Gender-Responsive Library Using Classical Music:
An Intervention Tool to Improve Students’ Reading Comprehension

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Abstract
The purpose of this research study is to determine and analyze if classical music can help make the library be gender-responsive place and can help improve the reading comprehension of the students. Due to covid-19 pandemic, the research team was not allowed to travel to gather data. So, qualitative design was used in this study through interviews using Google Meet, and open-ended questions through messenger and emails. Thus, qualitative was used because qualitative research targets conveying meaning and comprehension via detailed description. Since this study was using qualitative design, so there were only twenty (20) participants who answered the six (6) open-ended questions. So, purposive random sampling was used in choosing the participants. They were chosen as music participants. Content and thematic analysis were used in analyzing the data. Findings reveal that classical music inside the library has benefits to human psychology such as increased physical performance, getting the quality sleep the body needs, easing chronic pain naturally, improved mood and lower stress, and boosting brainpower. Thus, listening to classical music is also a therapy. Then if the body and soul of the readers become healthy, this leads to effective reading comprehension for all library users. Hence, the library using classical music becomes gender-responsive and inclusive.

Keywords: Classical Music, Gender-Responsive Library, Human Psychology, Inclusive, Reading Comprehension
Introduction

Gender dynamics permeate every facet of human activity, and libraries, as repositories of knowledge catering to a diverse clientele, are key sites where attitudes toward information utilization are shaped. According to Danbabale (2015), studies reveal intriguing patterns: Young women frequent libraries more than their male counterparts, and single women surpass married women in library visits. These trends suggest that the library environment may contribute to gender disparities among students. Moreover, factors like library anxiety, as noted by Smith (2015), further complicate this correlation. Library anxiety, characterized by negative emotions towards library spaces, can impede library usage for both genders (Onwuegbuzie, Jiao, & Bostick, 2004), potentially deterring students from utilizing library resources effectively. Consequently, disinterest in spending time in libraries exacerbates challenges like poor reading comprehension among learners, underscoring the multifaceted nature of gender inequality in educational environments.

Recent research suggests that students exhibit a favorable inclination toward incorporating music into their study routines. This revelation aligns with the prevailing trend among students who frequently enjoy listening to music (Kumar, Wajidi, Chian, Vishroothi, Ravindra, & Aithal, 2019). It's well-established that students' emotional states significantly influence their ability to comprehend texts, and employing tools like music to cultivate a tranquil atmosphere can profoundly bolster their learning outcomes (Bird, 2017). Thus, integrating music into study environments emerges as a promising strategy to optimize students' cognitive processes and foster a conducive atmosphere for effective learning.

The proposed research study finds support in existing literature, as noted by Wadania (2017), who highlights the positive impact of classical music on students' motivation for reading comprehension. This endorsement underscores the potential for educators to leverage classical music as a tool to enhance student engagement and enthusiasm toward reading. Furthermore, Khaghaninejad, Motlagh, & Chamacham (2016) contribute to this discourse by emphasizing the beneficial effects of exposing students to music, particularly Mozart's compositions, in improving reading comprehension and aiding in the interpretation of textual meaning during silent reading sessions.

Moreover, integrating music into the classroom environment holds promise for enhancing student productivity, as elucidated by White (2007). This enhanced productivity manifests in various advantageous outcomes, including heightened focus, increased retention of material, improved academic performance, elevated concentration levels, and expedited learning processes. Thus, the incorporation of music as an instructional tool not only enriches the learning experience but also cultivates a conducive atmosphere for academic growth and achievement.

Music serves as a versatile tool in educational settings, capable of eliciting desired emotional states, enhancing physical movements, boosting energy levels, evoking nostalgia, and facilitating relaxation and focus. As Dinsmore (2003) highlights, students often articulate that soft music engenders feelings of comfort, concentration, and relaxation. This sentiment underscores the potential of music to create a conducive learning environment conducive to improved academic performance.

When students are relaxed and focused, they exhibit better task retention and completion rates. Music not only helps drown out distracting background noises but also establishes a
continuous supportive atmosphere. Consequently, it mitigates student frustration levels, enabling them to execute tasks with efficacy and efficiency, thereby enhancing overall academic achievement (White, 2007).

The utilization of music has consistently demonstrated its efficacy in increasing students' comfort levels, and concentration, minimizing distractions, and fostering a sense of calmness, all of which contribute to improved academic performance (White, 2007). Hence, integrating music into educational practices holds promise for optimizing learning environments and promoting the academic success of diverse student populations.

The effectiveness of utilizing classical music to enhance students' motivation in reading comprehension is underscored by Wahdania (2017), who advocates for its integration into teaching practices as a means to bolster student engagement and enthusiasm. Similarly, Bird's (2017) study provides empirical support for the positive effects of music on reading comprehension.

The proposed research title, "Gender Responsive Library Using Classical Music: An Intervention Tool to Improve Students’ Reading Comprehension," addresses a significant gap in the existing literature. While there is extensive research on the impact of music on learning outcomes and the role of libraries in education, there is a notable lack of studies specifically examining the intersection of gender dynamics, classical music usage, and reading comprehension within library settings. This gap is particularly relevant given the growing understanding of how gender influences students' educational experiences and outcomes.

Existing studies have highlighted the importance of considering gender differences in library usage patterns and the impact of environmental factors, such as music, on students' learning experiences. For example, research by Danbabale (2015) and Smith (2015) has demonstrated gender disparities in library attendance and the potential influence of library environments on students' attitudes and behaviors. Additionally, studies by Wadania (2017), Bird (2017), and White (2007) have shown the positive effects of classical music on motivation, reading comprehension, and overall academic performance.

However, despite these insights, there is a lack of research specifically examining how the use of classical music in library settings may differently affect male and female students' reading comprehension and motivation. This gap is significant because it overlooks potential gender-specific responses to music and its impact on learning outcomes. By focusing on this gap, the proposed research aims to provide valuable insights into how libraries can be more responsive to gender differences in students' learning needs and preferences.

**Theoretical Framework of the Study**

This research study is grounded in educational policies such as CHED Memo 01 s. 2015 Part V, which emphasizes the development of gender-responsive curricular programs. By aligning with this directive, the study aims to contribute to creating an inclusive and supportive environment within libraries, particularly by utilizing classical music to enhance students' motivation for studying and reading. It recognizes the importance of catering to the diverse needs of male and female students and acknowledges that a gender-responsive approach is essential for optimizing the effectiveness of library resources and services.
Furthermore, the study draws upon the concept of "The Mozart Effect," a psychological theory suggesting that children may experience enhanced cognitive functions when exposed to the music of Wolfgang Amadeus Mozart. While early studies indicated short-term improvements in cognitive functions among children, the broader implications of this theory remain significant. By exploring the potential cognitive benefits of classical music, particularly within the context of library environments, the research aims to contribute to the ongoing discourse on effective educational interventions and strategies.

In the context of this study, the principles of situated learning theory underscore the significance of creating learning environments within libraries that mirror the real-world contexts in which students will utilize their reading comprehension skills. By integrating classical music into the library environment, which serves as a common space for collaborative learning and scholarly pursuits, educators can enhance the authenticity of the learning experience and promote deeper engagement among students.

**Literature Review**

The library, often regarded as a repository of knowledge, plays a pivotal role in facilitating the acquisition of information across various domains. As Danbabale (2015) highlighted, gender dynamics permeate every facet of human endeavor, and libraries serve as critical spaces where these dynamics intersect. Catering to a diverse clientele that includes individuals of different genders, libraries function as custodians not only of information resources but also of the attitudes and behaviors of their users.

Classical music has garnered attention for its potential to positively impact students' motivation and comprehension abilities. Kumar et al. (2016) underscore the widespread preference among students for studying music, reflecting a broader trend of music enjoyment within student populations. Moreover, Wadania (2017) emphasizes the beneficial effects of classical music specifically, highlighting its ability to enhance students' motivation for reading comprehension. This endorsement suggests that incorporating classical music into educational practices could serve as a valuable tool for educators seeking to inspire and engage their students.

Further insights into the physiological effects of music come from Gagner-Tjellesen et al. (2001) as cited by Osmanogluo & Yilmazy (2019). Their research suggests that listening to music may stimulate alpha waves in the brain, promoting relaxation and potentially reducing pain. Moreover, music can trigger the secretion of endorphins, leading to physiological responses such as lowered blood pressure and pulse rates (Yıldırım & Gürkan, 2007; cited in Sezer, 2011 as cited by Osmanogluo & Yilmazy, 2019). These findings highlight the intricate relationship between music, cognitive processes, and physiological well-being, further supporting the notion that classical music can serve as a potent motivator for students' comprehension and learning endeavors.

Recent research findings suggest that the incorporation of music into learning environments can significantly enhance students' reading comprehension skills. Bird (2017) demonstrates that exposure to instrumental versions of contemporary music led to notable improvements in students' reading comprehension. Furthermore, these instrumental pieces proved to be particularly beneficial for students experiencing anxiety, indicating that music can be a powerful tool for mitigating negative emotions and creating a conducive learning atmosphere.
The impact of music on reading comprehension extends beyond contemporary compositions.

Therefore, integrating music into educational practices emerges as a promising strategy for fostering a conducive learning environment and optimizing students' learning outcomes.

The relationship between music and other academic disciplines has long been recognized and explored within educational contexts. Former President Bill Clinton once remarked that comprehensive music and arts programs in schools enhance learning across various domains, including mathematics and reading (Mark, 2002, as cited in Bergee & Weingarten, 2020). This sentiment is echoed by a substantial body of research, which has consistently identified correlations between music education and academic achievement.

Numerous studies have highlighted these connections across different age groups, from young children to high school students. For instance, research by Crnec et al. (2006), Lessard & Bolduc (2010), and McDonel (2015) has demonstrated the positive impact of music education on academic performance among young learners. Similarly, studies involving middle school students (dos Santos-Luiz et al., 2016) and high school students (Cox & Stephens, 2006) have yielded consistent findings, further corroborating the beneficial effects of music engagement on academic outcomes.

Moreover, scholars such as Bamberger and diSessa (2003) argue that music, when approached as a response to coherent musical structures, can serve as a rich context for eliciting and perceiving mathematical concepts. In the realm of reading, research suggests that exposure to music helps students from low socioeconomic backgrounds maintain age-appropriate levels of reading performance, surpassing matched groups who did not receive similar experiences (Slater et al., 2014).

The impact of active engagement with music on academic achievement has garnered increasing attention globally. Hallam and Rogers (2016) highlight a growing body of international evidence supporting the notion that involvement in music can positively influence academic attainment. One possible explanation for this effect lies in the multifaceted nature of active music-making, which provides students with opportunities to develop various aspects of their learning.

Burton, Horowitz, and Abeles (1999, as cited in Hallam & Rogers, 2016) proposed a taxonomy of eight general areas wherein active music-making can facilitate learning. These areas encompass a broad spectrum of cognitive and emotional processes, including the expression of ideas and emotions, heightened perception and focus, the establishment of connections between diverse forms of knowledge, and the construction of new meanings. Additionally, active music-making fosters the ability to understand multiple perspectives, envision new possibilities, and engage in sensory learning experiences.

Listening to music as a strategy to alleviate stress has become increasingly prevalent among students engaged in demanding cognitive tasks such as studying, completing assignments, or reading and writing (Dolegui, 2013). This widespread practice underscores the potential role of music in modulating emotional states and enhancing cognitive performance. However, while the effects of music on cognitive function have been extensively studied, the findings have yielded mixed results.
On one hand, research such as that conducted by Cockerton, Moore, & Norman (1997) as cited by Dolegui (2013) has suggested that music can indeed improve cognitive performance by potentially enhancing focus and reducing anxiety. Conversely, studies such as those by Furnham & Bradley (1997) as cited in by Dolegui (2013) have presented conflicting evidence, suggesting that music may act as a distracting factor during cognitive tasks.

Music therapy, as defined by the World Federation of Music Therapy (WFMT), entails the professional use of music and musical elements to enhance the quality of life and well-being of individuals, groups, families, or communities across various domains, including physical, social, emotional, spiritual, and intellectual health (WFMT, 2011, as cited by Osmanogluo & Yilmazy, 2019). This holistic approach to therapy recognizes the profound impact that music can have on individuals' lives and underscores its potential as a therapeutic intervention in both educational and medical settings.

Indeed, music has been shown to yield positive therapeutic effects for individuals facing various challenges, including autism, stress, depression, and physical disabilities. Studies, such as that cited by Çan & Altınköprü (2013), indicate that music therapy can evoke emotional responses, facilitate movement, and promote overall well-being among individuals with diverse needs.

The music we immerse ourselves in has a profound impact on our inner world, shaping our emotions and influencing our psychological state. It has the power to evoke feelings of happiness, creativity, and enthusiasm, fostering positive thinking and even serving as a therapeutic remedy for mental illnesses stemming from anxiety and stress. Certain modes, styles, and rhythms of music, spanning classical, jazz, pop, and mysticism, among others, have been observed to possess spiritual and physical healing properties for both humans and other living organisms (Osmanogluo & Yilmazy, 2019).

An extensive review of relevant literature reveals a consensus regarding the positive effects of classical music on human psychology, particularly in reducing anxiety and stress and promoting overall well-being (Osmanogluo & Yilmazy, 2019). Classical music, originating from Europe, is characterized by its polyphonic nature and association with high cultural sophistication, distinct from Eastern and western folk traditions (Osmanogluo & Yilmazy, 2019). Despite its historical origins, classical music transcends cultural boundaries and remains a cherished genre appreciated by music enthusiasts worldwide.

Within the realm of psychology, the effects of music on the human organism have been a subject of keen interest (Osmanogluo & Yilmazy, 2019). Classical music, in particular, has emerged as a focal point in research investigating the relationship between music and psychology, surpassing other genres in its prevalence as a variable in relational surveys (Osmanogluo & Yilmazy, 2019). Scientists have explored the effects of classical music across various species, spanning humans, animals, and even plants, underscoring its universal appeal and potential impact on diverse forms of life (Campbell, 2002, as cited by Osmanogluo & Yilmazy, 2019).

Moreover, while listening to lyrical music during study sessions may hinder cognitive encoding, empirical research suggests that instrumental classical music poses no such impediment. Studies by Jäncke et al. (2014) and Harmat et al. (2008, as cited in Gao, Fillmore, & Scullin, 2020) have shown that instrumental classical music neither interferes with encoding processes nor disrupts nighttime sleep. Therefore, instrumental music emerges
as a promising tool for facilitating Targeted Memory Reactivation (TMR) without compromising cognitive performance.

Considering the potential effectiveness of instrumental music as a TMR tool, it presents an ideal candidate for widespread implementation in educational settings (Gao, Fillmore, & Scullin, 2020). Recent meta-analyses on TMR have revealed varying trends in its effects across genders, suggesting that individual differences may play a role in its efficacy (Hu et al., 2020, as cited in Gao, Fillmore, & Scullin, 2020). Moreover, research at the intersection of music, arts, and brain sciences has indicated gender-specific differences in music processing, with females demonstrating more efficient processing and better association and recognition of familiar music compared to males (Cheever et al., 2018; Koelsch et al., 2003; Feizpour et al., 2018; Fancourt et al., 2016; Miles et al., 2016, as cited in Gao, Fillmore, & Scullin, 2020). This finding suggests that musical cues may serve as particularly strong retrieval cues for females, further underscoring the potential utility of instrumental music in educational contexts.

Gender differences in music processing offer valuable insights into the observed robust effects of classical music TMR in females (Gao, Fillmore, & Scullin, 2020). Two distinct mechanisms shed light on why classical music TMR effects appear particularly pronounced in females.

Firstly, females demonstrate superior multitasking abilities compared to males, allowing them to maintain cognitive performance levels even while listening to music (Fancourt et al., 2016; Feizpour et al., 2018, as cited in Gao, Fillmore, & Scullin, 2020). This suggests that females may be more adept at studying effectively in the presence of music, a crucial prerequisite for the success of TMR interventions (Creery et al., 2015, as cited in Gao, Fillmore, & Scullin, 2020). The ability to engage in cognitive tasks while listening to music enhances the likelihood of successful memory reactivation during sleep, thus amplifying the efficacy of TMR in females.

Secondly, females exhibit superior proficiency in recognizing familiar music compared to males (Miles et al., 2016, as cited in Gao, Fillmore, & Scullin, 2020). This implies that when familiar classical music is played during slow-wave sleep (SWS), females' enhanced ability to efficiently recognize the music facilitates the reactivation of associated educational content (Gao, Fillmore, & Scullin, 2020). The robust recognition of familiar musical cues serves as a potent trigger for memory reactivation, consolidating learning material and augmenting the effectiveness of TMR interventions in females.

The incorporation of classical music TMR (Targeted Memory Reactivation) has shown promising results in enhancing performance on knowledge-transfer questions in subsequent day tests. While some studies have suggested that females may derive particular benefits from classical music TMR, definitive conclusions regarding gender-specific effects necessitate further investigation through additional testing. Moving forward, it is imperative to embark on future research endeavors that converge at the intersection of music, memory theory, and neuroscience. Such interdisciplinary studies hold the potential to not only optimize educational outcomes but also bridge existing achievement gaps in STEM (Science, Technology, Engineering, and Mathematics) learning (Gao, Fillmore, & Scullin, 2020).

Historically, research by Hall (1952, as cited in Harmon, Troester, Pickwick & Pelosi, 2008, p.41) suggested that music could enhance cognitive abilities. Conversely, Fogelson (1973, as
cited in Harmon, Troester, Pickwick & Pelosi, 2008, p.41) proposed that music might interfere with complex cognitive processes, albeit not with simpler ones. However, a significant study in 2004 by Jackson and Tluaka (as cited in Harmon, Troester, Pickwick & Pelosi, 2008, p.41) highlighted the potential relationship between specific music genres, such as classical music, and learning.

Moreover, research involving college students, as illustrated by Jones, West, & Estell (2006, as cited in Harmon, Troester, Pickwick & Pelosi, 2008, p.41), revealed a correlation between individuals' alertness levels and their preference for music or silence. Notably, listening to Mozart's music was associated with heightened alertness, a phenomenon coined as the Mozart Effect. This effect postulates that exposure to Mozart's compositions can enhance spatial abilities (Harmon, Troester, Pickwick & Pelosi, 2008, p.41), potentially attributed to an increase in alpha wave activity, which is conducive to improved learning (Harmon, Troester, Pickwick & Pelosi, 2008, p.41).

Despite these findings, studies on the Mozart Effect have yielded inconsistent results, with some failing to demonstrate a significant increase in cognitive abilities (Harmon, Troester, Pickwick & Pelosi, 2008, p.41). Nevertheless, the relationship between music and learning remains a topic of ongoing interest among researchers, particularly within the educational community.

**Methodology**

As a result of the COVID-19 pandemic and the associated restrictions on travel, the research team faced logistical challenges in gathering data using traditional methods. Consequently, a qualitative research design was adopted for this study, employing remote methods such as interviews conducted via Google Meet and open-ended questions delivered through messenger platforms and emails.

Qualitative research was deemed appropriate for this study due to its emphasis on capturing nuanced meanings and deep comprehension through detailed descriptions. Unlike quantitative approaches that primarily focus on numerical data and statistical analysis, qualitative research delves into the richness of human experiences, providing insights into complex social phenomena. In educational research, in particular, qualitative methods are invaluable for exploring multifaceted issues and gaining a deeper understanding of the intricate dynamics within educational settings.

By embracing qualitative methodologies, this study aimed to unravel the intricacies of educational issues, shedding light on the perspectives and experiences of individuals within their real-life contexts. Through qualitative inquiry, researchers can unearth the underlying meanings and interpretations that individuals attribute to their lived experiences, offering valuable insights that quantitative methods alone may not capture.

Overall, qualitative research serves as a powerful tool for navigating the complexities of educational landscapes, allowing researchers to uncover rich insights and generate meaningful interpretations that contribute to the advancement of knowledge and practice in the field of education.

Given the qualitative nature of this study, a total of twenty participants were selected to respond to a series of six open-ended questions. Purposive random sampling was employed in
the selection process, targeting individuals with a keen interest in music. Specifically, participants were recruited from various music-oriented groups, including church choirs, bands, and related singing organizations.

Before participating in the study, all potential participants were provided with detailed explanations of the research objectives and procedures. Informed consent forms were presented, outlining the purpose of the study and the rights of the participants. Only those who willingly consented to take part in the research and affixed their signatures on the consent forms were included as participants.

To analyze the responses gathered from the music-minded participants, content and thematic analysis methodologies were employed. This involved systematically examining and interpreting the content of the participant's responses to identify recurring themes and patterns. By employing rigorous qualitative analysis techniques, the study aimed to provide comprehensive insights into the perspectives and experiences of individuals with a passion for music.

Results and Discussions

**Theme 1: The Dominance of Female Presence in Libraries: Motivation, Environment, and Stereotypes**
This theme means that female students are more likely to stay in the library due to their intrinsic motivation, preference for a conducive environment, and gender stereotypes regarding their academic diligence, despite potential disparities in enrollment and usage.

**Theme 2: The Impact of Learning Styles and Motivation on Millennial Library Engagement**
This theme highlights how the diverse learning styles and varying levels of motivation among millennials influence their engagement with libraries, emphasizing the importance of understanding these factors to effectively promote library use among this demographic.

**Theme 3: The Influence of Classical Music on Library Study Motivation: Insights From Music-Minded Participants**
This theme explores how classical music influences study motivation in the library, as perceived by music-minded individuals, suggesting that classical music can enhance concentration, relaxation, and overall motivation for studying.

**Theme 4: The Impact of Classical Music on Reading Comprehension: Balancing Perceived Benefits With Differing Perspectives**
Classical music is perceived as enhancing students' reading comprehension by promoting relaxation, mood improvement, and clarity of thought among participants, despite differing opinions on its effectiveness.

**Theme 5 Fostering Gender-Responsive Libraries: Implementing Inclusive Practices and Equal Access**
This theme emphasizes the importance of implementing inclusive practices and ensuring equal access in libraries to foster gender responsiveness. Suggestions from participants include gender equality seminars, providing gender-inclusive spaces, offering 24/7 access to all genders, and creating sections for LGBTQ+ literature. Such measures aim to create a
welcoming and supportive environment for individuals of all gender identities, reflecting a commitment to respect, equality, and inclusivity within library settings.

**Conclusions**

This study unveils significant findings across various critical areas. Firstly, it sheds light on gender imbalances in student enrollment, emphasizing the necessity of equal representation to attain gender equality in education. Secondly, participants attribute changes in study habits to increased internet access, prompting calls for efforts to enhance library appeal and cater to diverse learning styles. Additionally, participants acknowledge the positive impact of classical music on comprehension and well-being, advocating for its integration into library environments to benefit all users. Moreover, the study underscores the importance of gender sensitivity training and the creation of inclusive spaces within libraries to meet diverse user needs. Lastly, views vary on how classical music influences reading comprehension, suggesting the influence of individual preferences, learning styles, and cultural factors. In conclusion, addressing gender disparities, promoting inclusivity, and leveraging the benefits of classical music can enhance library environments, rendering them more responsive and inclusive for all stakeholders.
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