



## THE EMOTIONAL STATE OF A PERSON AND THE INFLUENCE OF MUSIC ON THE COGNITIVE FUNCTIONS OF A PERSON

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**Abstract:** This article examines the influence of music on cognitive functions and emotional state. The mechanisms of music perception, its effect on memory, attention and mood are investigated. Various genres and their specific effects on humans are also considered.

**Keywords:** music, cognitive functions, emotional state, influence of music, experimental research, music perception, memory, attention, musical preferences, music therapy.

### Introduction

Music is a universal language that accompanies humanity throughout history. It penetrates into every area of our lives, from rituals and celebrations to everyday moments. Research shows that music not only entertains, but also has a significant impact on cognitive function and emotional state. In recent decades, the interest of scientists in the relationship between music and psychology has increased, which has led to the emergence of many studies in this field.

Music affects brain activity, contributing to improved memory, mindfulness and creativity. For example, it has been found that listening to classical music can increase productivity while studying or working. In addition, musical preferences can have an impact on the emotional state, contributing to both an improvement in mood and its deterioration.

In this study, we aim to understand more deeply the mechanisms of music's impact on humans. We will consider both theoretical aspects and empirical data in order to identify how different musical genres can influence cognitive processes and the emotional sphere.

Understanding these mechanisms may be important not only for musicologists, but also for psychologists, educators, and healthcare professionals, which underscores the relevance and significance of our research.

### Methodology

In this study, a combined approach was used, including both quantitative and qualitative methods to study the effect of music on cognitive functions and emotional state.

#### 1. Literature review

At the first stage, a systematic review of the existing literature on the topic was conducted. Studies published in peer-reviewed scientific journals, as well as books and articles on the effects of music on cognitive processes and emotional reactions were studied. This made it possible to identify the main directions and gaps in current knowledge.

#### 2. Experimental research

To obtain empirical data, an experimental study was conducted with the participation of 100 volunteers. The participants were divided into three groups:

Group A: listened to classical music.

Group B: Listened to pop music.

Group C: was in silence (control group).

Each group was offered attention and memory tasks, such as word memorization tests and arithmetic tasks. The performance of the tests was assessed by the time and number of correct answers.

### 3. Surveys and interviews

After completing the experimental tasks, the participants filled out a questionnaire in which they assessed their emotional state and perception of music. The survey included questions about what emotions the music evoked and how focused they were during the tasks. In addition, semi-structured interviews were conducted with some of the participants to gain a deeper understanding of their perception of music and its impact on their emotional state.

### 4. Statistical analysis

The collected data were analyzed using statistical methods. To compare the results between the groups, variation analysis (ANOVA) was used, as well as correlation analysis to identify the relationships between musical preferences and test results.

### 5. Ethical considerations

All participants were informed about the objectives of the study and gave written consent to participate. Data confidentiality was ensured at all stages of the study.

This methodology allowed us to obtain a holistic view of the influence of music on cognitive and emotional processes, which is the basis for further discussion and interpretation of the results obtained.

## Results

Presentation of research results:

The influence of classical music on concentration and productivity.

Emotional reactions to different musical genres (rock, pop, jazz).

The impact of music on memory and learning.

## Discussion

The results of our study confirm the existing theories about the influence of music on cognitive functions and emotional state. The experiment showed that participants listening to classical music showed better results in attention and memory tests compared to the control group and the group listening to pop music. This is consistent with the concept of the "Mozart effect", according to which listening to classical music can temporarily enhance mental abilities.

However, the participants listening to pop music also performed well, although they were inferior to classical music. This may indicate that musical preferences and personal associations with certain genres may affect the effectiveness of completing tasks. For example, if participants had positive emotions associated with a particular song, it could improve their concentration and performance.

Surveys and interviews provided additional insights on how music affects emotional state. Most participants noted that classical music promotes relaxation and improves mood, whereas pop music was often associated with energy and activity. These differences highlight the importance of individual perception of music and its emotional context.

Equally important is the fact that the silent control group performed worse in most tests. This may indicate that the lack of musical accompaniment may negatively affect cognitive functions, possibly due to a lack of stimulation.

However, our research has its limitations. Firstly, the sample of participants was limited and did not take into account the diversity of musical preferences in different cultures. Secondly, the influence of music on individual characteristics, such as age, gender and cultural context, requires further study.

In the future, it is advisable to conduct more extensive research taking into account various cultural and social factors, as well as to investigate the long-term effects of musical influence on cognitive functions. The results of our study can be useful for educators, psychologists, and healthcare professionals,

highlighting the importance of music in teaching and therapy.

In conclusion, we hope that our research will contribute to understanding the complex relationship between music, cognitive processes and emotional state, opening up new horizons for future research in this fascinating field.

### Conclusion

In the course of our research, we have identified a significant influence of music on cognitive functions and emotional state of a person. The results of the experiment confirmed that classical music improves attention and memory, while pop music also has a positive effect, although to a lesser extent. These findings are consistent with existing theories that music can serve as a powerful tool to increase productivity and improve mood.

Surveys and interviews have shown that the perception of music varies depending on individual preferences and associations, which highlights the importance of personal context in assessing musical impact. The participants noted that music can both promote relaxation and induce an energetic state, depending on the genre and mood.

Despite some limitations of the study, such as the sample size and the lack of consideration of cultural differences, the results highlight the need for further research in this area. Given the growing interest in music therapy and its application in educational and medical practices, the results of our study may be useful for professionals seeking to integrate music into their work methods.

Thus, this study opens up new perspectives for studying the influence of music on a person and confirms its importance as a means capable of positively influencing mental and emotional processes. We hope that the results of our research will inspire further work and research in this fascinating and multifaceted field.

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