

# **The Effect of Music on Performance of a Task**

## **Project Brief**

### **PB1: Statement of Hypothesis.**

There will be a difference between how participants perform on anagram tests depending on whether they are in a condition which has a fast music, slow music or no music played.

### **PB2: Explanation of Direction of Hypothesis.**

The hypothesis is non-directional because a study by Mayfield and Moss (1989) found that when participants underwent a task with either fast or slow music they found fast music acted as a cause of stress and slowed down how fast they could perform the task. However a study by Stough et al. (1994) found that when participants did an IQ test in either silence or with Mozart playing in the background there was no effect on the results. Also a study by Turner et al. found the level of music caused a slower response time in the study.

### **PB3: Identification of Research Method/ Design.**

The research method design being used is experimental. A laboratory experiment is going to be used. The task will take place in the form of a sheet of 30 anagrams. The design is going to be a repeated measures experiment.

### **PB4: Evaluation of the Advantages and Disadvantages of the Chosen Research Method.**

One disadvantage of the research method is that it is not like real life. In a real situation participants may not have to be sat down doing a task with just music playing in the background. There may be other confounding variables such as the volume of the music. Therefore it will have a low ecological validity.

An advantage of this study is that it is replicable; therefore confirmation of the results will be possible. This will ensure that the study is reliable.

Another advantage is that laboratory experiments involve the most control over variables and therefore it will give most confidence that the IV has caused changes in the DV.

### **PB5: Identify Potential Sources of Bias in the Investigation and Any Possible Confounding Variables.**

One source of bias within the investigation could be that the extent of participants' vocabulary is unknown and therefore some of them may never have come across some of the more complicated words. Therefore the subjects studied by participants are of importance. Participants may be of varying intelligence and therefore this will mean they will be tested for intelligence rather than the effect of the music.

Another source of bias is if participants are informed about the aims of the study, to investigate how music affects performance of a task, they may conform to how they believe they should behave in the study. For example some one in the loud music category may purposely try less hard on the task as they believe themselves to do worse at the task. These demand characteristics may cause a bias in the results.

### **PB6: Explain What Procedures Will Be Adopted to Deal With These.**

To deal with the issue of the length of the words in my anagram tests I will use words of short length only ensuring participants have a larger chance of being familiar with the words. A frequency table for word use will be used to do this. To deal with issue of varying intelligence within the participants should have to complete the task in all three conditions however this would be of no use as then participants will experience order effects and already have knowledge of the answers on the anagram tests, so therefore I will have to ensure that participants will be of as equal as possible intelligence, this can be done using participants from the same school and of the same age.

To deal with the second source of bias participants will not be told the true aims of the experiment until they have completed it to prevent demand characteristics.

**PB7: Select An Appropriate Level of Statistical Significance To Be Researched Before the Experimental/ Alternative Hypothesis.**

An appropriate level of statistical significance is a level of  $P \leq 0.05$ .

**PB7: Identify Any Relevant Ethical Issues and Discuss the Steps to be taken to Deal with These.**

One ethical of this experiment is that participants may feel inadequate if they find difficulty in completing the task. However participants should be explained to fully that the task is to test the effect of music and not personal ability.

Another ethical issue is that participants will not be told the true aims of the experiment. If told that they were doing a task on the effect of music this may cause participants behave in a way in which they believe they should behave, demand characteristics. For this reason participants will be deceived this may be viewed a deception. To overcome this once the task is completed all participants will be debriefed and told the real aim of the study.

Another ethical issue is that as participants will be deceived they will not be given the chance to give an informed consent before the task begins. This will be dealt with by offering participants the chance to withdraw their data after the investigation when they have been informed of the real aims of the study.