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## **Harmonizing Memory: The Linkage between Music and Memorization Skills on Noveleta Senior High School Students**

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### **Abstract**

This quantitative descriptive study investigated the relationship between music exposure and memorization skills among 100 Grade 11 and 12 students at Noveleta Senior High School during the S.Y. 2024-2025. A structured survey questionnaire was used to collect data, employing convenience sampling. The study built upon previous research by Hopkins (2024) which highlighted the positive effects of music on memory, suggesting that music's emotional impact stimulates memory processes. Our findings revealed a positive correlation between music exposure and memory skills, indicating that students with greater music exposure tended to exhibit better memory retention. While instrumental music generally received

favorable responses for its effectiveness in improving information retention, opinions on genres like rock and pop were more varied, emphasizing the role of individual preferences in the effectiveness of music as a study aid. The study concludes that a personalized approach to using music for learning is crucial, with students needing to identify music types that best suit their individual learning styles and preferences to optimize memory enhancement. The implications of this research extend to students, teachers, school administrators, parents, music therapists, and future researchers, offering valuable insights for improving learning strategies and educational environments.

**Keywords:** Harmonizing Memory, Music, Rock and Pop

### **Introduction**

Music is a universal tool that influences emotions, cognition, and learning. Furthermore, it is an essential aspect of all human civilizations and has the power to emotionally, morally, and culturally affect society. When people from one culture exchange music with others, they gain valuable insight into another way of life (Peralta, 2021). In addition, music plays a central role in daily life, helping people relax, express themselves, cope with emotions, and improve their memorization skills and general well-being. Moreover, it has become a tool for healing and self-expression, often dictating how we, as individuals, act to influence society. Specifically, music can evoke emotions, calm our nerves, enhance focus, and improve memory retention.

Similarly, music is a box of memories that should be appreciated and admired. It is something that should be opened often and revisited for inspiration. For instance, this particular box we own can make us smile or frown, laugh or cry, stand up and shout, or become quiet and contemplative. Additionally, it can improve memorization skills, help us connect with others, or allow us to reflect on our beliefs. Likewise, music can make us tap our feet or even jump and dance, even if we are not dancers. Ultimately, it is a powerful force that affects each person in different ways, but rest assured, it affects us all.

Notably, music can motivate you, improve your memorization skills, and help you relax. It is important to note that different types of music can have different effects. For example, soft instrumental or ambient sounds can enhance focus, while loud, lyrical music may be distracting. In fact, studies show that listening to music can improve memorization, especially for information that is emotionally important or personally meaningful. Furthermore, music has been found to improve students' focus and attention, increasing alertness and reducing distractions (Sandy, 2023).

As a result, music can enhance focus, attention, and motivation, creating a conducive study environment when used effectively. For instance, soft instrumental music or ambient sounds can create a soothing background that promotes a sense of calm and immersion. However, although music is universally recognized as an emotional and cognitive tool, cultural context significantly shapes how individuals experience and interpret music (Quora, 2023).

Over the years, several studies have established a link between music, memory, and emotions. To support this, Petr Janata (2009) conducted two studies to prove that music, memory, and emotions are connected. His first study found that “music serves as a powerful trigger for recalling memories.” Subsequently, in his second study, Janata performed functional magnetic resonance imaging (fMRI) of students’ brains while they listened to popular songs from their childhood and adolescence.

On the one hand, music can enhance memory, but on the other hand, it may also hinder memorization depending on factors like the type of music, learning style, and task complexity. Moreover, listening to music has a profound effect on our emotions and behaviors, especially among younger generations. Thanks to advances in technology, it has become easier to access and learn music, allowing it to be used as a study aid to improve memorization skills. For this reason, listening to music while studying helps improve students’ memorization abilities because it allows them to relax and think clearly. Additionally, music activates both the left and right brain at the same time, and this dual activation can maximize learning and enhance memory (Godkin, 2024). As Beethoven once said, music can have a wildly positive impact on memory, whether for healing or alleviating aches.

Given these points, the relationship between music and memorization skills is influenced by the strong emotions that music evokes, as emotions play a key role in memory processes. This implies that students can recognize music’s role in memory formation. Indeed, music has positive effects on students, as it helps improve memorization skills. Moreover, few things stimulate the brain like music. For those looking to maintain cognitive function throughout life, listening to or playing music serves as an excellent tool, providing a complete brain workout (Hopkins, 2024).

Nevertheless, studying can be stressful, and excessive anxiety can interfere with learning and memory consolidation. To counteract this, a good choice of music, such as instrumental or background sounds, can help block out distractions, improve concentration, and maintain focus during study sessions (Schempp & Sanders, 2023).

That being said, music can have both positive and negative effects on memorization skills, depending on the student and the type of music. According to research, Godkin (2024) found that music activates both hemispheres of the brain, which can enhance learning and memory. By understanding the correlation between music and memory, individuals can develop strategies to enhance their memorization abilities. Surprisingly, listening to music during study sessions can aid in the memorization process.

Conversely, despite the benefits, many studies have also concluded that music can negatively impact memory. This is because some students become so engrossed in the music that it distracts them from the task at hand (Fogelson, 2024). Additionally, some students prefer silence while studying, as music may hinder their concentration. For instance, the

negative impact is particularly significant for those who do not enjoy music, as they struggle to focus and prefer a quiet environment for studying. Furthermore, high-volume music can be disruptive, making it difficult to concentrate and memorize information effectively.

Music has both positive and negative effects on memorization, depending on the listener and the context in which it is used. While some students find music beneficial for studying, others argue that it is a distraction. Therefore, selecting the right type of music and adjusting study environments according to personal preferences can help maximize its benefits while minimizing its drawbacks.

Despite numerous studies on music and cognition, little research has been conducted on its specific effects on memorization among senior high school students. Therefore, the researchers chose this topic to explore the relationship between music and students’ memorization skills and to determine how music influences their ability to memorize information more efficiently. Additionally, the researchers aim to investigate whether music has a positive or negative effect on students’ memorization abilities.

### **Objectives of the Study**

To examine and find out the relationship between music and memorization skills, what exactly the effect of music on the memorization skills of students is, and also to explore the importance of music to students in improving their memorization skills further. Specifically, it aims to (1) Determine how different types of music affect students’ memorization skills. (2) Analyze the relationship between music exposure and memory retention. (3) Propose a school-based program incorporating music as a learning aid.

### **Methods and Materials**

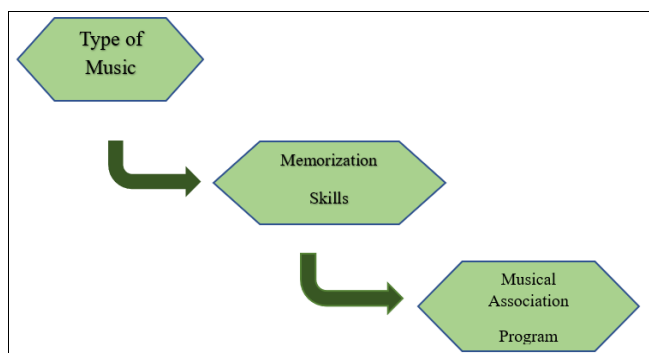
This study employed a quantitative research method. Quantitative research design is defined as a research method used in various disciplines, including social sciences, psychology, economics, and market research. It aims to collect and analyze numerical data to answer research questions and test hypotheses. Quantitative research design offers several advantages, including the ability to generalize findings to larger populations, the potential for statistical analysis and hypothesis testing, and the capacity to uncover patterns and relationships among variables. However, it also has limitations, such as the potential for oversimplification of complex phenomena and the reliance on predetermined categories and measurements (Jain, 2023).

Specifically, descriptive research methods are used to systematically collect and analyze numerical data to describe or summarize a population or phenomenon. They focus on objective measurement and statistical analysis of data to provide a clear and concise view of the research topic. A descriptive research design can use a wide variety of research methods to investigate one or more variables. Descriptive research design uses quantitative data to gather information to make accurate predictions about a particular problem or hypothesis (McCombes, 2023).

The study used a structured survey questionnaire to gather numerical data from respondents. This tool was designed to ensure alignment with the study’s objectives and included questions based on a Likert Scale to quantify responses effectively. The latter is used to support the interpretation of quantitative data. Using this design, the researchers gathered the quantitative data for the study first, mainly to identify

patterns and relationships between music and memorization skills.

A convenience-based sampling method was employed to select participants from Noveleta Senior High School. The first phase of gathering data involved administering surveys to the respondents, distributing the survey to the selected participants, and providing clear instructions for completion. The study also adhered to ethical considerations, ensuring that all participants provided consent before participation and that their data privacy was protected throughout the research process. After the quantitative data was gathered and analyzed, the researchers proceeded to the next step, discussing the results.



**Fig 1:** Conceptual Framework of the Study

This conceptual framework shows how music affects the memorization skills of students and what types of music they listen to while memorizing. The purpose of this graph

is for the readers to better understand how the researchers tackled this topic, identifying variables and their relationships. The type of music is an independent variable because it is the cause under study by the researcher, and it also determines what type of music the students listen to. The dependent variable is the memorization skills because it is the effect of the researcher’s study, and it determines how music affects students’ memorization skills. The researchers chose the Musical Association as the output of the study because the researcher’s study is appropriate here.

**Results and Discussion**

This section of the study thoroughly discusses the results obtained from the gathered data. The analysis and discussion are based on a descriptive research design, where quantitative data were used to examine the relationship between music and memorization skills. The results of the quantitative data were computed using descriptive statistic to determine the level and direction of the relationship between the variables, as well as to discuss its implications and address the research problem. The analysis aims to provide a clear understanding of how effect music and memorization skills on Noveleta Senior High School students.

This table presents data on the relationship between music and memorization skills, examining how different aspects of music influence concentration, mood, and memory retention during study sessions. The table includes a set of questions, their corresponding general averages, rankings, and interpretations based on participants' responses.

**Table 1:** Music

| Questions   | General Average | Rank | Interpretation |
|---|-----------------|------|----------------|
| Listening to music helps me concentrate during study sessions.                                    | 2.07            | 13   | Agree          |
| Music improves my mood while studying.  | 2.23            | 11   | Agree          |
| I believe music can enhance memory retention  | 2.28            | 9    | Agree          |
| Listening to music distracts me from focusing on tasks.   | 3.14            | 1    | Neutral        |
| I prefer to study in complete silence rather than with music playing in the background.           | 2.64            | 4    | Neutral        |
| Listening to instrumental music helps me retain information better compared to music with lyrics. | 2.57            | 5    | Agree          |
| Music with a fast tempo improves my memory recall abilities.                                      | 2.6             | 15   | Agree          |
| I find it easier to memorize information when listening to music.                                 | 2.49            | 6    | Agree          |
| Music helps me relax and focus better on my studies.  | 2.19            | 12   | Agree          |
| I believe certain genres of music have a positive impact on memory retention.                     | 2.26            | 10   | Agree          |
| I find it easier to recall information when I have studied with background music.                 | 2.36            | 7    | Agree          |
| Listening to music improves my memory retention of study materials.                               | 2.44            | 14   | Agree          |
| Background music distracts me from concentrating on my studies.                                   | 2.88            | 3    | Neutral        |
| I find that my memory retention is better when I study with music playing in the background.      | 2.34            | 8    | Agree          |
| Rock or pop music negatively affects my memory retention.   | 3.09            | 2    | Neutral        |
| <b>Total Average</b>  | <b>2.51</b>     |      |                |

The data presented in Table 1 reveals a complex relationship between music and memorization skills, reflecting the nuanced and individualized effects of auditory stimuli on cognitive performance. The overall average score of 2.51 suggests a somewhat neutral sentiment towards the impact of music on memorization, yet the considerable variation across individual statements highlights the diversity in responses. This aligns with previous research suggesting that the effectiveness of music as a study aid is highly dependent on personal factors, such as cognitive styles, learning preferences, and the nature of the task (Jäncke, 2020).

The findings suggest that while some participants experience benefits from studying with music, others

perceive it as a distraction. Statements indicating a positive correlation between music and memory, such as “I believe music can enhance memory retention” (2.28, Rank 9) and “I find it easier to recall information when I have studied with background music” (2.36, Rank 7), suggest that certain students associate music with improved recall. This supports the Mozart Effect theory, which posits that music can enhance cognitive functions, particularly short-term memory and spatial reasoning (Rauscher, Shaw, & Ky,2020). However, the relatively moderate ranking of these statements indicates that not all respondents fully subscribe to this perspective.

Conversely, statements suggesting negative effects, such as “Listening to music distracts me from focusing on tasks”

(3.14, Rank 1) and “Rock or pop music negatively affects my memory retention” (3.09, Rank 2), received the highest scores and lowest ranks, indicating that many participants find music particularly certain genres disruptive to concentration. This is consistent with findings from Alley and Greene (2021), who reported that lyrical music can interfere with

verbal learning tasks due to its competition for cognitive resources. The Cognitive Load Theory (Sweller, 2020) also suggests that background music, especially if it contains lyrics, may increase extraneous cognitive load, thereby impeding memory retention rather than enhancing it.

The relatively neutral scores for statements concerning instrumental music versus music with lyrics (2.57, Rank 5) and the preference for studying in silence (2.64, Rank 4) further emphasize the role of individual differences. While instrumental music is often suggested as a beneficial alternative to lyrical music for studying (Hallam & Price, 2020), the results indicate that its impact is not universally positive. This suggests that factors such as personal study habits, familiarity with the music, and task complexity play a crucial role in determining whether music serves as a facilitator or inhibitor of memory retention.

The wide range of scores (from 2.07 to 3.14) underscores the significant variability in individual experiences and perceptions regarding the influence of music on memory. This variability aligns with Godkin (2024), who asserts that music’s effects on memory are highly contingent upon factors such as music type, learning style, and task specificity. The notion that music activates both hemispheres of the brain simultaneously, thus maximizing cognitive function, has been supported by studies in neuroscience (Thaut *et al.*, 2023). However, the current findings suggest that the benefits of music on memory are not universal and are instead shaped by personal and contextual factors.

Overall, this table reinforces the idea that the relationship between music and memorization is highly individualized, with both positive and negative effects depending on the listener’s cognitive preferences, the type of music, and the nature of the task being performed. Future research could further explore these differences by incorporating neurocognitive measures to examine how different brain regions respond to various types of music during learning tasks.

Table 2 presents an assessment of participants' overall level of memorization skills. The table includes the general average score, ranking, and an interpretation of the results.

**Table 2:** Level of Memorization Skills

| Questions                    | General Average | Rank | Interpretation |
|------------------------------|-----------------|------|----------------|
| Level of Memorization Skills | 2.67            | 1    | Middle         |
| <b>Total Average</b>         | <b>2.67</b>     |      |                |

The results indicate that the general average for the level of memorization skills is 2.67, categorizing it as "Middle." This suggests that the respondents exhibit a moderate level of memorization ability, with room for improvement through various study techniques or cognitive training. The ranking places it in first place, as it is the only factor measured in this table. When compared with the findings from Table 1, which examined the relationship between

music and memorization, the results suggest that music’s impact on memory retention is neutral to slightly positive rather than significantly beneficial or detrimental.

These findings align with previous research, which has demonstrated mixed results regarding the effects of music on cognitive performance and memory. According to Musliu (2024) [6], other studies have also reported varied outcomes. Some research suggests that music negatively affects reading performance, particularly when tasks require deep concentration and verbal processing. Which posits that background music especially with lyrics can create an extraneous cognitive load, thereby interfering with complex cognitive tasks such as reading comprehension and verbal recall. The study further suggests that attention plays a crucial role in mitigating the potential distractions posed by music and environmental sounds when performing cognitively demanding tasks.

Moreover, research on short-term memory, often referred to as working memory, has shown that music’s effect can be context-dependent. While some studies found that music negatively influenced memory retention during the learning phase, it was also observed that music could enhance mood and sports performance. This dual effect suggests that while background music may not always be conducive to memorization tasks, it can provide motivational benefits that indirectly improve cognitive engagement and particularly in non-verbal tasks.

Table 3 presents statistical data examining the relationship between the type of music and memorization skills. The table includes the mean (M), standard deviation (SD), and correlation coefficient (r) to determine whether there is a significant linkage between these two variables.

**Table 3:** The Linkage between Music and Memorization Skills

| Variables           | M    | SD   | r      | 2 |
|---------------------|------|------|--------|---|
| Type of music       | 2.51 | 0.32 | -0.745 | - |
| Memorization Skills | 2.67 | 1.13 |        | - |

The table presents the relationship between the type of music and memorization skills, including their means (M), standard deviations (SD), and correlation coefficient. The mean for the type of music is 2.51 with a standard deviation of 0.32, while the mean for memorization skills is 2.67 with a standard deviation of 1.13. The correlation coefficient between the type of music and memorization skills is -0.754, indicating a strong negative correlation. As a result, this suggests that as the type of music varies, memorization skills tend to decrease, or vice versa. The negative relationship implies that certain types of music may hinder memorization abilities rather than enhance them. However, further analysis is needed to determine causation and other influencing factors.

Moreover, studies have been done on the effects of music and sound on the performance of students in many areas of study. However, different studies have shown mixed results. For instance, some studies have concluded that music, especially classical, aids in the storage and recall of information in our memory. This is because music can reduce stress, making it easier for people to study and remember information. Additionally, music provides sequential information and an order of encoding and recalling, decreasing the likelihood of skipping or misplacing a portion of the text. Contrary to the benefits of music on memory, many studies have also concluded that



music has an adverse effect on memory recall. Specifically, this is mainly because participants are so immersed in the music that it distracts them from completing the given task (Sujatha *et al.*, 2025) <sup>[7]</sup>.

### Conclusion

Based on the results of the study, the research conducted at Noveleta Senior High School illustrates a significant relationship between music and students' memorization skills. Although the general perception is that music positively influences study habits especially with instrumental and fast-paced genres individual preferences play a crucial role in shaping these experiences. Favorable responses to instrumental music suggest its effectiveness in improving information retention, while mixed opinions about genres such as rock and pop highlight that not all types of music are conducive to concentration for all students.

This variability underscores the importance of recognizing personal taste when integrating music into study routines. The effectiveness of music as a study aid can vary greatly depending on the type of music and the preferences of the listener. Therefore, the findings emphasize the need for students to identify what works best for them, advocating for a personalized approach to using music as a tool to enhance learning and memory.

Furthermore, this study on the impact of music on memory skills offers a wide range of benefits for various stakeholders. For students, applying music-enriched learning techniques can directly improve their memorization and concentration. Teachers gain valuable insights that allow them to effectively integrate music into their teaching methods. Likewise, individuals can benefit from a better understanding of the music-memory connection, which can potentially improve their learning strategies. Additionally, school administrators can use this research to optimize learning environments, while parents can make informed decisions regarding their children's education and extracurricular activities. Moreover, music therapists can explore new memory-enhancing techniques for patients, tailoring their therapeutic approaches accordingly.

Ultimately, future researchers will find a solid foundation for further exploration of the complex relationship between music and cognitive function. The study's findings have the potential to significantly impact learning and memory across various educational and therapeutic contexts.

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