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The Relationship Between Sleep Quality and Stress Level Among Student-Athletes

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I. Introduction

Sleep is a fundamental biological process that supports physical recovery, cognitive functioning and emotional regulation. Sleep is critical for student-athletes, who must balance academic demands with athletic demands. However, the demands of training schedules, competitions, examinations and assignment deadlines may create a stressful lifestyle that affects sleep patterns. Previous literature has shown a two-way relationship between sleep and stress. This means that a lack of sleep makes an individual more susceptible to stress, while a stressful lifestyle can result in poor sleep quality. However, there is a lack of evidence in Malaysia. Therefore, this study aimed to examine the level of sleep quality, the level of stress and the relationship between sleep quality and stress level among student-athletes at Universiti Teknologi MARA (UiTM) Seremban 3.

II. Methods

The research design of this study was descriptive cross-sectional correlational research. The respondents of the research comprised 92 student athletes between the ages of 18 and 25 years. The research employed purposive sampling as the approach to recruiting the respondents. The researcher used an online questionnaire to collect data through Google Forms. The Pittsburgh Sleep Quality Index (PSQI) was used to measure sleep quality, while the Perceived Stress Scale (PSS-10) was used to measure stress levels. Descriptive statistics were used to identify the overall levels of sleep quality and stress. Since the data did not show normality, Spearman's rank correlation was used to determine the relationship between the two variables. The significance level was set at $p < 0.05$.

III. Results and Discussion

The descriptive statistics for total sleep quality among the 92 student-athletes showed a mean score of 7.73 with a median of 5.00, indicating that overall sleep quality was poor since the average score exceeded the PSQI cut-off of 5. The standard deviation of 6.29 shows considerable variability in responses, suggesting that while some athletes reported relatively good sleep, many others experienced severe disturbances. The Shapiro-Wilk test ($W = 0.798$, $p < .001$) confirmed that the data were not normally distributed, which highlights the presence of skewness in sleep quality scores. This result implies that a substantial proportion of athletes struggle with irregular sleep patterns, delayed sleep onset or frequent interruptions, all of which negatively affect recovery and performance.

The descriptive statistics for total stress levels among the 92 student athletes. The mean score was 21.2 with a median of 21.0 indicating that most respondents experienced moderate to high levels of perceived stress. The standard deviation of 4.76 shows that while stress levels varied across individuals, the majority clustered around the moderate range. The Shapiro- Wilk test ($W = 0.824$, $p < .001$) confirmed that the data were not normally distributed, suggesting that stress scores were skewed with some athletes reporting particularly high stress. This reflects the dual pressures of academic deadlines and athletic commitments that student athletes face which can contribute to elevated stress levels.

The correlation matrix examining the relationship between sleep quality (PSQI) and stress levels (PSS) among student athletes. The results show a Spearman's rho value of 0.746 ($p < .001$, $df = 90$) indicating a very strong positive correlation between the two variables. This means that higher stress scores were significantly associated with poorer sleep quality providing strong empirical support for the study's hypothesis. The findings confirm that stress is a substantial contributing factor to poor sleep quality, highlighting the critical role of psychological stress in shaping sleep patterns.

IV. Conclusions

This research has been able to prove that the sleep quality and stress level are significant concerns to student athletes. From the findings of the research, it was clear that most student athletes experienced poor quality of sleep with a moderate to high stress level. The findings of the research can be attributed to the harsh realities that student athletes must face in that they not only have to focus on their academic activities but also on their training as athletes. From the findings of the research, it was clear that student athletes who did not get enough sleep did not experience this

condition in isolation but with a certain level of stress as well. More importantly, the very strong positive relationship that was noted in the research findings between the stress level and the quality of sleep proved that the two variables were interlinked in one way or the other. From the research findings, it was clear that student athletes who experienced higher levels of stress were likely to experience a poor quality of sleep. The results of this research also underscore the importance of considering both sleep quality and stress management as intertwined issues that require attention and care. It is essential that both universities and coaches are aware of the dual demands that student athletes face and provide proper strategies that promote better sleep and coping mechanisms for stress as well as a more balanced approach in their academic and training schedules. This is crucial in order for universities to play a vital part in improving the well-being of student athletes.

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