

The Effect of a Systematic Workout Routine on Medical Students' General Wellbeing and Academic Performance at the Texila American University

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Abstract

The purpose of this study is to discover how many students have a systemic workout routine. The members of this group aimed to investigate the types of workout routines the students practiced, how often they did so, and to determine the impact of a systematic workout routine on the well-being of medical students at Texila American University. This study was established from the responses of one hundred and twenty medical students at Texila American University to a questionnaire distributed by the members of the group via online. The questionnaire consisted of fourteen questions that mainly focused on the workout routine, well-being, and academic performances of each student. In view of the fact that "well-being can be understood as how people feel and how they function both on a personal and social level, and how they evaluate their lives as a whole,". The findings revealed that even though less than half of the students regularly worked out, having a workout routine, or simply exercising ever so often helped boost students' mood, strengthen their mental, emotional, and physical health as well as improve their academic performance overall. The results of our research were in accordance with our hypothesis, which was: "A regular workout routine has a positive effect on the general well-being and academic performance of medical students at Texila American University by improving brain function and mood." While the results obtained were in agreement with our hypothesis, they were somewhat hampered by the fact that only 43% (52 students) of our respondents had a systematic workout routine.

Keywords: *Medical students, Workout routine, Academic performance, General well-being.*

Introduction

In this research, the main focus will be on how a regular workout routine will impact the overall well-being and academic performance of medical students. The institution of focus will be Texila American University School of Medicine. Normally, people would agree that having a regular workout routine would be beneficial in many ways to an individual, such as, help them focus on other tasks to be completed, be more efficient at what they do and experience better results. However, there are a lot of factors that influence the academic performance of students, and these may include the environment,

resources, time, physical activities, and many more.

With that being said, medical students have a very strenuous study program resulting in them dedicating most of their time to academics rather than physical activities. Therefore, it is important that they gain knowledge of the impact physical activities can have on their academic performances and their health. According to studies done by Sateesha, physical activities have a positive impact on the academic performances of medical students as it increases their concentration and their level of cognitive activity [1].

Sateesha's research also indicated that brain functions might be improved due to an increase in the generation of energy which may then lead to the stimulation of new pathways in the brain. An article stated that a significant benefit of exercise is that it serves to promote the production of new brain cells, which will aid in improving cognition function, as was found by scientists [2]. Also, exercise helps the health and function of the synapses found between neurons allowing the brain cells to have better communication.

In regard to our mental health, research has shown that exercise can help us tap into our creative side [3]. To help keep a sound mind after an effective heart-pumping gym session can boost creativity and spontaneous thinking as hobbies are too important.

The aim of this research is to find out how many students at Texila American University have a workout routine and whether their workout routine has a positive or negative impact on their academic performance and general well-being.

Methods

Study Design

This cross-sectional research was conducted at Texila American University, Georgetown, Guyana. The effect of a regular workout routine on medical students' academic performance was evaluated by use of a questionnaire which was distributed through Google Forms. The advantages of using questionnaires as a method of data collection are many. When using questionnaires, it is efficient in the sense that it can be distributed quickly over the internet, and the cost is lowered. With the use of a questionnaire, the amount of responses is less likely to be limited than in other methods. In addition, online questionnaires allow the responder to remain anonymous.

Sampling Approach

The sampling method which was used was simple random sampling. In simple random

sampling, the researchers choose random participants from a population. Every person within the population has the same probability of being chosen. The class lists were obtained from the Student Affairs Department. It is beneficial to use simple random sampling because the target population will definitely be reached, and sampling bias is nonexistent.

Recruitment of Participants

Participants were chosen from among the student body. They were primarily contacted via Learning Management System (LMS) and WhatsApp. Each person was given an option as to whether or not they would have liked to take part in the research. After approximately 24 hours, the researchers reached out to them once more to be informed of their decision. Once they agreed, the questionnaire was distributed. Messages were circulated across the class groups on Skype and WhatsApp in order to publicize the need for participation in the research.

Inclusion Criteria

In this research, the inclusion criteria contained students who were enrolled in the classes MD1 to MD 4.

Exclusion Criteria

Those students whose consent was not given did not participate in this research.

Data Collection

Over a period of two (2) weeks, the researchers collected data from a population of one hundred and twenty (120) medical students who are currently pursuing studies at the Texila American University (TAU) by developing and using a questionnaire. The researchers designed the questionnaire via Google Forms in the English language and distributed it to the current cohort of students in the University. In constructing the questionnaire, the researchers referenced data on the number of medical students who are currently enrolled in a fitness program. Through the questionnaires, the

researchers discovered the various types of workout routines that these students utilized.

Data Management

The researchers entered the data on an excel spreadsheet and fed it into the Statistical Package for the Social Sciences (SPSS) software which was used to generate the analysis. The information gathered was then organized into two categories; Persons who had a constant workout routine and persons who did not. Further, the files were stored as rows and columns.

The rows represented each student's response to the questions, whereas the columns represented the characteristic that was being measured, for example: How often do you visit the gym? Response – Never, Sometimes, often.

Data Analysis

Within the Data Analysis, the two comparison groups were:

1. Students with a systematic workout routine.
2. Students without a systematic workout routine.
3. Data were analyzed by use of Charts, Bar Graphs and Chi Square test.

Results

After distributing the questionnaire, the following results were obtained. A total of one hundred and twenty students responded to the questionnaire. Forty-eight of these students were male, and seventy-two were female. Forty-five students were in MD1, thirty-nine in MD2, nineteen in MD3, and seventeen in MD4 (See Table 1).

Table 1. Gender and Various Classes of Texila American University Students in the Study

Factors	Frequency (n = 120)	%
Gender		
Male	48	40.0
Female	72	60.0
Classes		
MD1	45	37.5
MD2	39	32.5
MD3	19	15.8
MD4	17	14.2

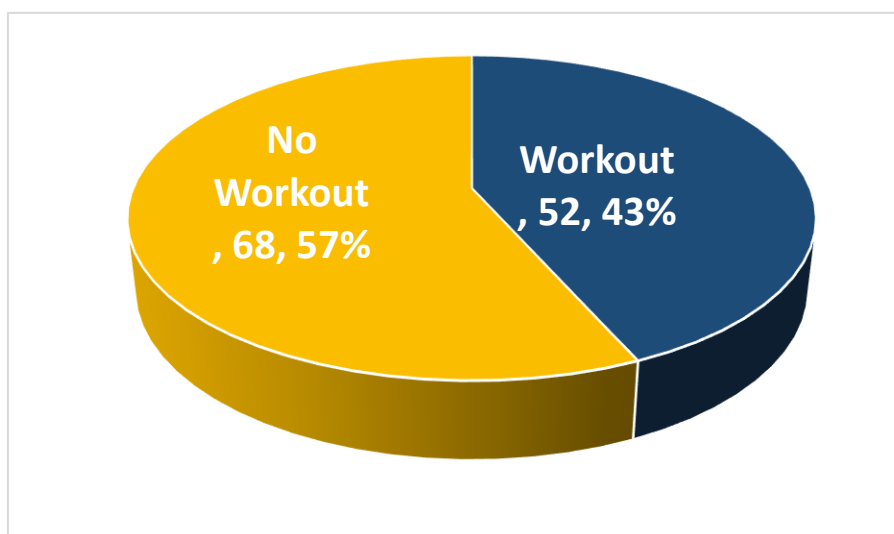


Figure 1. Frequency of having a Regular Workout Routine among the Studied Population

Figure 1 shows that Fifty-two students had a regular workout routine while sixty-eight did not. When it came to the number of times that a student worked out in a week, fifty students said they worked out once in a week, sixty-one students worked out twice in one week, and nine students worked out twice in one day. For each

workout session, seventy-five students said their sessions usually lasted for twenty to thirty minutes, twenty-one students worked out for thirty-one to forty minutes, and nine students worked out for forty-one to fifty minutes. For fifteen students, their sessions lasted for fifty-one to sixty minutes (See Table 2).

Table 2. Main Characteristics of the Routine Workout Performed by Texila American University Students in the Study

Main characteristics	Frequency (n = 52)	%
Workout Frequency		
Once a week	9	17.3
Twice a week	40	76.9
Twice a day	3	5.8
Workout duration		
20 – 30 minutes	28	53.8
> 30 – 40 minutes	11	21.2
> 40 – 50 minutes	3	5.8
> 50 – 60 minutes	10	19.2
Workout place		
Gym	10	19.2
Home	40	76.9
Park	2	3.8

Seventy-six students believed that working out did have an impact on their academic performance. Forty-four students did not believe that having a workout routine impacted their academic performance. Of the students who said

that having a workout routine impacted their academic performances, seventy-nine students said that it had a positive effect, and forty-one students said that it had a negative effect (See Table 3).

Table 3. Perceived Impact of the Workout Routine Performed by Texila American University Students in the Study

Perceived impact	Frequency (n = 52)	%
Feeling after workout		
Drained	14	26.9
Energetic	25	48.1
Neutral	13	25.0
Workout impact on mental health		
Relieves stress	27	51.9
Decreases depression	11	21.2
Sleeping better	11	21.2
Improves memory	3	5.8
Workout impact on academic performance		
Positive impact	34	65.4

Negative impact	1	1.9
No impact	17	32.7

Fifteen students stated that on a regular basis, they were very moody, twenty were slightly moody, sixty were neutral, and twenty-five students usually felt pleasant. When asked about the quality of their sleep, fifteen students responded saying that their sleep is usually restless, forty-six students usually slept well, and

fifty-nine students had fluctuating sleep quality. In response to their levels of concentration, twenty-three students said that they usually find it hard to concentrate in class. Eighty-eight students had normal concentration, and nine students always had full concentration (See Table 4).

Table 4. Effect of Having a Regular Workout Routine on Texila American University Student's Mood, Concentration, and Sleep Quality

Students perceptions	Routine Workout				Chi square p value
	Yes (n = 52)		No (n = 68)		
	No.	%	No.	%	
Regular mood					
Very moody	6	11.5	9	13.2	0.060
Slightly moody	4	7.7	16	23.5	
Pleasant	15	28.8	10	14.7	
Neutral	27	51.9	33	48.5	
Concentration during class					
Hard to concentrate	8	15.4	15	22.1	0.262
Normal concentration	38	73.1	50	73.5	
Full concentration	6	11.5	3	4.4	
Regular Sleep quality					
Restless	7	13.5	8	11.8	0.106
Sleeps well	25	48.1	21	30.9	
Sleep quality fluctuates	20	38.5	39	57.4	

Thirty-four students chosen they had a positive effect from having a workout routine on their academic performance and eighteen had experience a negative effect on their academic performance, twenty-three students had given a

reason for the positive effect on their academic performance, and twenty-nine of them had not given any feedback or statement for their answer (see Table 5).

Table 5. The Effect of Having a Workout on Academic Performance on Texila American University students either Positive or Negative Effect or the Feedback of the Students Experience on having a Positive or Negative Effect on Academic Performance

Perceived effect	Frequency (n =52)	%
Workout effect on academic Performance		
Positive effect	34	65.4
Negative effect	18	34.6
Students experience on either Positive or negative effect		
Reason given	23	44.2
Not stated	29	55.8

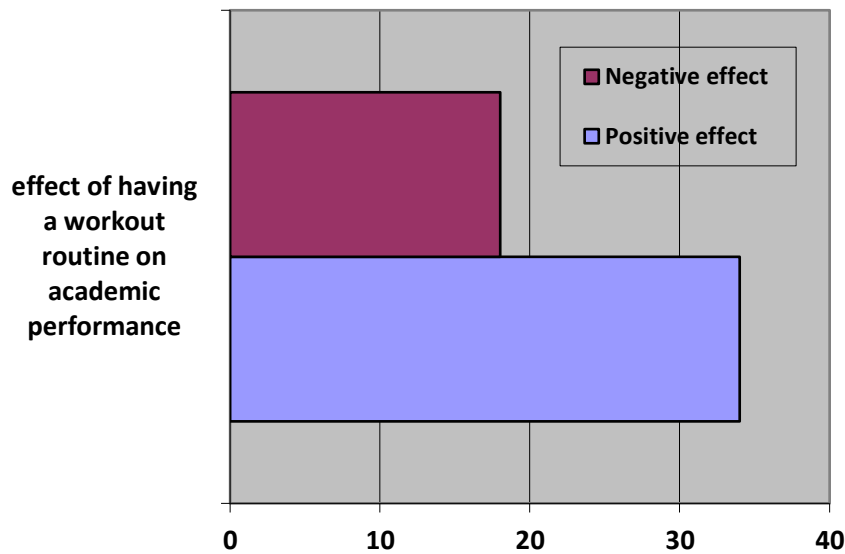


Figure 2. The Effects of a Workout Routine on the Academic Performance of Students

Figure 2 shows that thirty-four students are affected positively, and eighteen were negatively impacted on their academic performance while having a workout routine.

Discussion

As seen in the results, fifty-two students workout while sixty eight do not. Many students are aware of the benefits that working out would provide for them. However, many factors such as sleep habits, diet, social life, homework, and other extracurricular activities affect whether a person has a workout routine or not. This means that though the students might be aware of some of these benefits, they do not always take the necessary steps to implement a workout routine in their daily life [4].

While workout varies from person to person, it is recommended that persons have a workout session about three to five times each week to get optimum results [5]. Most students who work out revealed that they work out about twice a week, and some said once a week. The majority of students most likely prefer to work out once or twice a week due to the very busy schedule that comes with being a medical student. A lack of leisure time would lead them to prioritize their schoolwork, leaving them with little chance to work out more than two to three times a week. A

minority of students [6] said that they work out twice a day, creating a stark contrast. This could be due to the possibility of them having a personal trainer or maybe being in a class with a smaller workload.

With respect to the results obtained, an analysis of the duration of time spent on the workout reveals that the most popular workout period was between 20 to 30 minutes. However, there has been a digression in the number of participants working out in a time period that exceeds 30 minutes, especially in the interval of 40 to 50 minutes in which the least number of participants were recorded. It would seem, therefore, that the shorter duration of 20 to 30 minutes workout interval is the preferred workout period. This would suggest that most medical students have a hectic schedule as it relates to their schoolwork and as such, is only able to dedicate this short time period to working out. However, studies have suggested that at least 20 minutes of exercise prior to studying can help to improve a student's concentration as well as focus effectively on their learning [7]. While between 20 to 30 minutes workout period was the preferred choice, above three-quarters of the cohort of medical students preferred to work at home. This suggests that the greater majority of

medical students prefer a median of 35 minutes of safe and private workouts. Further, while a gym can provide a dedicated space, home workouts can provide more flexibility as well as more efficiency [8]. There is a direct correlation between the energetic impact of a workout and the 20 to 30 minutes interval. On the other hand, there was almost no improvement in memory as an impact on mental health even though more than half felt relief in stress. The decrease in depression and sleeping better share the same impact on mental health.

When looking at the positive impact of this workout routine on academic performance, a great majority of the medical students felt a positive impact. Again, we see a positive correlation of workouts on academic performance. When the dimensions of regular mood after the exercise regime were measured, the most popular one was 'neutral'. This could be due to the fact that they might be torn between feeling physically tired and feeling motivated to do their schoolwork. Most of the medical students' perceptions, on the other hand, revealed no effect on being slightly moody after the workout routine. As for perceptions sited on normal concentration, almost the same number recorded a 'yes' or a 'no'. The quality of sleep derived from regular exercise were shared with the majority of medical students.

When it came to whether working out has a positive or negative effect on academic performance, thirty-four students said it has a positive effect while eighteen said it does not have a positive effect. This supports our hypothesis that having a systematic workout routine will allow the person to see an improvement in their academic performance. According to a study done, "Research shows that physical activity – whether it's team sports, bike riding, swimming at the beach or playground games – has positive effects on the brain and on school performance." [8]. However, some students said that having a workout routine had a negative impact on their performance. Some said that it caused them to lose focus on their

schoolwork, while some said they were not sure and that working out did not reflect on their class behavior. This could possibly be due to the employment of different types and timings of workout sessions.

Conclusion

Having a regular workout routine is very beneficial to one's health and can help a person to lose weight or gain muscle. However, it is not limited to only these advantages. Having a regular workout routine can improve a person's general well-being, brain function, and even their academic performance. This study was conducted by students of MD1 into MD2, and it proved the thesis of "A regular workout routine has a positive effect on the general well-being and academic performance of medical students at Texila American University by improving brain function and mood." to be accurate. This is because of the fact that exercise tends to alter the brain's neurotransmitter and synapse activity in a positive manner and allows students to feel relaxed and receptive to the information given to them. Through this research project, the members hope that this information can be spread to not only Texila students but also other medical students so that they are able to learn about and benefit from the advantages of a workout routine for students.

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Conflict of Interest

There was no conflict of interest during the process of conducting this research.

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