light from screens interferes with the production of melatonin, a hormone that regulates sleep-wake cycles. Additionally, the obsessive nature of internet use can lead to a disdain for healthy sleeping habits, which can worsen sleep disorders. Addiction to the internet has been

associated with increased instances of depression in young adults. Relentless use of social media and exposure to peer comparison can intensify low self-worth and feelings of inadequacy, thereby intensifying or initiating depressive symptoms.

Research indicates that a significant percentage of young people have problematic internet use patterns, which raises serious concerns about the prevalence of internet addiction in this demographic. As technology advances and internet usage becomes more and more integrated into daily life, it is crucial to comprehend the complex relationship between internet addictions, sleep quality, and depression in order to develop effective intervention strategies and improve the general well-being of young adults.

Young individuals frequently use the internet excessively, as seen by recent studies, which raises serious concerns about the prevalence of internet addiction in this demographic. Research indicates that a noteworthy proportion of young adults exhibit indications of problematic internet use; however, prevalence rates differ based on cultural context and geographic region. Academics conducted systematic research (Kuss et al., 2014), which found that among college and university students worldwide, the prevalence of internet addiction varied from 1.6% to 18.7%.

1.2. Warning Indications of Internet Addiction

- Internet obsession (thoughts of past online activities or eagerness for the upcoming online session)
- Limiting, curtailing, or stopping the amount of time spent online in order to feel satisfied
- Feelings of agitation, melancholy, depression, or anger when trying to limit the amount of time spent online beyond what was originally planned

- Internet use put at risk or jeopardized important relationships, jobs, education, or career chances
- Lying to loved ones, therapists, or other people to conceal the amount of time spent on the Internet
- Using the Internet to solve problems or relieve mood (e.g., feelings of hopelessness, guilt
- Having physical signs of an internet addiction
- Feeling defensive and guilty about using the Internet.
- Feeling euphoric when participating in online activities.

1.2. Rates of Prevalence

Worldwide, there are about 2.5 billion regular internet users, most of whom are teenagers and young adults. This indicates that internet usage is increasing exponentially. Simultaneously with the rapid growth in internet connectivity comes the rise in internet addiction, especially among young people, which is attracting increased attention from academics, legislators, and the mainstream media. When referring to online dependence, the terms "pathological internet use," "problematic internet use," and "internet addiction" are commonly used interchangeably. Young et al. recognized withdrawal, poor planning skills, preoccupation, tolerance, impairment of control, and excessive online time as the main signs of internet addiction (IA).

1.4. How Internet Use Affects the Quality of Sleep

Sleep quality is the measurement of how well you sleep, or if you get restful, restorative sleep. It is not the same as sleep pleasure, which is an evaluation of your feelings regarding the quantity of sleep you are getting that is more personalized. Measuring sleep quality is more challenging than measuring quantity, even though it's not entirely subjective.

Guidelines offer an overview of the objectives for the quality of sleep and also account for individual features and age. Four factors are usually assessed in order to determine the quality of sleep:

- **Sleep Latency:** A measure of how long it takes you to fall asleep is known as sleep latency. You probably get good quality sleep if you go to bed and wake up within thirty minutes or less.
- **Sleep waking:** This measures how often you wake up during the night. Regularly staying up late at night may disrupt your sleep pattern and result in less restful sleep. A good night's sleep is indicated if you wake up only once or not at all.
- **Wakefulness:** This measurement counts the amount of time you spend awake at night after going to bed. People who get enough sleep only wake up during the night for a maximum of twenty minutes.
- **Sleep efficiency:** The proportion of time you spend sleeping in bed is known as your sleep efficiency. Optimal health benefits can only be obtained when this measurement is 85% or higher.

1.5. Sleep Quality and Depression

Depression and sleep quality are closely related, and they often have an impact on each other. People who suffer from depression frequently experience sleep problems, and poor sleep can worsen and prolong their depressive symptoms. Two signs of depressive illnesses are supersonic sleep, which is excessive daytime sleepiness and prolonged nocturnal sleep, and insomnia, which is facing difficulty falling or staying asleep.

On the other hand, regardless of the cause, ongoing sleep issues can exacerbate the symptoms of depression. Sleep is crucial for preserving mental health in general, cognitive function, and emotional regulation. Increased irritability, difficulty concentrating, and heightened emotional reactivity are all consequences of sleep disruptions and are often associated with depression.

Some additional symptoms that may be present are:

- Poor focus,
- Excessive guilt or poor self-worth,
- Pessimism about the future, suicidal thoughts,
- Disturbed sleep,
- Changes in food or weight,
- Extreme weariness or lack of energy.

Lately, internet addiction has impacted people of all ages and spread throughout the globe. not just adolescents but children as well. They sit in front of the screen and use social media or video games. The repercussions of using the Internet excessively can be fatal for the individual. We have to be careful about how much time we spend on the Internet, even if it may be a helpful tool and make life easier.

Due to the prevalence of negative individuals on the Internet, people may get estranged from their friends and family and be influenced to make bad decisions.

Internet addiction has become a new sort of addiction that affects people all over the world. Although young people are more likely to experience addiction, it affects people of all ages. People use the Internet for entertainment, as an escape from loneliness, or just to kill time

when they're bored. But they develop an addiction to it before they even recognize it.

Due to its abundance of engaging and entertaining content, it is hard to resist the Internet's addictive content. Regulation of internet usage is required to ensure that it hasn't become an addiction. Like any other addiction, this one has severe consequences. It could have a major impact on how well someone's neurological system works. People might become time- and patience-obliged, neglecting their responsibilities to friends, family, and even their work.

Many people who abuse the internet get depressed and anxious. Their professional and personal growth is hampered by this. Their physical health also deteriorates. They might experience health problems like obesity, heart disease, and hypertension. If you want to live a balanced life, you must be cautious when using the internet and possess the self-control to keep it from taking over your life. Social networks play a significant role in the emergence of behavioral issues such as addiction. Internet addiction is hardly an anomaly, considering how commonplace and continuous internet browsing has grown among youth. It's even recommended to use social media, chat forums, or online gaming to find friends online.

In addition, people with mental health issues and other issues can utilize the Internet as a means of self-soothing and as a means of escape. Similar to how those who self-medicate with drugs and alcohol due to anxiety or despair might find solace in the Internet, it can be a distraction. Whether it's through video game playing, watching TV, or forum reading.

1.6. Relation between Internet addiction and depression

Given that depression and internet addiction frequently co-occur and intensify each other's symptoms, the relationship between the two disorders is of great concern in today's society. Negative emotional states like social isolation, loneliness, and low self-esteem are common in

people with internet addiction and are recognized risk factors for depression. A maladaptive coping strategy used to escape from or lessen upsetting emotions could involve excessive and compulsive internet use. While this might offer some solace, it eventually exacerbates feelings of melancholy, hopelessness, and despair.

Moreover, there are similar neurobiological mechanisms and underlying vulnerabilities between depression and internet addiction. These include the disruption of brain circuits related to mood regulation, impulse control, and reward processing. Overuse of the internet can cause neuroadaptive brain changes, such as modifications in dopamine neurotransmission and structural changes in areas linked to emotional processing and self-control that are comparable to those seen in depression.

In general, the correlation between depression and internet addiction underscores the intricate interaction between psychological, social, and neurobiological elements that underlie both disorders. Understanding and treating this comorbidity is crucial to creating preventative and intervention plans that effectively support people with depression and internet addiction while also enhancing their mental health and general well-being. Through addressing the underlying emotional and cognitive vulnerabilities that underlie problematic internet use and depressive symptoms, professionals in the fields of clinical psychology, cognitive psychology, and policymaking can assist individuals in creating more resilient coping mechanisms and resilience to deal with the demands of modern life.

1.7. The Relationships between Depression, Poor Sleep, and Internet Addiction

Psychological research has focused a great deal of attention on the intricate and multidimensional relationship that exists between internet addiction, depression, and sleep

quality. These relationships are bidirectional, as several studies have shown; over time, each component influences and intensifies the others. Internet addiction has been connected to poor sleep quality and an increased risk of depression in young adults. Internet addiction is defined as excessive and compulsive internet use that impairs daily functioning. Internet addicts frequently spend a lot of time in front of screens, especially in the evenings, which can throw off their circadian rhythm and aggravate sleep disorders including insomnia and fragmentation.

The relationship that exists between sadness, poor sleep, and internet addiction highlights the necessity of treating mental health concerns in young adults with a thorough and coordinated strategy. Internet addiction interventions should address underlying sleep disorders and psychological variables that contribute to depression in addition to minimizing excessive internet use. Similarly, treatments for depression and poor sleep quality should take into account the possibility that internet addiction plays a role in these issues and include measures to encourage responsible internet use and screen habits. Clinicians and researchers can assist young adults in achieving improved mental health outcomes and enhancing their general well-being by treating these interrelated concerns holistically.

Sleep quality refers to both the subjective and objective measures of an individual's quality of sleep. It consists of several components, including the ability to fall asleep, the amount of time one spends sleeping comfortably, the depth of one's sleep, and the feeling of having been rested upon waking up. Good sleep quality is characterized by getting enough restorative sleep, having few nighttime disruptions, and waking up feeling awake and relaxed. Conversely, poor quality sleep might cause you to have trouble falling asleep, wake up a lot, have restless or light sleep, and wake up feeling lethargic or weary.

Numerous factors, such as lifestyle choices, stress levels, sleep environment, and overall health, can affect the quality of one's sleep. Physical and mental health depends on getting enough good-quality sleep, which also has an impact on day-to-day functioning, emotional regulation, and cognitive function. Adopting healthy sleeping habits, adhering to a regular sleep schedule, and treating the root reasons of inadequate sleep can all significantly improve the quality of sleep.

1.8. How Sleep Quality Affects Meditating the Relationship (Depression and Internet Addiction)

Understanding the intricate interactions between these variables and how they affect mental health outcomes depends on how well sleep mediates the association between depression and internet addiction. The bidirectional association between internet addiction and depression is influenced by sleep quality, which is an important intermediate variable.

First off, depressed symptoms may worsen as a result of poor sleep quality brought on by excessive internet use. Sleep disorders like insomnia, sleep fragmentation, and excessive daytime sleepiness have been repeatedly linked to a higher chance of developing depression. Sleep is essential for mood regulation, emotional processing, and cognitive performance. Dysregulation of these processes can result from sleep-wake cycle abnormalities, which puts people at risk for depressed symptoms. Overusing screens right before bed, being around blue light from electronics, and participating in stimulating online activities can all disrupt the start and length of sleep, lowering the quality of sleep overall and raising the risk of depression.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Acikgoz et al. (2022) conducted research on how Smartphone and internet addiction affect Turkish teenage sleep quality. In this cross-sectional survey, 910 teenagers between the ages of 13 and 18 took part. The Pittsburgh Sleep Quality Index, Smartphone Addiction Scale, and Short Internet Addiction Test were used to gather data. Of the teenagers, 58.7% had poor-quality sleep. Girls and teenagers aged 16 and older also reported having poor-quality sleep. Perceived health status and perceived family economic position declined along with the quality of sleep. Poor sleep quality was 1.83 (95% CI) times more common in people with problematic internet addiction and 1.99 (95% CI) times more common in those with pathological internet addiction compared to participants with normal internet addiction scores.

Mahmoud et al. (2022) investigated the correlation between Internet addiction and sleep quality in medical students at Sohag University. The study comprised 525 Sohag University students in total. The Young Internet Addiction Test (YIAT) was employed to assess Internet addiction. The participants' Internet usage habits, university-related characteristics, and demographic data were also recorded. To assess the quality of sleep, the Pittsburgh Sleep Quality Index was used. For severe addiction, the prevalence of Internet Addiction was 4.95%, while for moderate addiction, it was 39.62%. A significant number of patients (81.62%) with IA reported having poor sleep quality.

Tahir et al. (2021) carried out a global cross-sectional survey among medical students on Internet addiction and sleep quality during the COVID-19 pandemic. 2749 individuals in total responded to the survey. Of the total, 67.6% scored above 30 on the IAT, suggesting the presence of an Internet addiction, and 73.5% scored equal to or higher than 5 on the PSQI,

indicating poor sleep quality. It was shown that internet addiction explained 13.2% of the variance in poor sleep quality and was a strong predictor of bad quality sleep. Those who reported COVID-19-related symptoms reported experiencing sleep difficulties and higher levels of internet addiction than those who did not. People who disclosed a diagnosis of COVID-19 also mentioned that their sleep quality was poor.

Ercan et al. (2021) examined the effects of internet addiction on the sleep, physical activity, and mental health of college students. A total of 1,007 university students participated in the study. The participants were given questionnaires by the researchers to fill out. The demographic information of the participants was recorded. Of those who took the Internet Addiction Test, 82.6% (n=832) satisfied the requirements for “normal internet users”: Internet addiction has an impact on body mass index, which can lead to obesity, restless nights, and cognitive disorders like memory and concentration problems that can occur in daily life.

Luna et al. (2021) investigated the connection between depression, sleep quality, and internet addiction among undergraduate students studying medicine and allied sciences. A cross-sectional study involving 494 undergraduate students pursuing degrees in medicine, dentistry, and nursing was conducted at the same medical college in Nepal. On the other hand, 4.7% of respondents did bring up significant problems resulting from internet use. Furthermore, 42.3% of respondents reported having poor quality sleep, and 8.9% of respondents tested positive for depression. A robust association was found by using chi-square and logistic regression analyses to examine the relationship between internet addiction, depression, and inadequate sleep. To sum up, the study found that over half of the participants experienced some problems, and a small but significant proportion of them reported experiencing major problems because of accessing the internet.

CHAPTER 3: METHODOLOGY

3.1. Aim:

To assess the relation between Internet Addiction, Sleep quality and Depression among young adults.

3.2. Objectives:

- To assess the correlation between Internet Addiction, Sleep quality and Depression
- To assess the effect of Internet Addiction on Sleep quality
- To assess the effect of Internet Addiction on Depression

3.3. Hypothesis:

- (H0): There is no significant association between internet addiction and either sleep quality or depression.
- (H1): There is a significant association between internet addiction and either sleep quality or depression, or both.

3.4. Variables:

Independent Variable: Internet Addiction

Dependent Variable: Sleep Quality and Depression

3.5. Research Design:

This study is a quantitative correlation research which aims to examine the relationship between Internet Addiction, Sleep Quality and depression. This design allows assessing the strength and direction of associations between variables of interest.

3.6. Sampling:

Sampling technique: Purposive Non probability sampling

Sampling size: For this study a total of 100 subjects were taken, out of which 50 were female and 50 were male. All were College and University Students of urban population. The age range of the subjects was kept between the range of 18 to 25 years (Young adults).

Inclusion Criteria

- Individuals >18 years of age irrespective of gender
- Individuals willing to give consent.
- Using internet from last 1 year or more than 6 months.
- Those willing to undergo assessments or surveys related to sleep patterns, duration, and quality.
- Individuals willing to participate in assessments or questionnaires to evaluate depressive symptoms or mental health status.

Exclusion Criteria

- Excluding individuals with known sleep disorders (e.g., sleep apnea, narcolepsy) or medical conditions
- Individuals with cognitive impairments or intellectual disabilities that could hinder their ability to understand and respond to study assessments accurately.

3.7. Description of the Tools Employed:

S. No.	Name of the Test	Developed by	Year	Items	Reliability
1.	Internet Addiction Test	Dr. Kimberly Young	1998	20 items	0.70 to 0.90

2.	Pittsburgh Sleep Quality Index	Dr. Buysse	1989	19 items	0.70 to 0.83
3.	Patient Health Questionnaire-9	Robert L. Spitzer, Dr. Janet B.W. Williams, Dr. Kurt Kroenke	2001	9 items	0.80 to 0.90

3.8 Statistical Analysis:

The data was analysed by using SPSS version 20. Quantitative data was represented as the mean and standard deviation (mean $\pm$ SD). Quantitative data was presented as percentages and numbers. In addition, the correlation between the addiction of internet and the studied variables were verified utilizing Pearson's Coefficient correlation method. The level of significance was set up at a p-value of <0.01 .

CHAPTER 4: RESULT

Table 1. Correlation between Internet Addiction, Sleep Quality and Depression

Correlations				
		IAT	PSQI	PHQ
Internet Addiction Test	Pearson Correlation	1	.716**	.789**
	Sig. (2-tailed)		.000	.000
	N	100	100	100
Pittsburgh Sleep Quality Index	Pearson Correlation	.716**	1	.839**
	Sig. (2-tailed)	.000		.000
	N	100	100	100
Patient Health Questionnaire	Pearson Correlation	.789**	.839**	1
	Sig. (2-tailed)	.000	.000	
	N	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2. Linear Regression of Internet Addiction and sleep quality

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716 ^a	.513	.508	3.153
a. Predictors: (Constant), IAT				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1026.542	1	1026.542	103.265	.000 ^b
	Residual	974.208	98	9.941		
	Total	2000.750	99			
a. Dependent Variable: PSQI						
b. Predictors: (Constant), IAT						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.556	.695		3.678	.000
	IAT	.116	.011	.716	10.162	.000
a. Dependent Variable: PSQI						

Table 3. Linear Regression of Internet Addiction and Depression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789 ^a	.622	.619	4.724
a. Predictors: (Constant), IAT				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3604.762	1	3604.762	161.539	.000 ^b
	Residual	2186.878	98	22.315		
	Total	5791.640	99			
a. Dependent Variable: PHQ						
b. Predictors: (Constant), IAT						

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.	Beta		

			Error			
1	(Constant)	2.266	1.041		2.176	.032
	IAT	.218	.017	.789	12.710	.000
a. Dependent Variable: PHQ						

CHAPTER 4: DISCUSSION

The aim of the current study is to comprehend young adults' internet usage patterns and how they relate to depression and poor sleep. The objectives of the study are to evaluate the relationship between depression, sleep quality, and internet addiction as well as the impact of internet use on these relationships. The study population's age ranged from 18 to 25.

The widespread impact of digital technology on daily life has led to a growing worry in the modern era: internet addiction. To identify any connections or potential ramifications for mental health, this study examines the complex interaction between internet addiction, depression, and sleep quality.

Several studies have shown a direct link between poor sleep quality and excessive internet use. Internet addicts frequently suffer from disturbed sleep cycles, which are marked by shorter sleep durations overall and erratic sleep-wake cycles. Given that the relationship is bidirectional—poor sleep quality can lead to internet addiction, while excessive internet use can worsen sleep disturbances—this interaction is very important. Not to mention the significant connection between depression and internet addiction.

Growing data points to a link between increased depression symptoms and extended, compulsive internet use. Online platforms' constant connectivity and social demands can exacerbate feelings of inadequacy and loneliness, which can have a negative effect on mental health. By exploring these links, the research hopes to shed light on the intricate relationships that exist between internet addiction, poor sleep, and depression. This will allow for a more nuanced understanding of the issues at hand and develop support systems and solutions for those who are struggling with these problems.

54.4% of teenagers in research stated they had poor sleep quality, compared to 42.3% who reported mild, 29.9% who reported moderate, and 1.8% who claimed severe Internet addiction (Khayat et al.). In a similar vein, Mahmoud et al. found that 4.95% of 525 university students had internet addiction, compared to 39.62% for moderate addiction.

A study on medical undergraduates was conducted by Luna et al. In the study, 42.3% of participants reported having poor-quality sleep, while 8.9% of participants tested positive for depression. In a study conducted by Bhandari et al. with 984 undergraduate students from 27 campuses, the percentage of students who scored higher for depression, internet addiction, and poor sleep quality than the predetermined cutoff values were 35.4%, 35.4%, and 21.2%, respectively.

The analysis in SPSS was used to score the responses. The link between Internet addiction, depression, and sleep quality was measured using Pearson correlation. The effects of internet addiction on depression and sleep quality were assessed using linear regression.

The association between depression, poor sleep, and internet addiction. With 0.000 sig. (2 tailed), Internet addiction and sleep quality have a significant association of 0.716 that is significant at the 0.01 level ($0.000 < 0.01$). This implies that sleep quality ratings likely to rise in parallel with increases in Internet addiction scores. (Table 1).

With 0.000 sig. (2 tailed), Internet addiction and depression have a significant association of 0.789 that is significant at the 0.01 level ($0.000 < 0.01$). This suggests that depression scores tend to rise in parallel with increases in Internet addiction scores. (Table 1).

The strong degree of confidence in these interactions is indicated by the fact that all correlations are significant at the 0.01 level (2-tailed). Greater scores on one measure are correlated with higher scores on the other measures in this dataset, according to the significant positive correlations that indicate a continuous a pattern.

The regression between sleep quality and internet addiction is linear. Internet addiction has a beneficial effect on sleep quality, as seen by the 51.3% reduction in sleep quality (R square value = 0.513), which is significant (0.000) at the 0.01 level with beta values of 0.716 and b values of 0.116. (Table 2)

The regression between depression and internet addiction is linear. There is a positive correlation between internet addiction and depression, as evidenced by the 62.2% (R square value = 0.622) effect on depression, which is significant (0.000) at the 0.01 level with beta values of 0.789 and 0.218. (Table 3)

As a result, H0—which claims that there is no significant correlation between internet addiction, depression, and sleep quality—is rejected.

Accepted is hypothesis H1, which claims that internet addiction, depression, and poor sleep quality are significantly correlated.

The findings indicate that among the participants, the Pittsburgh Sleep Quality Index (PSQI) and Patient Health Questionnaire (PHQ) are significantly correlated with the use of the internet, as assessed by the Internet Addiction Test (IAT). Higher internet use scores are linked to lower sleep quality and depressive symptoms, according to the positive beta coefficient. The adverse effects of internet addiction on sleep patterns and depression

symptoms are highlighted by these findings, which emphasize how crucial it is to address problematic internet use in therapies meant to enhance general well-being and improve sleep quality.

CHAPTER 5: CONCLUSION

The research study's conclusions offer strong proof that there is a substantial relationship between participants' depression, poor sleep, and internet addiction. Higher degrees of internet addiction were linked to worse sleep quality and more severe depressed symptoms, according to the data, which also showed positive relationships between internet addiction scores and both sleep quality and depressive symptoms. These results show the relationship between problematic internet use and negative consequences on psychological well-being and sleep patterns, as well as the connection between excessive internet use and negative outcomes related to mental health.

6.1. Future Implications

The future implications of understanding the relationship between internet addiction, sleep quality, and depression among young adults are manifold and impactful.

Firstly, insights gained from research in this area can inform the development of targeted interventions aimed at preventing and addressing internet addiction. By identifying risk factors and underlying mechanisms, such interventions can be tailored to address specific behaviors and promote healthier digital habits among young adults.

Secondly, recognizing the impact of internet addiction on sleep quality underscores the importance of promoting good sleep hygiene practices. Educational campaigns and interventions focusing on digital detoxification before bedtime and the establishment of technology-free zones in the bedroom can help mitigate sleep disturbances associated with excessive screen time.

Moreover, understanding the link between internet addiction and depression can inform mental health interventions and support services for young adults. Integrating screening for internet addiction into routine mental health assessments can facilitate early detection and intervention, thereby reducing the risk of comorbid depression.

In addition, addressing internet addiction and its consequences among young adults can have broader societal implications. By promoting healthier digital behaviors and supporting mental well-being, interventions in this area can contribute to a more balanced and sustainable relationship with technology, fostering healthier communities and societies overall.

6.2. Limitations

- There was a comparatively limited sample size. A bigger sample size would yield a more extensive and diverse set of data.
- A large group of people (18–25 years old) who were both employed and enrolled in college were included in the age range. A clearer understanding of the relationship between the variables would be possible if the age range was divided into several categories.
- Reliance on self-report measures may result in the introduction of answer biases such as recall or social desirability bias.
- It's possible that the study will miss important confounding factors that could affect the association. To minimize their impact on the results, factors including substance use, mental health issues, and socioeconomic status should be taken into account and adjusted for during the study.

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