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Sleep Disorders and Mood in Sports Students

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Abstract

This study aims to determine the relationship between sleep disturbances and mood swings in sports students. Sleep disturbances are known to affect cognitive function, physical performance, and an individual's psychological state, particularly in adolescents undergoing developmental transitions. The study employed a quantitative approach with a cross-sectional design, involving 50 students majoring in Sports Science at the Indonesian University of Education, consisting of 27 males and 23 females aged 19–20 years. The instruments used included the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality and the Brunel Mood Scale (BRUMS) to assess mood. Data analysis was performed using a correlation test using SPSS version 26. The results showed that the majority of respondents experienced negative moods (78.6%), with tension and fatigue items being the most dominant. However, no significant relationship was found between sleep quality and mood swings ($p > 0.05$). This finding indicates that other factors such as lifestyle, academic stress, and social environment have the potential to have a greater influence on the mood of sports students. Further research with a larger sample size is recommended to deepen the understanding of the relationship between sleep disturbances and students' psychological state.

How to Cite

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INTRODUCTION

Sleep is a crucial factor for physical health, significantly impacting an athlete's ability, recovery after exercise, and performance. Insufficient and poor-quality sleep can lead to mood swings, stress, health problems, and even depression (Benjamin et al., 2020; Lu et al., 2022).

Adolescents are very vulnerable to disorders and mood swings that will disrupt mental health because they are in a period of psychological, physiological, and social changes which are important stages in human development (Heikura et al., 2023). Sleep disorders will also affect hormonal balance and metabolism which will have a negative impact on mood changes. In the last 10 years, sports medicine has continued to study the relationship between sleep time and quality in sports students, most of whom are athletes. This research explains that sleep disorders in students have many negative impacts on physical and mental health (Bolin, 2019).

Mood changes are often influenced by sleep disorders that can cause symptoms of depression, unipolar, and bipolar which cause greater suicidal tendencies to poor mental health (Asarnow & Manber, 2019). According to the World Health Organization, after heart disease, depression is the second most common disease in this century, an unhealthy lifestyle, lack of exercise and sleep disorders are the main factors that cause this psychological disease which is proven in previous research former athletes who have retired and no longer exercise are more susceptible to depression than athletes who are still actively exercising (Irandoust et al., 2019). Therefore, students must be able to balance sports and academics and must be more aware that sleep is an important part of daily life and students must also be able to manage their time wisely.

American College Health Association, has conducted a survey which shows that most student athletes who do not get enough sleep four nights a week are more likely to experience symptoms of depression and can disrupt cognitive function which can affect athlete performance (May & Razak, 2018). According to the National Sleep Foundation, sleep is important for the human brain and for body functions so that brain activity can work, poor sleep time and quality are very detrimental to oneself and can even result in death, someone with sleep deprivation will look lethargic, gloomy, and have poor performance (Leslie & [others], 2011).

Sleep is crucial to human health, as important as the air we breathe, the food we eat, and the water we drink. It can also help manage stress in adolescents. However, previous research has not yet confirmed the significant impact of sleep disturbances, as students with adequate sleep time and quality still experience negative impacts on mood swings (Terry & Parsons-Smith, 2021).

This study aims to determine the relationship between sleep disturbances and mood swings experienced by sports students. The results provide new insights into the extent of sleep disturbances' influence on mood swings in sports students, who are categorized as adolescents. This requires students to be more aware of maintaining their physical and mental health to prevent it from interfering with their academic activities.

The novelty of this study lies in its focus on examining the correlation between sleep disturbances and mood fluctuations among sports students in higher education, highlighting a population that represents a transitional stage between competitive athletics and general student life. By using validated instruments such as the Pittsburgh Sleep Quality Index (PSQI) and the Brunel Mood Scale (BRUMS), this research provides new empirical evidence on whether sleep quality significantly affects mood stability in this specific group. The findings are expected to contribute to the development of targeted mental health and recovery strategies for sports students.

METHODS

This study aims to determine the relationship between sleep disturbances and mood swings in sports students using a cross-sectional method. The sample in this study were 50 students in the Sports Science study program at the Indonesian Education University (UI), consisting of 27 males and 23 females, categorized as adolescents aged 19 to 20 years.

The instrument used in this study was two questionnaires distributed to the sample via Google Forms by the researchers to measure mood changes and sleep quality. The Brunnel Mood Scale (BRUMS) was used to measure mood changes, and the Pittsburgh Sleep Quality Index (PSQI) was used to measure sleep quality. After all data was collected, statistical analysis was conducted using IBM SPSS Statistics version 26 (Fadluloh et al., 2024). Correlation tests were conducted to identify the relationship between sleep disturbances and mood changes and the data obtained through the questionnaires.

RESULTS AND DISCUSSION

The results of the analysis of respondent characteristics based on gender show that negative mood changes are higher compared to positive moods, where men have higher results than women with average differences that are not too far apart. On the negative mood subscale, it shows that the tension item in men 66.04% and in women 65.74% has the highest average, but the lowest average value is also included in the negative mood subscale category, the depression item in men 59.37% and in women 58.85%, which indicates that negative moods are more dominant.

However, overall the results show more than 100% because some samples have high results on more than one subscale item, anger subscale 9, confusion subscale 7, depression subscale 5, fatigue subscale 1, tension subscale 22, vigour subscale 12. There are three samples with the same results on several subscale items, two samples have the same results on the anger subscale with the depression subscale and the anger subscale with the depression subscale and the tension subscale then one sample had the same results on the fatigue subscale as the tension subscale. The average result on the negative subscale was 78.6% while the positive subscale was 21.4%, overall indicating that most respondents experienced a negative mood, but positive mood did not show the lowest results, which means some respondents experienced positive mood changes.

Next are the results of the correlation analysis showing the level of significance (Sig. 2-tailed) on changes in negative moods such as anger, confusion, depression, fatigue, and tension as well as positive moods such as vigor and sleep quality. From the data analysis the smallest significance result is 0.000, indicating that the relationship is statistically significant ($p < 0.05$). The relationship between negative mood (anger) and sleep quality shows a sig value of 0.510, on negative mood (confusion) with sleep quality shows a sig value of 0.666, then on negative mood (depression) shows a sig value of 0.736, next on negative mood (fatigue) shows a sig value of 0.439, and finally on negative mood (tension) shows a sig value of 0.306. Meanwhile on positive mood (vigor) with sleep quality shows a sig value of 0.213, where none of the relationships between negative or positive moods with sleep quality reach the significance category expected by the researcher. However, the relationship between moods showed strong significance results with a p value = 0.000, which indicates that there is a strong interaction between negative and positive moods, although sleep quality does not have a significant relationship with mood.

Table 1. Results of the correlation analysis of sleep disorders and mood changes

Sleep quality variables	anger	confusion	depression	fatigue	tension	vigour
Anger	.510	.000	.000	.000	.000	.000
Confusion	.000	.000	.000	.000	.666	.000
Depression	.000	.000	.000	.000	.000	.736
Fatigue	.000	.439	.000	.000	.000	.000
Tension	.000	.000	.306	.000	.000	.000
Vigour	.000	.000	.000	.213	.000	.000
Sleep quality	.510	.439	.306	.213	.666	.736

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

After getting the overall results, it shows that sleep disorders have no influence or relationship to mood changes, either negative mood changes or positive mood changes.

This study aims to determine the relationship between sleep disturbances and mood swings experienced by sports students. The results provide new information on the extent to which sleep disturbances influence mood swings in sports students, categorized as adolescents, and how to anticipate mood swings that can negatively impact mental health.

The results of this study identified that only 12 of the 50 respondents, or 24%, had a positive mood. The study also revealed no correlation between sleep disturbances and mood swings in students.

The results of this study support the findings of previous research The effect of sleep deprivation and restriction on mood, emotion, and emotion regulation: three meta-analyses in one, there is a moderate positive effect of sleep deprivation on negative mood, sleep restriction has a small negative effect on adaptive emotion regulation, but does not have a significant effect on maladaptive emotion regulation so sleep disturbances can interfere with optimal affective functioning although the effects can vary (Tomaso et al., 2021).

Although in other studies Athletes' precompetitive sleep behavior and its relationship with subsequent precompetitive mood and performance, the sleeping habits of athletes the night before the competition almost 70% of athletes experience sleep disturbances due to anxiety, noise, and the desire to go to the bathroom, negative moods such as fatigue and tension both correlate significantly negatively with relative sleep quality, where the relationship between relative sleep quality with fatigue, tension and strength is about

4.5% of the variance in mood scores while with relative sports performance sleep disturbances do not show significant results so it can be concluded that many athletes experience sleep disturbances the night before the competition which can affect the athlete's mood condition (Lastella et al., 2014).

Several factors can influence mood swings, including an unhealthy lifestyle, one of which is sleep problems, followed by other factors such as diet and environment. Pressure from others, as well as a lack of social interaction and physical activity, can also contribute to stress (Hidaka, 2012).

This study has limitations, namely the small number of respondents, because it only involved a small portion of sports students in the Sports Science study program, which can limit the generalizability of the findings and reduce the representativeness of the findings that can be implemented in a larger population group (Lakes, 2012; Vasileiou et al., 2018). Furthermore, the questionnaire was filled out haphazardly by respondents, which can affect the validity of the collected data. Therefore, it is hoped that future research will involve samples with a wider and larger population to increase the validity of this study's results.

The findings of this study indicate that the relationship between sleep disorders and mood swings is not significant between the two variables, which can help further research to explore other factors that can influence mood swings and sleep disturbances more deeply, such as lifestyle, external pressure, and living environment in order to provide more comprehensive information.

CONCLUSION

This study shows that many sports students have a negative mood with an average of 78.6%, especially in negative moods (tension and fatigue), especially in male students. Where one of the factors of mood changes is sleep quality, but this study shows that there is no effectively relationship. Therefore, it can be concluded that other factors such as lifestyle, physical activity, academic stress, and living environment may have a greater influence on mood changes.

For future research, the researchers recommend involving a larger, more diverse sample population. Furthermore, they should emphasize and explain in greater detail how respondents completed the questionnaire to ensure the accuracy of their responses, ensuring unbiased data collection and ensuring its validity.

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