

## The Effect of Lo-Fi Music on College Students' Concentration

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### Abstract

There are a lot of student activities that require sustained attention. Many factors can hinder or enhance their awareness. Some studies say music, especially music without lyrics, tends to help people focus more on tasks requiring concentration. This study aims to understand the effect of listening to lo-fi music on concentration. This study uses an experimental design with a between-group design. The participants are divided into two groups. Participants are undergraduate students with an age range of 19-22 years and are male and female. The independent variable in this study is lo-fi music, and the dependent variable is concentration. The measuring instrument used in this study is the Kraepelin test. The hypothesis is that listening to music improves concentration significantly. The result of the experiment indicates that listening to lo-fi music has no significant effect on concentration ( $p > 0.05$ , [ $p = 0.172$ ])

**Keywords:** Psychology, Music, Concentration

### Introduction

The ability to concentrate on a task is essential for college students. College students have different ways of concentrating; some do their duties in a quiet environment, and some do their tasks while listening to music. Concentration is the focus of attention or thoughts on something (Pramono et al., 2019). One of the new music subgenres that are trending today is Lo-Fi music. Lo-Fi music, also known as Low Fidelity, is "aesthetic" recorded music that avoids cutting-edge technology and recording production, leading to technical imperfections, such as static sound and band hiss (Anggraita et al., 2021). According to the research conducted by Andita & Desyandri (2019), music can be used to increase concentration. The type of music that can affect concentration includes popular music. This type of music is very effective for reading and concentration, while Classical and Baroque music, if specially designed,

can improve concentration and desire to learn. The purpose of this research is to try to find out the effect of listening to lo-fi music on college students' concentration.

### Method

#### *Participants*

The research design used a between-group method where there were two groups, each of which was randomly selected. The participants of this study were ten active students from Semarang who were divided into two groups. Research participants with an age range of 19-22 years and male and female. The first group is the experimental group; in this group, 5 participants were treated by listening to LO-FI music and given a concentration test. The second group is the control group, five student participants who will be given a concentration test without LO-FI music. The independent variable in this study was the

sound of LO-FI music, and the dependent variable was concentration.

#### *Instrument*

The participant's concentration was measured using the Kraepelin Test. The Kraepelin test is a form of psychological test which consists of the arrangement of numbers in the layout of rows; the test is done by adding up two numbers adjacent to a specific time in each column, then writing the answer right in the next to it, if the result of the sum is in the form of tens (two digits) then it is enough to write down the last digit only. (Indriani et al., 2020) Based on the version of the University of Gajah Mada (UGM), the Kraepelin test is a form of a single sheet of double quarto paper lengthwise and back, consisting of 4 pages. The Kraepelin test consists of 50 rows of unit digits from 0 to 9, randomly arranged as many as 40 numbers vertically in each column. Asih, A. P. (2014).

#### *Procedure*

The procedure for carrying out the Kraepelin test consists of several simple steps, including the following:

1. The testee will be divided into two groups; they will do the test in the same room at different times
2. Distribute the question sheet to the testee
3. The testee is asked to fill in his identity entirely in its place on the front page and is not allowed to open the test sheet before being instructed.
4. When the testee fills in the identity, he can quote examples of Kraepelin test questions on the blackboard as an illustration of the work in progress.
5. The total time required is approximately 20 minutes. The details are filling in the subject's identity for 4 minutes, instructions for 2 minutes, and working on the questions for 12.5 minutes. Each series is given 15 seconds, and every 15 seconds, there is a signal to immediately move to work on the next series, up to 50 times changing series

6. The Lo-fi music will be played after the testee has filled in their identity and will be played until the test is over (for the variable group).

7. Instructions.

In this test, the columns of the numbers in the questions will be listed. The testee's tasks are:

- a. Add up each with one number above it, and the addition starts from bottom to top.
- b. From the sum results, the testee only writes down the unit numbers. For example, the sum of 5 and 9 is 14, so only the number 4 is written. The unit digit is written on the right, right between the two numbers added.
- c. If the testee makes a mistake in adding or writing, for example, it should be nine and then written 6; the testee does not need to delete the wrong number. The testee only needs to cross out the wrong number and write the correct number next to it.
- d. Every few moments, there will be a knocking sound which means the time of counting and writing in the first column is stopped and then continued to the next. The other columns are also written from the bottom up.
- e. In the process, it is necessary to work on techniques as quickly and accurately as possible.

The data analysis technique used to determine whether lo-fi music significantly affects the concentration of students is an analytical technique with the Mann-Whitney U test. The Mann-Whitney U test was used to see the difference in scores between participants in the experimental group and participants in the control group. Data processing uses the Statistical Packages for Social Science (SPSS) version 22.

#### **Results**

According to the statistical analysis, which is described in *Table 1*, it is known that the mean of the experimental group is 11.40, and the standard deviation is 7.335. The control group has a mean score of 21.40, and the standard deviation is 12.857.

**Table 1.** Descriptive statistics

		Music	Nonmusic
N		5	5
Missing		5	5
Mean		11.40	21.40
Median		10.00	25.00
Mode		2a	2a
Std. Deviation		7,335	12,857
Variance		53.800	165.300
Range		19	33
Minimum		2	2
Maximum		21	35
Sum		57	107
Percentiles	25	5.00	9.00
	50	10.00	25.00
	75	18.50	32.00

Table 2 shows the results of the hypothesis testing using the Mann-Whitney U-test; there is no

significant difference between the control and experimental groups. Because  $p > 0.05$  ( $p = 0.172$ ).

Table 2: Mann-Whitney U test

	Result
Mann Whitney U	6.000
Wilcoxon W	21.000
Z	-1.366
Asymp. Sig. (2-tailed)	.172
Exact Sig. [2*(1-tailed sig.)]	.222 <sup>b</sup>

a. Grouping Variable: kode

b. Not corrected for ties

## Discussion

This study aims to see whether there is an effect of listening to lo-fi music on student concentration.

The results of this study indicate that listening to lo-fi music has no significant impact on participants' attention. Listening to Lo-fi music did not

significantly increase or decrease participants' ability to take the test. From several studies linking music and learning that have been studied, different results have been given. There are results from previous studies that discuss lo-fi music on reading comprehension, and the results show no significant effect. (Algarini Allo et al., 2021). Therefore, lo-fi music does not increase or decrease reading comprehension skills. But some studies indicate that listening to music can increase concentration (Yulianto, 2011). Through the conclusions from the research above, students can choose to do assignments or study while listening to lo-fi music or not because the results of research on lo-fi music affect concentration, although not significantly. The weakness of this research is the lack of participants. Secondly, there is some minor disturbance while testing the testee. Further research should use more participants and ensure that the room they use is trouble-free.

## Conclusions

The results showed no significant difference in the average concentration between the control group who did not listen to *lo-fi* music ( $M=21.4$ ;  $SD=12.856$ ) and the experimental group who listened to *lo-fi* music ( $M=11.4$ ;  $SD=7.33$ ). Thus, the conclusion of this study is that while there seems to be a difference between the mean of each group, the method of listening to lo-fi music does not significantly affect college students' concentration. ( $p>0.05$ , [ $p=0.172$ ]).

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