

## A Study to Explore the Effects of Varied Tempo music on Brisk Walking Performance

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**Abstract:** *In the age of technological gadgets, music has become more than just background noise at a party. Recent studies have seen that music has a much greater effect than just providing a distraction. Studies conducted by sports psychologists have determined that music has a great impact on the performance level of an athlete. A sports psychologist at Brunel University, Dr. Costas Karageorghis, has done studies to see the results of synchronous music and asynchronous music. Synchronous music, music that has a clear and steady beat, was what was shown to elevate a person's performance by twenty percent whereas asynchronous music, background music, was shown to calm the nerves of athletes by as much as ten percent. The above facts and thoughts made the scholar enthusiastic about the amazing effects of music on human performance and hence he premeditated to conduct "The Study to Explore the Effects of Varied Tempo music on Brisk Walking Performance". For the study 21 male and female B.P.Ed students age ranging between 21 to 26 of Department of Physical Education University of Kalyani were selected randomly as the subjects of the present study. The subjects were divided into two groups one Boys and the other Girls. Both the groups were made to perform 10 minutes continuous brisk walk in three different test days. On the first day the subjects were made to run without any music, on the second day they were made to run with low tempo music and on the third day the subjects performed 10 minutes brisk walking with slow tempo music. The author mainly measured the distances covered by the subjects with brisk walking for three times namely once without music, another with high tempo or fast music and for the third time with slow or low tempo music. Data analysis revealed that there was significant difference in performance when compared between slow music and fast music and also between no music and fast music. Thus the author reached to the ultimate conclusion that music i.e. fast music unquestionably has positive impact on exercise or physical performance.*

**Key words:** Music, Tempo, Brisk Walk.

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### I. Introduction

In the age of technological gadgets, music has become more than just background noise at a party. Mp3 players and music downloading sites such as iTunes have made music a part of people's everyday routine. For some, music has become a vice. For those that exercise, music is a way to distract oneself from the physical activity they are enduring and to try to lessen their consciousness of fatigue. However recent studies have seen that music has a much greater effect than just providing a distraction. Studies conducted by sports psychologists have determined that music has a great impact on the performance level of an athlete. It has been suggested that the correct type of music can heighten an athlete's performance by up to twenty percent. A sports psychologist at Brunel University, Dr. Costas Karageorghis, has done studies to see the results of synchronous music and asynchronous music. Synchronous music, music that has a clear and steady beat, was what was shown to elevate a person's performance by twenty percent whereas asynchronous music, background music, was shown to calm the nerves of athletes by as much as ten percent. This same psychologist theorizes that there are four main components to the effects of music on an athlete. First that music can distract an athlete from fatigue, second that music can act as a mood altering catalyst, third music can synchronize an athlete's rhythm and movement and finally music can act as a trigger for learning certain motions and aid with muscle memory.

For example, more and more health professionals, including pediatrician Linda Fisher at Loyola University Hospital in Illinois, are playing therapeutic music for patients in hospitals, hospices and other clinical settings to improve their healing.

"The music I play is not necessarily familiar," said Fisher, who is finishing up coursework toward certification as a music-for-healing practitioner. "It's healing music that puts the patient in a special place of peace as far as the music's rhythm, melodies and tonal qualities."

Studies done in the early 1990s at Bryan Memorial Hospital in Lincoln, Neb., and St. Mary's Hospital in Mequon, Wis., concluded music "significantly" lowered the heart rates and calmed and regulated the blood pressures and respiration rates of patients who had undergone surgery.

In 2007, a study in Germany found that music therapy helped improve motor skills in patients recovering from strokes, Fisher said. Other studies have found that music therapy can boost the immune system, improve mental focus, help control pain, create a feeling of well-being and greatly reduce anxiety of patients awaiting surgery.

Scientists also have confirmed that music definitely provokes memories, as we all have experienced, to the point where we don't even have to hear a song. We just think of it and the memories flood in.

Music has also been found to ease labor pain, reduce the need for sedation during surgery, make you smarter, and diminish depression.

The right temporal lobe could be a key brain site for processing music, as one study found that subjects experience increased activity there when focusing on musical harmony. Other studies have also shown that the temporal lobe, in concert with the frontal lobe, is a key region for understanding certain musical features.

Karageorghis said. First, it reduces your perception of how hard you are working by about 10 percent during low-to-moderate intensity activity. (During high intensity activity, music doesn't work as well because your brain starts screaming at you to pay attention to physiological stress signals).

Secondly, music can have a profound influence on mood, potentially elevating the positive aspects of mood, such as vigor, excitement and happiness, and reducing depression, tension, fatigue, anger and confusion.

Thirdly, music can be used to set your pace — Ethiopian runner Haile Gebrselassie reportedly has asked for the techno song “Scatman” to be played when he competes (he won the gold medal in the 10,000 meters at the Sydney Olympic Games in 2000; “Scatman” presumably went unplayed during the race).

Finally, music can be used to overcome fatigue and control one's emotions around competition. The hurdler Edwin Moses, who competed for the United States in the 70s and 80s and had a 122-race winning streak between 1987 and 1997, used laid-back soul tunes as part of his pre-race routine, Karageorghis said.

The above facts and ideas made the scholar enthusiastic about the amazing effects of music on human performance and hence he premeditated to conduct “**A Study to Explore the Effects of Varied Tempo music on Brisk Walking Performance**”.

**Subjects:** To accomplish the research study 21 male and female B.P.Ed students age ranging between 21 to 26 of department of physical education Kalyani University were selected randomly as the subjects of the present study. Among the total subjects 13 were male and 8 were female.

## **II. Method:**

The subjects were divided into two groups one Boys and the other Girls. Both the groups are to perform 10 minutes continuous brisk walk in three different test days. On the first day the subjects were made to run without any music, on the second day they were made to run with low tempo music and on the third day the subjects performed 10 minutes brisk walking with slow tempo music. One day gap was given in between two test days for proper recovery of the subjects.

The author mainly measured the distances covered by the subjects with brisk walking for three times namely once without music, another with high tempo or fast music and for the third time with slow or low tempo music.

For all the cases the procedure for collection of data was more or less same.

Walk for Distance without music: The subjects were directed to stand near the starting line on a 400 mts. Standard track without any audio system. After completion of all preparations the subjects start walking at their maximum effort along the track. The walking time was 10 minutes just after completion of the specified 10 minutes the official blown the whistle and the participants stood still at their respective positions and the distances covered by them was accordingly measured.

Walk for Distance with fast music: In this case the scholar followed the same procedure as before only the subjects were provided with micro music systems playing high tempo music. The distance covered was measured accordingly.

Walk for Distance with fast music: During this case the scholar followed the same method as method only the exception was the played music in the ears of the subjects was slow beat.

For data analysis previously the descriptive statistics were worked out and after wards paired samples t test was computed with the help of SPSS software 10.1 versions.

## **III. Result and Discussion**

In this chapter the results were presented in tabular and graphical form and related discussion have been made accordingly.

**Table-1.Average age, height and body weight of the subjects**

Group	Mean	S.D.
Age in Years	23.47	1.12
Height in cms.	162.33	7.43
Body Weight in Kgs.	53.47	7.08

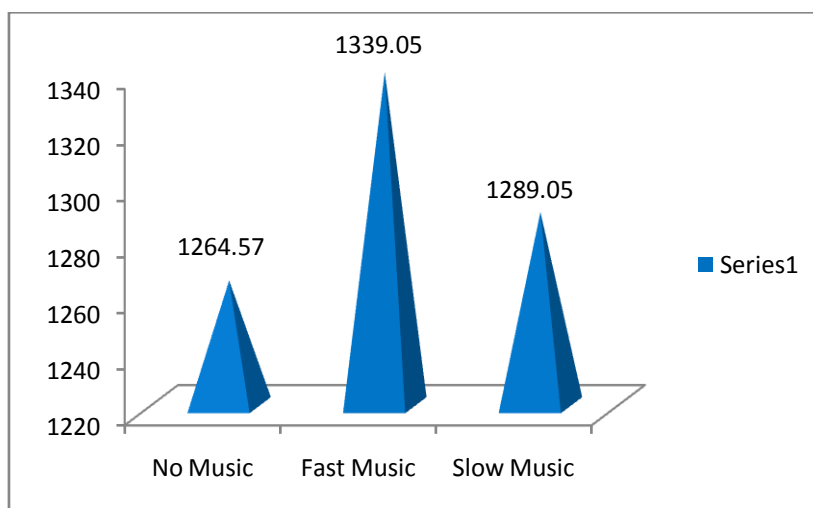
From Table 1. It is clear that the average age of the subjects was 23.47 years; their average height was 162.33 cms. and their average body weight was 53.47 Kgs. Respectively and their standard division were 1.12, 7.43 and 7.08.

According to the nature of the study the descriptive statistics for the different distances covered by the subjects with various types of music were presented here under.

**Table-2.Mean distances covered by the subjects with various types of music**

Group	Distance in mts.	S.D.
No Music	1264.57	57.36
Fast Music	1339.05	83.80
Slow Music	1289.05	121.39

According to table no. 2 the mean distance covered with no music was 1264.57 mts. The mean distance covered with fast music was 1339.05 mts. and that covered with slow music was 1289.05 mts. respectively and their Standard deviation were 57.36, 83.80 and 121.39.



**Fig. 1: Conical diagram showing the difference in performance with varied paced music.**

It was very clear from the above conical diagram that the performance of the subjects with fast was best and with slow music it was better in comparison to that without music.

To ascertain the degree of difference between the means further paired samples t test was computed.

**Table-3.Paired samples t test showing the mean differences between the performances**

		Paired Differences		t	Df	Sig. (2-tailed)
		Mean	$\sigma$			
Pair 1	No Music - Slow Music	-24.48	101.28	-1.11	20	0.281
Pair 2	Slow Music - Fast Music	-50.00	75.75	-3.03	20	0.007**
Pair 3	No Music - Fast Music	-74.48	64.40	-5.30	20	0.000**

Table 3 reveals that the difference between No Music and slow music was not significant, while the difference between both slow music and fast music and fast music and no music is significant.

Thus it was very clear that music has obviously some positive impact on physical activity. Similar types of findings have been deduced by many famous researchers which are as follows:

Gfeller (1988) suggested that music influences arousal if it promotes thoughts that encourage physical activity or relaxation.

Similarly, Karageorghis, Terry, & Lane (1999) suggested that music aids in the process of rhythm and synchronization with movement, which in turn, can lead to increased levels of exercise output.

Elliott, Carr, and Savage (2004) suggested that those who listen to motivational music perform significantly better than those who did not listen to music.

**Conclusion:** From the above study the author reliably arrived at the conclusion that Music has explicit impact on sport or athletic or motor activity, he arrived at the precise conclusion that performance on brisk walking improved significantly with the induction of fast tempo music. The difference of Brisk walking

performance between both slow music and fast music and no music fast music was significantly better. On the basis of the inferences of the study the author likes to recommend that fast music can both be a motivating force for the armature fitness freak individuals as well as professional athletes during their work out or training. Music on its part can help to promote strength stamina fitness and vigor.

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