

Repercussions on performance and recall through Music

Joshua.D. Pagare

Jagran Lakecity University Bhopal (M.P.), India

Email - joshuapagare@gmail.com

Abstract: *Memory perceives whatever we see and hear around us in our environment. All the information's are stored in a brain and whenever you want to perform we recall the particular information use it in a working memory and perform well. Recall is the remembering of facts and then using it whenever required. While writing an exam we recall all the answers that we have learned so that we can perform better. Music is a very expressive tool to understand and improve one's performance. There are certain kinds of music in the world which help in enhancing the performance on the contrary there are music which do Detroit the performance. However at times music and its genres don't make an impact on the performance of a person. The sample taken was of 12 college going students of bachelors in Psychology semester 1st. There were 8 females and 4 males who were randomly assigned into two groups. Experimental and observational method is used as an important tool.*

Key words: *music, recall, performance, memory, music, meditation.*

1. INTRODUCTION:

Meditation music is performed to help in practice of meditation. Meditation music can be religious but recently has been associated with modern composers who have been using meditation music and techniques in the process for composing new music styles. Music performed as an act of meditation is one of the concept which is being widely used by musicians in meditation music.

Hearing to meditation music your body gets elevated and significantly you lose stress which you feel in your body. Meditation relaxation music helps you to connect with the inner peace. Inner peace can only be tapped when you quit your thoughts and feelings and start feeling the peace that is in your body, it's completely having a stress proof field surrounding you. When stress is reduced it does not only help you feel better in your body but it also helps to improve your well being. Have you ever noticed that when you do not feel stressed you can perform better? When you hear meditation music it helps you to feel better and help your mind to focus while it's working. Listeners who hear meditation music while working help them to achieve target and work more effectively because meditation music relax is there mind and body.

In the countries like UK and USA a rock bands performances increased in late 1960s. Metal is a form originating from the rock. Black Sabbath, Deep Purple and Judas Priest were most prominent metal bands in 1960s. Metal is widely known for its powerful vocals and distorted and loud heavy electric guitars the baseline is very deep and heavy beats of drums are used with a lot of use of power chords and feel of subdued minor chords. The time signature used in metal is 4/4. Metal is not similar to rock but it in general is a higher form of a rock music with more heavy beat and data usage in it. Therefore a lot of interplay between the time signatures is General use in metal.

There are several instruments that are used in Metal music or used by metal bands. the most widely used instrument is electric guitar. In very few genres keyboards are used most of the metal bands used guitars as their main instrument. Guitar is not played softly in Metal music, the guitar which is used in Metal music is very loud and a lot of tapping and sweeping and screechy noise is used to play Metal songs. While playing Metal music metal musicians use a lot of Pinky harmonic sounds which have very high squealing tone. Death metal bands used a lot of heavy growling while singing and the guitars use heavy riffs the drumming is very high in metronome with a lot of use of cymbals. On the other hand metal core musicians used heavy riffs with heavy drumming and sometimes they use pig squealing as the sound in there guitars.

The continuous accessing or re-accessing of events and information from the past in the subconscious and unconscious mind which are included in the brain and stored in the brain is defined as recall of memory or retrieval of memory. In the process of recall our brain plays a specific pattern of neural activity, this activity was originally generated as a response to particular stimuli. The matter of fact also is that there is no certain distinction between remembering and thinking. For instance when you are writing a letter in your exam hall you are using information which is already learned previously. In the other way in the process of recognition we recognise a certain answer which we have previously learned for example MCQ questionnaire.

There are various areas in our brain and each area of the brain is responsible for the way memories are stored in the brain and encoded or retrieved when required. When we see a library the books are stored in cells and people pick up the books whenever they required. Different sections in the library told different types of books for example science section would consist of science books, psychology section would consist of psychology books in the same way the collection of audios videos and visuals in our brain are in the form of a Jigsaw puzzle involving different parts

of brain linked together by neural networks. Therefore the retrieval of memory is a complex process which involves pathways to the brain.. These Pathways then do the encoding of the memory.

There are two types of memories known as the short term memory and the long term memory. Just like RAM in a computer our brain does not store every information for a longer period of time this can be termed as short term memory. On the other hand the information that is stored for longer of time in a brain is called long term memory. Long term memory can be recalled and can be Re accessed in the working memory whenever required. It is a kind of mirror image of the encoding process. Does its restored in the long term memory consolidating and strengthening it for further use.

In a nutshell we can say that there are two important ways to Access Memory the first one is called recognition and the second one is called recall. When we associate an event with previous experience encountered it is called recognition of memory stop recognition is a part of the unconscious process. Recognition also involves comparison of different types of information with the memory. The information in the process of recognition directly passes through the limbic areas to generate a sense of similarity in this way the movements of person and his intentions are processed.

The remembering of a fact an event or an object in a physical form is called recall of memory or sense of recalling. For instance remembering the name of our parents all colleagues all friends is a simple form of recording. When we give an exam our direct goal is to achieve marks. To achieve these marks we learn all our answers. Therefore performance is a goal oriented process and is facilitated through the process of learning. Performance is always produced in the form of an output which can be physically seen and evaluated. Everybody in this world likes to produce an output that is positive. Thus a person tries very hard to give his best while he is performing so that he can get positive comments from people around him.

A study was conducted on 40 participants of different universities a wordlist was used to check the memory by giving different conditions to the subjects. In the first conditions some students had to listen to music and the second condition no music was played while the test was going on. In earlier researchers people have found that music can enhance performance. It was also found out that one can increase the capability of learning through sounds. The context of this study was found by Balch et al.(1992)this study was done to found out whether memory can be enhanced or not in different conditions by the use of music. This lead in the formation of the hypothesis that the condition and which music was played at the time of the study the test produced amplified results. The results of the experiment did not reflect the hypothesis in that is not only matter that there was music playing during the study it had a negative impact on encoding. The other reasons included during the presentation were lack of control in the environment, lack of Reliability and lack of validity.

A lot of research has been done in the field of effects of Music and sounds on performances in different fields of study but the results found out during the studies showed the effect of music in a mixed way. Music help people to associate better with memory and situations in which people learn easily and it helps them to remember whatever they have learnt.

Background music has a strong effect on cognitive processes. Two perspectives have been proposed for it. The first one is the cognitive capacity model and the second is the arousal mode hypothesis. Kahneman's capacity model postulates that only a limited pool of resources is available for cognitive processing at any given moment. When concurrent tasks compete for limited resources and their combined demands exceed the available capacity, capacity interference occurs. Only a portion of the task information is processed and therefore performance deteriorates. The interference caused by task-irrelevant information (for example, listening to music) also depends on the complexity of the information that is being processed and on the workload that is required to process task-relevant information. Indeed, increasingly complex musical distractions may result in decreased cognitive performance. In contrast, the Arousal-Mood hypothesis posits that listening to music affects task performance by positively influencing arousal and moo5, which is a phenomenon that is also known as the Mozart effect. This hypothesis has been supported by several studies that have investigated the effect of listening to background music on the performance of cognitive tasks. For example, improvements in verbal memory encoding, autobiographical memory in Alzheimer patients, verbal and visual processing speed, arithmetic skill, reading, and second language learning have been documented.

2. METHOD:

2.1 Problem

To know whether music would have repercussion on the performance of the students or not.

2.2 Hypothesis

- H_0 : Performance will not improve or deteriorate when exposed to any genre of music.
- H_1 : Performance will improve when exposed to meditative music.
- H_2 : Performance will deteriorate when subjects will be exposed to death metal music.

2.3 Sample

The experiment was conducted on a group of 12 students belonging to first year batch of Under-graduate psychology students. The sample was selected by convenience sampling as part of a pilot study. 4 boys and 8 girls consisted of the sample belonging to an age range of 17-19 years.

2.4 Procedure

The experiment was conducted on a regular classroom day where they experienced their daily schedule. The sample attended the psychology honours class and then was asked to give their consent to a small test. The test consisted of objective type questions of the subject matter covered in the lecture the same day so as to control the effect of practice and recall. Both the groups were administered the same test. They were randomly assigned to two groups by asking them choose A or B. Again, it was randomly decided to present meditative music to group A and death metal music to group B while they were performing the test. They were given 10 minutes to perform the test during which the music was played. After the submission of the test papers, the subjects were asked about their experience and their answers were scored.

3. RESULT:

The scores of group A were high as compared to the scores of group B.

Table 1

Group	N	M	SD	t
Meditative music	06	7.1	1.15	2.05*
Death metal music	06	6.08	1.35	

Critical value of $t_{(0.10)} = 1.81$; * significant at 0.10 level of significance

4. DISCUSSION:

The aim of this study was to investigate how exposing subjects to varying auditory backgrounds while they were engaged in a memory task affected later recognition performance. Group A scored high as compared to group B. When the students of group A were asked about their experience most of them said that the music helped them to concentrate while giving the test. When they began writing the test, the music was a little distracting because many students were not used to listening to music as they studied but in the course of time the music starting soothing their senses and helped them to recall and write the test smoothly. The sound was so relaxing that they couldn't feel the stress of the test. As the time passed by, they could recall and perform in a better way. The mean score of group A is 7.1 and the standard deviation is 1.15 at 0.10 level of significance. The result itself proves us that meditation music had a tremendous effect on the recalling and performance of the students. Hence, the first null hypothesis stating performance will not improve or deteriorate when exposed to any genre of music is rejected in favour of H_1 stating performance will improve when exposed to meditative music.

In group B, there were mixed experiences within the different students in the group. One of the student stated that she was not at all disturbed by the music but she started to enjoy the music and her attention was completely deviated towards the heavy drumming and guitar patters. Although her score was very less due to divided attention and minimum recall due to which the performance got affected. On the other end most of the students seemed deviated because of the harsh and loud sound of the music. In the beginning of the test they couldn't concentrate on the test. As they were reading the questions they were forgetting it again and again. The same happened while writing the answers the students wrote a sentence and forgot what they have written previously. To one of the student metal music was an irritation which broke her concentration repeatedly. The mean score of group B is 6.08 and the standard deviation is 1.35 at 0.10 level of significance. Hence, the first null hypothesis stating performance will not improve or deteriorate when exposed to any genre of music is rejected in favour of H_2 stating performance will deteriorate when exposed to death metal music.

5. LIMITATIONS OF THE STUDY:

The study revealed a lot of aspects of human mind and its associations with music. The results we found were enlightening however the sample size was small and the extraneous variables were not controlled. It was conducted as a pilot study for a more comprehensive research. This research needs to be replicated on a larger sample while considering new genres of music like classical, jazz, pop and rock etc. The research can be calculated with a stricter test of significance.

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