



## Thesis

# The Effects of Sleep Deprivation towards Physical Performance among Students in Private University

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## Abstract

**Background and Aim:** Sleep deprivation among students in the private university is not an unusual occurrence for students in their daily activities. Sleep deprivation has many effects on students, but in this research, the researcher will aim at the effects of sleep deprivation on physical performance on students in a private university. **Method and Materials:** A random sampling method was carried out with 160 participants from a private university by using an online questionnaire to collect data. **Results:** Most of the respondent stated, about 64.4%, agreed they are experiencing sleep deprivation and sleep less than 8 hours, and 51.9% of the respondent agreed their physical performance cannot be performed very well. Based on the data collected, 46.3% of respondents stated the reason they have sleep deprived is due to assignment and homework. About 59.4% of respondents agreed they will feel active if they have enough sleep for more than 6 hours. **Conclusion:** Sleep deprivation may look insignificant to others, but for students, it can affect their daily activities and physical abilities. This research has many limitations and the data collected has many limited variations. Further research is may be required to determine the mechanism of change and the impact of longer-term sleep deprivation on physical performance in these populations.

**Keywords:** Sleep; Deprivation; Physical; Performance; Students; University

## Introduction

Sleep deprivation is defined as inadequate sleep to support overall health and well-being. Sleep deprivation effects on physical performance of human daily life. Insufficient sleep has an essential adverse effect on general health and quality of life. Physical performance can be defined as the ability of the human body to carry out activities that require physical movement, activities of daily living to more complex that require often social component [1].

The research will study a group of student from a private university regarding the effects of sleep deprivation on physical performance. Many studies have investigated the effects of acute sleep deprivation, a few focused on university students, despite the prevalence and impact of sleep deprivation in this population [2].

One of the studies is from author Patrick [2], which is, The Effects of Sleep Deprivation on Cognitive and Physical Performance in University Students, that stated the importance of physical and cognitive function is especially appreciable in the student population, most students rate sleep problems second only to stress about the negative impact on academic performance.

Many studies related to sleep deprivation but, few only hit the topics of its effects on physical performance on students. Physical performance is also important factors for students to go through their daily academic schedules and daily activities. Sleep deprivation on students may look normal circumstances for students, but if it's too severe and affects students physical performance and may lead to health

problem or worst, mental problem, then, sleep deprivation is dangerous as others disease too. That's why this topic must be studied properly to know the degree of effects of sleep deprivation on physical performance.

The objective of this research is to identify sleep deprivation status among students in a private university, to identify the level of physical performance among students in a private university, and to evaluate the correlation between sleep deprivation and physical performance among students in a private university.

## Materials and Methods

In this research, the methods researcher used a simple random questionnaire. The questionnaire related to the research topic and the objective. The questionnaire was selected for this research because they are a reliable, easy and quick method to collect the data. The questionnaire is more direct and there is no other factor that can affect the result later. The researcher targeted students in private university to identify their sleep deprivations. The respondent concluded about 160 respondents that returned the survey questionnaire that has been conducted in the Shah Alam area for two weeks. The researcher did not put any specific characteristic on students that participate in this research and only focus on students experienced regarding sleep deprivation towards their physical performance.

The limitation of this method was their sleep deprivation and physical performance was measured based on the students experienced without any evidence to support

them. This thing occurred due to a pandemic outbreak that limited the outcome of this research.

## Results

The reliability analysis shows the alpha value in this studies was poor with sleep deprivation was 0.099 and physical performance 0.321 below the  $p=0.8$  and above as shown in Table 1 below.

Variables	Number of items	Alpha value
Sleep Deprivation	5	0.099
Physical Performance	5	0.321

**Table 1:** Reliability analysis.

The results were followed with a statistical analysis toward the first objective, which is to identify the status of sleep deprivation among students in a private university. The results show about 51.9% has low sleep deprivation, with a p-value more than 0.05, as shown in Table 2 below.

Valid	Frequency	%	Valid %	Cumulative %
Low sleep deprivation	83	51.9	51.9	51.9
Average sleep deprivation	40	25	25	76.9
High sleep deprivation	37	23.1	23.1	100
Total	160	100	100	

**Table 2:** Statistical analysis for sleep deprivation.

The second objective, to identify the level of physical performance among student, shows the p-value is more than 0.05, of which 50% of respondent had a high physical performance as shown in table 4.3.2 below.

Valid	Frequency	%	Valid %	Cumulative %
Low physical performance	49	30.6	30.6	30.6
Average physical performance	31	19.4	19.4	50
High physical performance	80	50	50	100
Total	160	100	100	

**Table 3:** Statistical analysis for physical performance.

The results of the last objective which is to evaluate the correlation between sleep deprivation and physical performance among students in a private university show that the correlation between those two was weak and negative. This is due to the p-value is 0.209 which higher than 0.05. The results were shown in Table 4 below.

MS_SD	Pearson Correlation	1	-209**
	Sig. (2-tailed)		0.008
	N	160	160
MS_PF	Pearson Correlation	-.209"	1
	Sig. (2-tailed)	0.008	
	N	160	160

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

**Table 4:** Statistical analysis for correlation between sleep deprivation and physical performance.

## Discussion

The primary of this study is to identify the correlation between sleep deprivation and physical performance among students in a private university. Based on the result, it is revealed, there is a weak correlation between students and sleep deprivation. Still, for physical performance, there is little significance with students, as they cannot be performed well in their physical test. Besides, there is a weak correlation between sleep deprivation and physical performance, this may due to not enough data and not enough questions to answer the third objective. The null hypothesis is accepted.

Based on the results from the table of regression analysis (Table 2), the result shows a positive effect of sleep deprivation among students ( $p=0.000$ ,  $p>0.05$ ). So there is a relationship between sleep deprivation and students in a private university. The negative results indicate that the effect of sleep deprivation can be affecting students.

Based on the results from the table of regression analysis (Table 3), the results show a negative effect of physical performance on students in a private university ( $p=0.298$ ,  $p<0.05$ ). This also shows there is a positive relationship between physical performance and students. Therefore, further studies for this research must be explored to gain more positive results.

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