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The Effect of Listening to Music On Concentration and Academic Performance of the Student: Cross-Sectional Study On Medical Undergraduate Students.

Naveen Kumar¹, Mohamad Arif Wajidi², Yong Tai Chian², Vishroothi S²,
Swamy Ravindra S^{1*}, and Ashwini Aithal P¹.

¹Department of Anatomy, Melaka Manipal Medical College (Manipal Campus), Manipal University, Karnataka, India.

²Bachelor of Medicine and Bachelor of Surgery (MBBS) Students, Melaka Manipal Medical College, Manipal University, Karnataka, India.

ABSTRACT

Listening to music while studying has become a usual practice in the student population. While one group of students claim it would enhance their curricular efficiency, on the other hand, some researchers deny such assumptions. The overall objective of the study was to explore the effect of music on the curricular activity of the student and whether this trend is to rule out it is beneficial to the students in their academic performances. Present study involved 200 Malaysian students representing three major ethnicities. Among them, 120 students prefer to listen to music while studying and remaining 80 were not. The study comprised of two ways of survey namely questionnaire based and experiment based. Data obtained from the responses of participants compiled in the form of graphs and charts 47% believes that music helps them to concentrate while studying. 29% claims that music would keep their mind calm, and 17% stated that it would prevent sleepiness. 78 out of 80 students said that listening to music while studying distract their concentration. Experimental data revealed higher incidence (75%) of correct answers while listening to soft music than other fast track or instrumental music. The positive finding as obtained from the study is relevant to justify the current trend of listening to music while studying as it may not pose any adverse effects on the concentration of student. In fact, it might also improve the performance of the student in their academic perspectives.

Keywords: Music, concentration, academic, medical, Mozart effect

**Corresponding author*

INTRODUCTION

In the modern era of technology, many students listen to music while studying. This trend raises a question on how music effects one's concentration and performance during the study. There is a popular term coined 'The Mozart effect' [1] which shows that listening to classical music such as Mozart help increase intellectual quotient (IQ) in spatial reasoning. Rauscher et al., in 1993 hypothesized that neurons in brain fire at a sequence that can be stimulated by specific frequencies such as Mozart music [2].

A research study done by University of Windsor, Canada to confirm the effect of listening to music reported its positive effect on work performance. This research was done on 56 software developers from various software companies in Canada, and its result from the narrative responses revealed the value of music listening for positive mood change and enhanced perception on design while working [3]. The authors also concluded that 'the positive affect and quality-of-work were lowest with no music, while time-on-task was longest when music was removed.' This positive correlation between music on IQ and work performance have invoked our curiosity whether listening to music while studying is beneficial or not. This is because the 'Mozart effect' only shows a positive impact when a person listens to music before undergoing a test, and not listening to it while doing a test.

Conversely, Smith and Morris, deny students best performances while listening to their preferred music. They have done this study focusing the effects of sedative and stimulative music on performance, anxiety, and concentration [4].

The present cross-sectional study was undertaken to analyze the effect of listening to music on concentration level of a student. The objectives of this study were

- To observe the effect of different type of music on concentration and performance of student
- To understand the effect of listening to music on the concentration and performance of student
- To analyze the individual perception about the role of music in concentration and performance of the student.

MATERIALS AND METHOD

This cross-sectional study was conducted over 200 student participants. All the participants were of Malaysian origin studying MBBS in India and comprised of 3 primary races namely, Indian, Chinese and Malay. Study subjects age range was 17-19 years. Institutional ethical clearance was obtained before the study. The study was conducted in two sets of surveying; questionnaire and experiment based study. The questionnaire was self-designed but validated by expert faculties. It was distributed to all the participants with their prior consent. All the questions were of close ended with four options to tick the responses most relevant for them. The participants were then segregated into two groups based on their preference to listen or not to listen music during studying. All the participants who admitted that they listen to music while studying were further continued with the experimental study. The experimental study was designed to observe the effect of listening to music on the concentration of student. The students were given four sets of general questions and asked to respond to correct answer while listening to different (instrumental, soft and fast) music types. One of it was done without any background music, which served as a control of the study. The data obtained from the responses were compiled appropriately and presented in the form of charts and graphs.

RESULT

Out of 200 student participants, 120 students (60%) admitted that they are listening to music while studying, whereas remaining 80 students (40%) were not involved in such practices (Figure 1)

Results of questionnaire study:

Upon asking frequency of listening to music, 52 out of 120 students (43%) responded that they would prefer to hear to music when they feel like to listen. Whereas 36 students (30%) listen to the music occasionally, 18 students (15%) chose every time and remaining 14 students (12%) said most of the time (Figure 2). Based on

this response, approximately 96% of the student agrees that music helps them to concentrate on studies while remaining 4% do not agree with it.

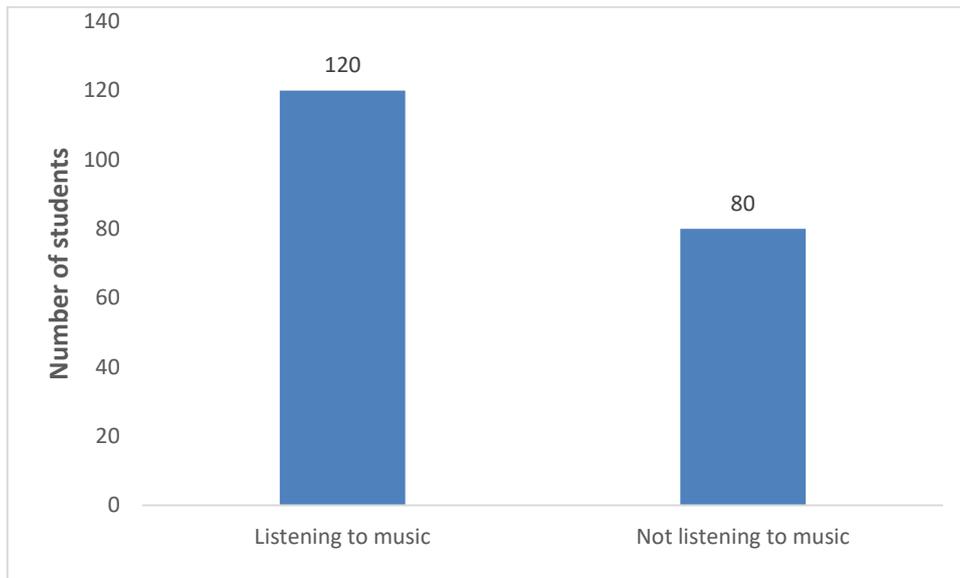


Figure 1- Incidence profile of students listening to music while studying

Furthermore, to study how music affects the different aspect of their task, 30% of them listening to music only when they are bored, 24% while doing house chores and 18 % while exercising. The rest of them are listening to music on other unspecified activity.

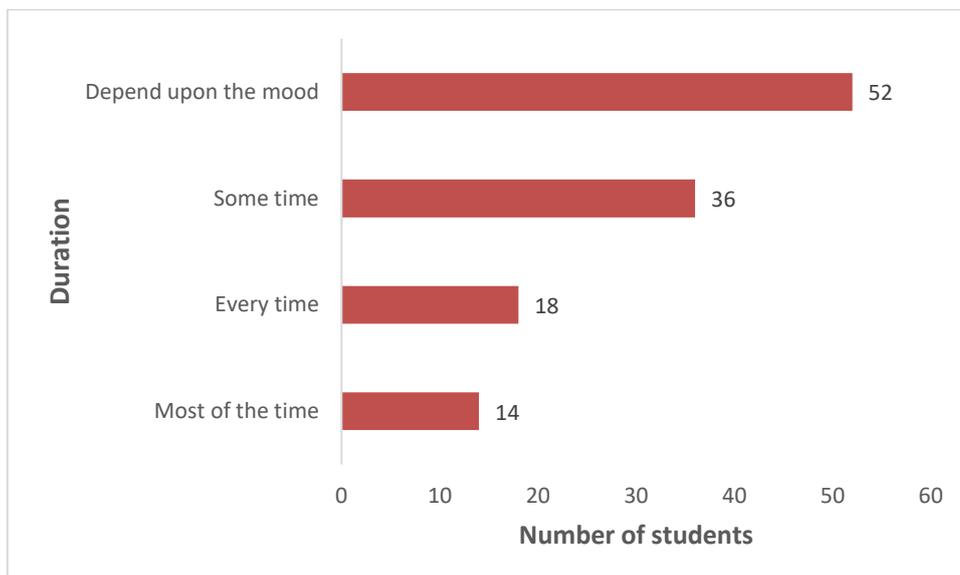


Figure 1: Duration of listening to music while studying

From the responses of the reason to listen to music while studying, the majority of (56 out of 120) students (47%) believes that music helps them to pay attention while studying. 35 students (29%) said that it keeps their mind calm, 20 students (17%) stated that it would prevent sleepiness and remaining 9 (7%) students opined that listening to music shall block any external interference like noises, etc (Figure 3).

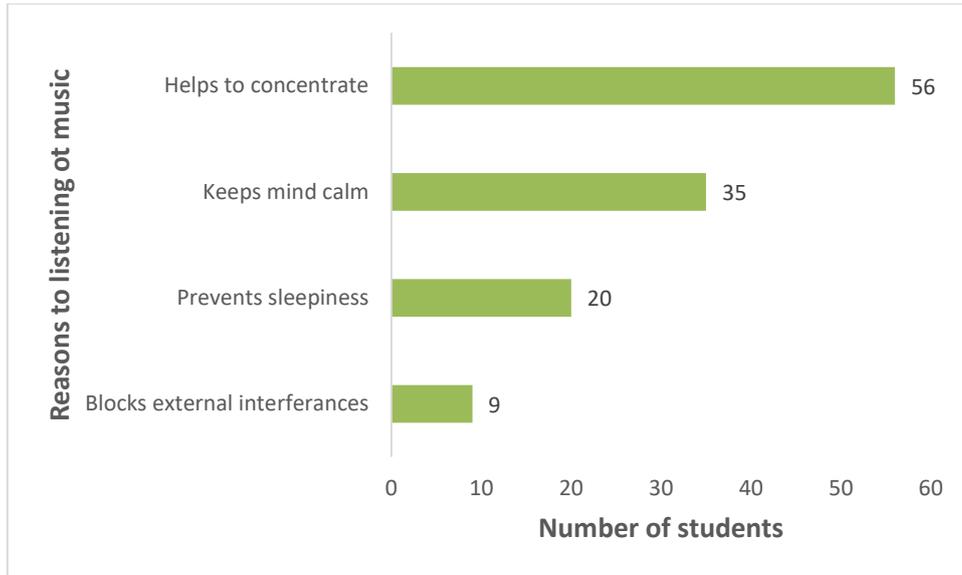


Figure 3: Reason for listening to music while studying as chosen by the students

The group of students who do not listen to music was asked for the reason for not preferred. Out of 80 students, 78 of them (97.5%) responded as listening to music while studying would distract their concentration (Figure 4).

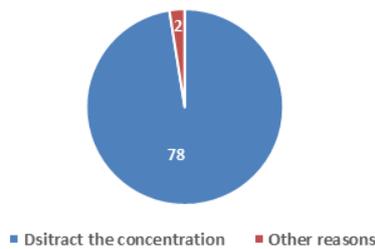


Figure 4: Reason for the students who do not listen to music while studying

The leading type of music preferred to listen while studying was attributed to pop song (82%) followed by instrumental (70%), classical music (43%), rock music (36%) and heavy metal (14%) music (Figure 5).

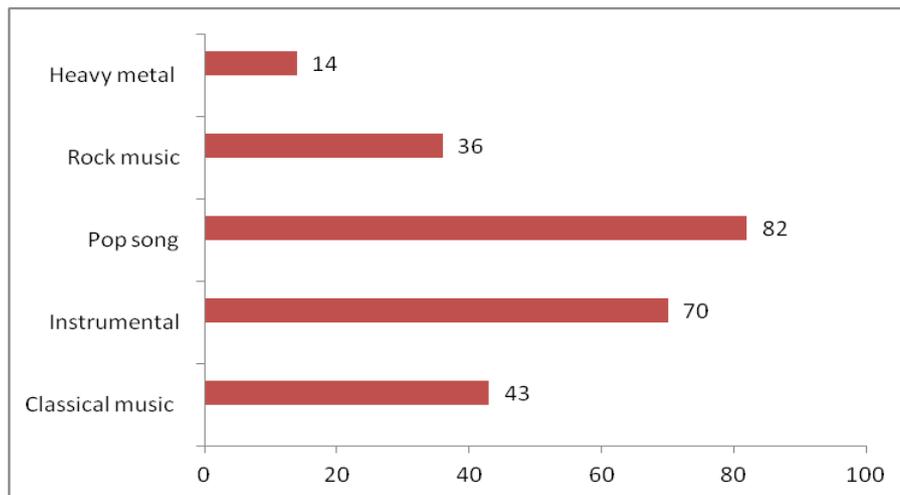


Figure 5: Type of music the student listens to while studying

Experiment based study:

It has been noted that (Figure 6), students those who have a habit of listening to various music while studying could not score well without music (score 31%). A Higher percentage of correct answers were obtained by the students while they are listening to soft music (75%) which was followed by instrumental (67%) and fast track music (54%).

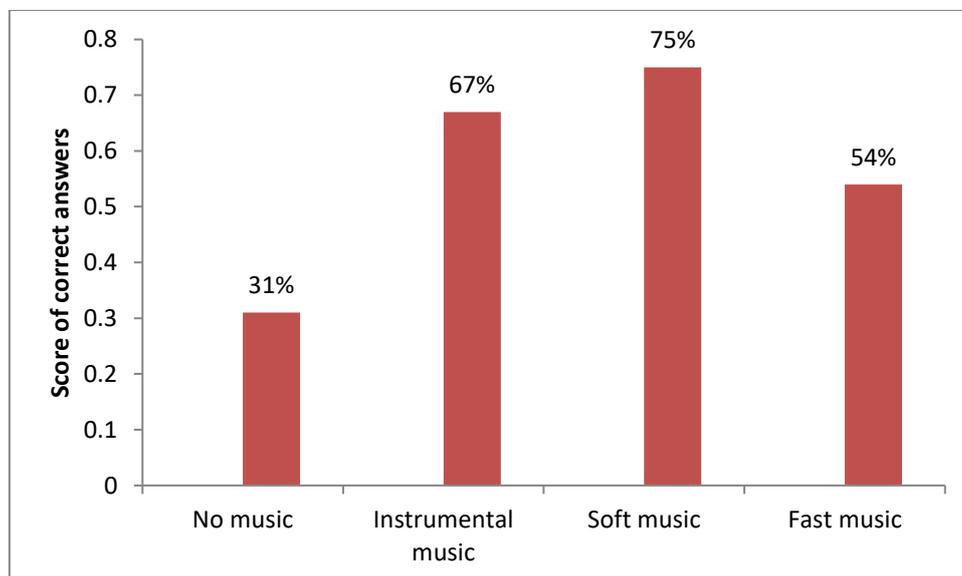


Figure 2: The effect of different types of music on concentration of student

DISCUSSION

Listening to music while studying is a common occurrence among the student population. Different opinions have been put forward by various researchers in this aspect. While many studies are favouring the hypothesis that, background music promotes the cognitive performance of the students, few studies emphasized impaired performance by the students by listening to music while engaged in complex cognitive tasks. The influence of music on cognitive performance has also linked to personality types. The pop music, in particular, serves as a distractor in the cognitive performance of both introverts and extroverts [5].

The results of present study show that the students have a positive perception towards music while studying. This real insight is perhaps due to the current trend in the student population where most of them enjoy listening to music. Apparently, the students do not listen to music all the time while they are studying. The majority of them only listen to it when they are in the right frame of mind. Only a small group of student listen to it most of the time. The psychological basis for this attitude could be regarded to the music as an alternative to keep them motivated. Music is also considered as a positive mood changer as it exerts a positive perception of the work done. The elevation of positive mood by music inevitably improves the concentration of student while studying [6].

Emeka Anyanwu reported the positive relationship recognized between background music and learning from the experimental tool used in dissection laboratory. The author concludes in the report that, background music shall reduce the level of stress in the students as an evident of significantly higher scores in the overall examination under the influence of background music [7]. Effect of background music proven to be effective in reducing the number of teacher prompts needed for academically weak students in the curricular activities [8].

Upon assessing the type of music that works best in improving the concentration of participants of the present study, 75% of them seemed to have a better concentration with slow music. The lowest incidence was attributed to the task with no music, as only 31% of them were able to answer the entire question correctly. As the music become faster and louder, the attentiveness of student started to diminish. This finding seems to suggest two possibilities: either student enjoys listening to pleasant or soft music during an ongoing task to

enhance the concentration or, as the music becomes louder and faster it naturally becomes a noise rather than music. This noise interferes with the ability of the student to perform a particular set of question that eventually might decrease their concentration.

Similar studies carried out to compare the attitude of medical and dental students with other general adolescent population found no significant difference [9-11] as many adolescents too prefer music as the most preferred leisure time activity [12] and also the most preferred way of spending time indoors [13].

CONCLUSION

Music could help the student to concentrate while studying to the extent when they prefer to listen to music. This positive finding is relevant to justify the current trend of listening to music while studying as it does not pose any adverse effects on the concentration of student. In fact, it might also improve performance in their academics. Similarly, individual preferences of particular types of music seem to play a significant role in helping student to concentrate.

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