



Relationship between Mindfulness, Sleep Quality, and Perceived Stress among Young Adults

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ABSTRACT

The purpose of the current study is to investigate the relationship between young adults' perceived stress, mindfulness, and sleep quality. It holds a huge amount of significance as this specific population remains unexplored and it studies the specific relationships between these crucial variables. For this study, a convenience sampling method was employed to select a sample of (N=120) young adults residing in Delhi NCR and currently enrolled in colleges and universities (62 females, 58 males) aged between 18 and 25 years. Participants completed three questionnaires. The associations between mindfulness and perceived stress, mindfulness and sleep quality, and perceived stress and sleep quality were investigated using Pearson's correlation analysis. Results indicated a negative relationship between mindfulness and perceived stress, a negative relationship between mindfulness and sleep quality, and a positive

relationship between perceived stress and sleep quality in the studied population. These findings highlight the importance of considering mindfulness as a potential factor in influencing perceived stress and sleep quality among young adults. Creating mindfulness-based therapies that could deal with stress perception is very crucial. Looking into potential coping strategies or resilience characteristics that could lessen the negative effects of perceived stress on sleep quality is also very essential.

Keywords: Mindfulness, Perceived Stress, Sleep Quality, Young Adults, Correlation Analysis.

INTRODUCTION

In such a highly competitive world; everyone is facing a huge amount of stress. It has become an inevitable part of our lives and it always comes with a huge cost and burden. Stress as a factor; comes along with all the work and basic responsibilities. Each individual responds to any kind of stress in a different manner as there are certain individual differences. Some people may easily realize the importance of adaptive coping mechanisms and stress management strategies such as mindfulness exercises but on the other hand; some people may just continue to take huge amounts of stress without really considering the negative impact on their health such as the on their sleep quality. It is very crucial to comprehend the significance of stress management techniques to control one's stress level and simultaneously one should be aware about the negative consequences of high stress levels on one's mental health and physical health. It is necessary to acknowledge the relationship between these 3 important factors of human life.

As one of the most crucial psychological factors; perceived stress implies the way in which an "individual may consider certain life events as stressful, incalculable, and turbulent"

(Cohen, 1983). It is the subjective assessment of how much stress is present in a person's life. While a certain amount of stress is acceptable and can even be helpful in spurring people to action, but prolonged or excessive stress can be detrimental to one's mental and physical well-being. Mindfulness as a positive psychology technique is gaining a huge amount of significance and value in today's stressful era. Being mindful entails giving one's whole attention to the here and now, without passing judgment. This concept holds the power to reduce an individual's difficulties and improve one's well-being (Bishop, 2005).

Understanding the relationship between perceived stress and mindfulness is very supreme and paramount. On the other hand, it becomes extremely crucial to become aware of the relationship between perceived stress and sleep quality; especially among young adults. Stress and general wellbeing are strongly related to the quality of sleep. A vicious cycle can result from prolonged stress upsetting sleep patterns. One's ability to handle stress and preserve general health can be greatly enhanced by establishing appropriate sleep hygiene practices.

It becomes extremely essential to study the relationship of Perceived Stress with Mindfulness and Sleep quality due to its high prevalence. This study aims to understand the relationship between Mindfulness, Sleep quality and Perceived Stress among young adults who are currently enrolled in colleges and universities. This study will specifically target the people who are currently residing in Delhi NCR and were in the age group of 18-25 years. The study will examine the relationship between mindfulness and perceived stress, mindfulness and sleep quality, and perceived stress and sleep quality among young adults.

Previous research studies have just seen an impact of Mindfulness on different variables but less studies have explored the relationship. Other than this, studying the general young adulthood population is extremely necessary as this is the population which suffers both physically and mentally due to countless responsibilities. Therefore, this study hopes to

acknowledge and review the basic relationships between mindfulness, perceived stress, and sleep quality among young adults.

Perceived Stress

Stress is considered a very natural response that an individual makes to deal with certain issues in their lives. But the degree to which they experience stress is completely different. It can be stated that stress is a very subjective term and whenever the term; perceived stress is mentioned, it can be explained in terms of the basic feeling or cognition that a person has about the degree of stress he/she is experiencing or perceiving at a given point in time. The term “perceived stress” describes how someone feels about the number of stressors in their lives. People can lessen the detrimental effects of perceived stress on their wellbeing and learn more effective coping mechanisms and mindfulness techniques.

Mindfulness

Being totally present and involved in the here and now, free from distraction, is the practice of mindfulness. It entails paying attention to ideas, feelings, experiences, and the environment around oneself. By practicing mindfulness, people can become more conscious of both their internal and exterior experiences, which enables them to respond to circumstances calmly rather than rashly. Reducing stress and anxiety, enhancing emotional well-being, improving focus and concentration, and improving one’s general quality of life are all advantages of practicing mindfulness. This broad concept also includes certain exercises and relaxation techniques such as Mindfulness based meditation. Overall, it can be said that Mindfulness is a concept of Positive Psychology which highlights accepting and acknowledging each thought as it is without any manipulation.

Sleep Quality

The concept of sleep quality holds a huge amount of significance in today's stressful world. Many people are suffering from poor sleep quality due to various reasons. Simultaneously, their health also deteriorates. Sleep is considered an individual's basic need which is important for health and well-being. If individuals get a good sleep; both in terms of quantity and quality, they feel very rejuvenated and recharged. On the other hand, if people are not sleeping well, it will impact their social life and work life.

The subjective experience of sleep, which includes elements like length, depth, consistency, and restoration, is referred to as sleep quality. It is defined as having an effortless sleep and an ability to sustain and maintain that standard of sleep each night. The immune system, emotional stability and physical health are all supported by getting enough good sleep. Thus, a good sleep quality is very important and holds an ability to increase a person's cognitive functioning (Mosaku, 2017).

Relationships between Perceived Stress, Mindfulness and Sleep Quality

Previous research studies have shown some connections between perceived stress and sleep quality. A study by Deshpande et al., (2023) understood the connection between housewives' psychological well-being, sleep quality, and stress levels. The 200 volunteers in the sample ranged in age from 25 to 59. Stress and poor sleep quality were found to be significantly positively correlated. It also demonstrated a strong inverse relationship between stress and psychological health. The results of this investigation showed that stress negatively affects housewives' psychological health and sleep quality.

Another study was conducted by Rangesh et al., (2023) aimed to undergraduate medical students' stress levels, sleep quality, and the relationship between perceived stress and

sleep quality. 343 South Indian undergraduate medical college students participated in this cross-sectional survey. It was found that most undergraduate students experienced some form of stress. Among the pupils, a quarter reported having poor quality sleep. The quality of the sleep declined as the stress level rose. Additionally, the study also found that stress was felt greater by men than by women.

Some research studies also tends to highlight an association between perceived stress and mindfulness and between sleep quality and mindfulness. A study by Gupta et al., (2023) brought attention to the connection between stress and mindfulness in teacher candidates. There were 197 teacher candidates in the study's sample. Convenience sampling method was used for this study. It was shown that stress and mindfulness differed significantly.

Nasiri et al., (2023) conducted a study to ascertain how online mindfulness-based stress reduction (MBSR) intervention affected the quality of sleep for breast cancer patients in Birjand City. Convenience sampling was used to choose 62 eligible women with breast cancer who were receiving chemotherapy. Using random assignment, they were divided into two groups; the intervention and the control. The intervention group had online MBSR training. Reduced ratings both immediately and two months after the intervention showed that mindfulness-based stress reduction greatly enhanced the quality of sleep for both the groups. These results demonstrate how well MBSR works to improve sleep quality.

Few studies have also witnessed an essential association of mindfulness, perceived stress, and sleep quality with many other crucial variables such as emotion regulation. To ascertain whether emotion regulation and perceived stress have an impact on the association between mindfulness and sleep quality, Talley et al., (2020) conducted research in this area. A total of 357 undergraduate students were enlisted, and they were asked to complete five self-report questionnaires. The Impact of Event Scale was found to be somewhat positively

correlated with an individual's overall Sleep Quality score. Additionally, the presence of hyperarousal and acting with awareness were found to be predictive of sleep quality. Finally, hyperarousal was found to be a mediating factor in the relationship between mindfulness and sleep quality. The use of mindfulness techniques, such as acting with awareness and being non-reactive to negative thoughts or hyperarousal, may help predict an individual's sleep quality.

Previous research studies have witnessed some essential and crucial relationships between perceived stress and sleep quality, perceived stress and mindfulness and between sleep quality and mindfulness. Researchers have even studied the influence of other variables such as wellbeing, memory, and emotion regulation. However, there are less research studies highlighting the specific relationship and association between perceived stress, mindfulness, and sleep quality.

RATIONALE OF THE STUDY

The purpose of this research is to study the relationship between Mindfulness, Perceived Stress and Sleep Quality among young adults. Understanding how mindfulness may influence stress perception and sleep quality can contribute to holistic wellbeing interventions. Recent trends highlight an increasing awareness of mental health issues and the importance of holistic well-being. Examining the relationship between Mindfulness, Perceived Stress and Sleep Quality among young adults is crucial in the current context. Researchers have conducted some previous studies, but there are a few gaps which in turn leads to explore the specific relationships between these essential variables. It has been observed in many studies that the population mostly includes those people who are suffering from medical illnesses such as anxiety, sleep issues and memory problems. The general student population remains unexplored. Young adulthood; especially the age group of 18-25 years is a critical life stage

marked by various transitions and challenges. The interconnections among these variables in the context of young adulthood remain underexplored. This age group often faces heightened stressors, making them particularly relevant for investigating the interplay between mindfulness, stress, and sleep quality.

PURPOSE

The purpose of the study is to explore the relationship between Mindfulness, Perceived Stress and Sleep Quality among young adults.

HYPOTHESES

- H1: There will be a negative relationship between mindfulness and perceived stress among young adults.
- H2: There will be a positive relationship between mindfulness and sleep quality among young adults.
- H3: There will be a negative relationship between perceived stress and sleep quality among young adults.

SAMPLE

The current study was conducted on young adults in Delhi NCR who are currently enrolled in colleges and universities, that is, the participants who were in the age range of 18-25 years. A total of 120 participants (62 females, 58 males) filled out the survey form with three questionnaires. Data was collected by following both online and offline modalities. Participants were selected through convenience sampling method. Inclusion criteria included young adults

aged between 18 and 25 years old, residing in Delhi NCR, enrolled in colleges and universities and young adults who are well equipped with English language. Exclusion criteria included adults who are working and are employed somewhere and adults who are not very well equipped with English language.

MEASURES

- **General Socio Demographic Questionnaire:** This questionnaire was employed for sample characterization and it was applied to determine sex, age, course level, stream, educational level, etc.
- **Mindfulness Attention Awareness Scale (Brown and Ryan, 2003):** “Awareness of and attention to what is occurring in the present” is the focus of this scale. It is a six-point Likert scale, ranging from strongly agree to strongly disagree and is used to score each of the 15 items. This scale produces an index of daily mindfulness, with alpha coefficients for adults and college students being 0.87 and 0.80, respectively. Internal consistency levels have been above .80 in both healthy and psychiatric samples. The MAAS has demonstrated high internal consistency, and both concurrent and incremental validity.
- **Perceived Stress Scale (Cohen, 1994):** It is a gauge of how stressful one considers certain circumstances in their life to be. This scale is a 10-item instrument which is based on a five-point Likert scale (almost never to very often), which evaluates the perception of stressful events. A person is deemed to have low stress if their score falls between 0 and 13, moderate stress if it falls between 14 and 26, and high perceived stress if it falls between 27 and 40. This scale demonstrates adequate internal

consistency, test-retest reliability, and construct validity. The reported internal consistency falls within the range of .71.

- **Sleep Quality Scale (Yi et al., 2006).** This scale consists of 28 items. The population for testing the scale has been validated in individuals aged 18–59 years. It uses a four-point Likert-type scale. Greater overall scores suggest more serious sleep problems. The range of possible values is 0 to 84. The significant connection found between SQS and the Pittsburgh Sleep Quality Index indicated concurrent validity. For test-retest reliability at a 2-week interval, the correlation value was 0.81 and the Cronbach's alpha coefficient was 0.92 for internal consistency.

PROCEDURE

The data was gathered via the questionnaire approach. The data collection process for the study involved both online and offline modalities. For online data collection, the questionnaires were converted into google forms and the respondents were contacted personally. Individuals who agreed to participate in the study were requested to complete an 'Informed Consent Form' as well. The purpose of the study was explained. The respondents were provided with the instructions regarding how to answer each tool and they were requested to provide honest answers. It was assured that all their responses will be kept confidential and the information will exclusively be used for the purpose of research work only. None of the questions had a time restriction.

RESULTS**Table 1**

<i>Descriptive Statistics</i>						
	Sleep quality		Mindfulness		Perceived stress	
N	120		120		120	
Mean	38.8		3.61		21.6	
Median	39.0		3.63		21.0	
Standard deviation	9.35		0.96		6.86	

Descriptive statistics were computed for sleep quality, mindfulness, and perceived stress. The above table represents the total number of participants ($n=120$), the mean scores and the standard deviation in each scale. For sleep quality, the mean was $M=38.80$ ($SD=9.35$); for mindfulness, the mean was $M=3.61$ ($SD=0.964$) and for perceived stress, the mean was $M=21.60$ ($SD=6.86$). These findings indicate that sleep quality and perceived stress had a higher average value compared to mindfulness, suggesting a higher prevalence of these experiences within the sample. A higher standard deviation indicates a considerable variability in sleep quality scores among the participants.

Table 2

Correlational analyses assessing the relationships between Perceived Stress, Mindfulness and Sleep Quality.

		Perceived Stress	Mindfulness
Sleep Quality	Pearson Correlation	.42**	-.44**
	Sig. (2-tailed)	.000	.000
	N	120	120
Perceived Stress	Pearson Correlation	-	-.60**
	Sig. (2-tailed)		.000
	N	120	120

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

Table 2 represents the coefficient of correlation between sleep quality, mindfulness, and perceived stress. Pearson's Correlation was conducted to examine the relationship between sleep quality and perceived stress; sleep quality and mindfulness and perceived stress and mindfulness. The correlation was statistically significant ($p < 0.01$). Pearson Correlation revealed a positive and significant association between sleep quality and perceived stress ($r = .42$, $p < 0.01$); a negative and significant association between sleep quality and mindfulness ($r = -.44$, $p < 0.01$) and a negative and significant association between mindfulness and perceived stress among the studied population ($r = -.60$, $p < 0.01$).

DISCUSSION

The main aim of the study was to understand the relationship between Mindfulness, Sleep quality and Perceived Stress among young adults who are currently enrolled in colleges and universities. The first hypothesis was that there will be a negative relationship between mindfulness and perceived stress in the studied population. Pearson's correlation was conducted and it revealed a negative relationship between mindfulness and perceived stress among young adults. This has been seen in previous studies as well which provides evidence for a negative correlation between mindfulness and perceived stress.

Smith et al., (2015) conducted a study to examine the relationship between perceived stress and mindfulness among college students. The results revealed a significant negative relationship between perceived stress levels and mindfulness scores, indicating that higher levels of stress were related to lower levels of mindfulness. Some previous studies have also witnessed that mindfulness-based interventions can be very helpful in reducing perceived stress and improving one's mindfulness levels (Brown et al., 2016). It has been seen that by engaging in various mindfulness-based activities, there can be a decrease in a person's stress levels and it can also foster well-being and resilience. Young adults who practice mindfulness are better able to regulate their emotions and respond to stressors with more composure, which lowers their stress levels. Hence, through correlation analysis, it was seen that the above hypothesis was retained.

The second hypothesis was that there will be a positive relationship between sleep quality and mindfulness in the studied population. Pearson's correlation was conducted and it revealed a negative relationship between sleep quality and mindfulness. It is very crucial to acknowledge some essential reasons. A higher level of mindfulness may result in increased awareness, which might severely affect young peoples' ability to de-stress before bed, thus

affecting their sleep quality. Spending time practicing mindfulness could take up time that could be spent sleeping. Research has shown that when specific mindfulness practices are not implemented properly or are introduced too quickly, they might cause tension or worry, which can lead to poor sleep quality in young adults.

This has been seen in previous studies as well which provides evidence for a negative correlation between mindfulness and sleep quality. According to a study by Maleki et al., (2020) a mindfulness-based cognitive therapy was tested upon the sleep quality of students with social anxiety disorder. The intervention was found to be successful in improving subjective characteristics of sleep, such as sleep disturbance. However, it did not significantly affect sleep length, efficiency, or sleep quality. Another study conducted by Ding et al., (2020) explored the relationship between trait mindfulness and sleep quality in college students. The study aimed to investigate how negative emotions and neuroticism may influence the relationship between trait mindfulness and sleep quality. The results showed that negative emotions mediated the link between mindfulness and sleep quality and as the level of mindfulness increased, sleep quality in the low-level neuroticism group decreased showing a negative relationship between the 2 variables. Hence, through correlation analysis, it was seen that the above hypothesis was rejected.

The third hypothesis was that there will be a negative relationship between perceived stress and sleep quality among young adults. Pearson's correlation was conducted and it revealed a positive relationship between perceived stress and sleep quality. A few previous studies have witnessed a positive relationship between perceived stress and sleep quality. Adults with later chronotypes typically exhibit increased stress and lower sleep quality, according to earlier studies. However, knowledge about the relationship between these variables among young adults seems to be lacking. Another study was conducted by Chen et al., (2023) who examined the impact of undergraduates' chronotypes and perceived stress on

the quality of their sleep. Results indicated that chronotype and perceived stress were positively correlated with sleep quality. The chronotype and felt stress of undergraduate students were positively associated and predicted the quality of their sleep.

Some important and essential reasons must be listed down to understand the positive association between perceived stress and sleep quality. One of the most significant explanations is the concept of individual differences and personality factors. Certain people may possess effective coping strategies that not only alleviate stress but may also contribute to improved sleep quality. Staten et al., (2015) found that the primary predictor of stress was maladaptive coping. It was therefore determined that, in this specific demographic, minimizing maladaptive coping behaviours might have the greatest beneficial effect on lowering stress. Stressors may be interpreted differently by young adults who possess high resilience and a positive outlook, viewing them as challenges rather than threats. Many research studies have generally witnessed a high level of resilience among young adults due to various reasons. In research published in Li et al., (2015) examined the psychosocial factors and prevalence of sleep disturbances in adult Chinese residents. The study found a prevalence of sleep disturbance but it was seen that resilience and social support were associated with a low likelihood of sleep disturbance. The detrimental effects of perceived stress on sleep disruption were mitigated by resilience.

Both the sense of stress and the quality of one's sleep can be positively impacted by having strong social support systems. Perret et al., (2020) conducted a study to test whether social support in emerging adulthood protects against later depression and high stress. It was revealed that higher perceived social support was associated with fewer symptoms of depression and stress. Previous studies have found that mothers are a source of emotional support and care in emerging adulthood which is also a better predictor of adjustment during high stressful situations. Hence, through correlation analysis, it was seen that the above hypothesis was rejected.

This study had significant implications and provides certain novel insights. To improve people's capacity to manage stress, certain interventions may include methods like yoga, mindful breathing, mindfulness-based therapies, and mindfulness meditation. Educational institutions should implement mindfulness training programmes. Interventions aiming at building resilience in the face of adversity can benefit from an understanding of why some people manage to retain decent sleep quality despite high levels of stress. Examining cultural variations is also crucial. Through an examination of these potential future implications, this study can advance our knowledge of the intricate interplay between perceived stress, mindfulness, and sleep quality—more specifically, the relationship between perceived stress and sleep quality—especially when people manage to get good sleep even in the face of high stress levels.

The study also has some limitations. Contextual factors, such as the socio-cultural environment, may have influenced the study's findings, which were done with individuals who explicitly resided in Delhi-NCR within a certain time frame. By repeating the study in several environments or cultural contexts, future research may seek to improve the external validity of the findings. Examining these associations over a wider age range and including employed individuals could be beneficial to examine any possible developmental variations. The correlations might also be influenced by other mediating or moderating factors, such as personality traits, coping mechanisms, or social support. The goal of future research might be to replicate the study using a bigger and more varied sample. Certain gender variations can also be studied by potential future researchers.

CONCLUSION

The aim of this study was to investigate the relationship between mindfulness, perceived stress, and sleep quality among young adults. Firstly, the results depicted a negative correlation between mindfulness and perceived stress. Hence, it appears that practicing mindfulness could buffer this group from perceived stress. Secondly, the results depicted a negative correlation between mindfulness and sleep quality. Research has shown that when specific mindfulness practices are not implemented properly, they might cause tension or worry, which can lead to a decreased level of sleep quality. The underlying mechanisms influencing this link should be further investigated as they may have implications for treatments aimed at addressing sleep problems and mindfulness. Lastly, the results depicted a positive correlation between perceived stress and sleep quality in the studied population. This suggests that even during high stressful situations, young adults have some level of capability to deal with those situations in a balanced manner without having a detrimental effect on their sleep quality. Subsequent studies ought to go deeper into these correlations using longitudinal approaches and examine possible measures to augment mindfulness and elevate sleep quality in order to decrease perceived stress within this demographic.

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