



INTERNATIONAL GRADUATE COLLOQUIUM

# i-SPEAK 2025

SPORTS AND PHYSICAL EXERCISE ASSEMBLY OF KNOWLEDGE SHARING

COLLOQUIUM PROCEEDINGS

**EXTENDED  
ABSTRACT**

# The Role of Sleep Quality Toward Mental Toughness Among FSR Students at UiTM Seremban 3

Akmal Hakiem Ibrahim<sup>1</sup> & Mohamad Firdaus Ahmad<sup>1\*</sup>

<sup>1</sup>Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Negeri Sembilan Branch, Seremban Campus, Negeri Sembilan, MALAYSIA

\*Corresponding author: firdaus466@uitm.edu.my

**Keywords:** Sleep Quality, Mental Toughness, University students, Students Performance

## I. INTRODUCTION

This study aims to investigate the relationship between sleep quality and mental toughness among FSR students at UiTM Seremban 3 to establish some level of understanding regarding the role sleep might play in influencing psychological endurance in this cohort of students. Sleep quality has been increasingly implicated in cognitive and emotional resilience. Mental toughness is important to university students especially those that study courses related to sport and exercise for academic success and performance success.

## II. METHODS

This quantitative study involved a sample of 356 FSR students at UiTM Seremban 3 using random sampling. Sleep quality was measured with the Pittsburgh Sleep Quality Index (PSQI) and mental toughness used the MTQ48. The analysis used descriptive statistics to determine variable levels and used Spearman correlation to determine the relationship between sleep quality and mental toughness in Jamovi.

## III. RESULTS AND DISCUSSION

According to the PSQI, most students (88.2%) had poor sleep quality, which is troubling for FSR students, possibly influenced by academic workload, sport participation, and stress. The overwhelming percentage of poor sleep quality points to the need for education and intervention with respect to students' sleep behaviors and the impact poor sleep can have on their health and performance.

Confidence was the highest rated factor in the model of mental toughness ( $M = 3.83$ ), noted in higher cast than commitment, control, and challenge, demonstrating that having insufficient sleep was not limiting their confidence levels, likely due to having been previously exposed to performance requirements in either academic or sporting contexts. Their faith in their own ability may offer a protective factor against tiredness and stress.

The relationship between sleep quality and mental toughness, as measured by Spearman correlation, was low ( $r = 0.047$ ,  $p = 0.380$ ) suggesting there is no significant relationship. This contradicts prior findings and may imply that factors such as motivation, experience or support networks may play a more significant role in the mental toughness of this student population.

TABLE I  
FREQUENCY OF SLEEP QUALITY LEVEL

Sleep Quality Level	Frequency (N)	Percentage (%)
Poor	314	88.2
Good	42	11.8

According to table I, the results show that just 314 respondents (88.2%) had poor sleep quality, while 42 respondents (11.8%) had good sleep quality. This indicates that most people are having issues to sleep.

TABLE II  
DESCRIPTIVE OF MENTAL TOUGHNESS

Sleep Quality Level	N	Mean	Median	SD
Confidence	356	3.83	4.07	0.951
Commitment	356	3.81	4.00	0.958
Control	356	3.75	4.00	0.971
Challenge	356	3.74	4.00	0.959

The table II shows that 356 respondents in all participated in the study. The mean, median, and standard deviation ( $SD$ ) for the Challenge component were 3.74, 4.00, and 0.959, respectively. The mean, median, and  $SD$  for the Control component were 3.75, 4.00, and 0.971. The mean, median, and  $SD$  for commitment were 3.81, 4.00, and 0.958. Finally, Confidence had the greatest mean (3.83), median (4.07), and standard deviation (0.951). The findings show that respondents' mental toughness was typically high, particularly when it came to confidence.

TABLE III  
CORRELATION BETWEEN SLEEP QUALITY MENTAL TOUGHNESS

		Total MT
PSOI Level	Spearman;s rho	0.047
	df	354
	p-value	0.380

Based on table III, the relationship between sleep quality (PSQI Level) and mental toughness (Total MT) was analyzed

using Spearman correlation. The result shows a correlation coefficient of 0.047 with a degree of freedom ( $df$ ) of 354 and a  $p$ -value of 0.380. This indicates a very weak positive relationship between sleep quality and mental toughness, but the result is no significant difference since the  $p$ -value is greater than 0.05. Therefore, it can be concluded that there is no significant difference between sleep quality and mental toughness among the respondents.

#### IV. CONCLUSIONS

While most of the FSR students had poor sleep quality, their mental toughness, specifically confidence was high. A significant relationship was not found between sleep and mental toughness, indicating the possibility that other factors are promoting psychological resilience. These findings highlight the complexity of student well-being and the need to implement multifaceted approaches in academic and sporting contexts.

#### ACKNOWLEDGEMENTS

The researchers are grateful to Dr. Muhammad Firdaus Ahmad, family and close friends for their continuous support during the duration of this study.

#### REFERENCES

- [1] Esmacilnejad, M., GHarayagh Zandi, H., Esmacilnejad, S., & Qeisari, S. (2023). The role of sleep quality on mental toughness among football players. *Sport Sciences and Health Research*, 15(2), 193-202.
- [2] Ismail, I., & Mahmud, A. (2024). Investigation of sleep quality and mental toughness levels of young soccer players in terms of chronotypes. *Journal of Kinesiology and Exercise Sciences*, 108(34), 20-27.
- [3] Mojtahedi, D., Dagnall, N., Denovan, A., Clough, P., Dewhurst, S., Hillier, M., Papageorgiou, K., & Perry, J. (2023). Competition anxiety in combat sports and the importance of mental toughness. *Behavioral Sciences*, 13(9), 713.