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Summer 2025 Issue

Dear authors, reviewers, editors, and readers,

The Rast Musicology Journal presents Volume 13, Issue 2, with contributions from the creative and diligent music researchers. In this issue, we feature six articles. We thank our authors for their patience during the peer review process. We also extend our heartfelt gratitude to the Rast Musicology Journal team for their efforts in this issue. Our editorial board members are updated with each issue. In this issue, we are proud to publish articles from six different countries: Indonesia, Türkiye, Thailand, Azerbaijan, the Republic of Korea, and Georgia. Thank you very much for your contributions.

In this issue, we also made some updates to the editorial board. We believe that being a member of the editorial board is related to actively contributing to the functioning of the journal. We invite researchers who want to contribute to the promotion, visibility, and policy development of the Rast Musicology Journal.

We wish you a pleasant and insightful reading experience.

Best regards,

Rast Müzikoloji Dergisi Editorial Team

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RAST MUZIKOLOJI DERGISI | SUMMER 2025, 13(2) 105-126
Research Article

The complexity of genre and discourse in Indonesian popular music: a systematic literature review

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Abstract

As a large Asian country with the world›s fourth largest population, Indonesia is known for its rich and diverse culture. The potential value of its modern culture is also reflected in its popular music culture, which has been developing since the 1950s. A number of researchers and experts have studied and analyzed this phenomenon, but a complete and systematic description of the results of such research is still missing. The purpose of our Systematic Literature Review is to fill this knowledge gap. Through the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method, 958 records of journal articles, scientific papers, and music magazine publications were examined. From there, 48 records were selected and analyzed in the final stage. Specifically, frequencies/percentages were calculated for (a) output within a five-year period; (b) type of publication; (c) methods used and; (d) topics found. A content analysis was also conducted on the topics covered. We found that there has been a steady increase in Indonesian popular music research output over the past 20 years. These studies mostly examined the topic of dangdut genre. The majority of the research uses a qualitative approach with interviews, observation and document analysis as its data collection techniques. An important topic covered in them is the complexity of Indonesian popular music genres. There we also discussed the key findings of studies that used historical, case study, ethnographic, discourse analysis and sociolinguistic designs. From this literature review, most of the existing studies are more interested in the political and social discourses of Indonesian popular music in the 1950s, 1960s, 1980s and 1990s. Thus, we suggest a number of Indonesian popular music researchers to focus on the 2000s to the present decade on top of the technological advancement of its music industry.

Keywords

dangdut genre, Indonesian popular music, PRISMA, systematic literature review

Introduction

Indonesian popular music is known to have developed industrially from the 1950s to the present (Blauch, 2020:14; KS, 2013:6; Mulyadi, 1999a:20; Sakrie, 2015:4). In terms of its diversity, dangdut can be said to be one of the popular music hybrid genres in Indonesia that is quite widely consumed by the people (Weintraub, 2006: 414). This has been shown by the Indonesian Survey Scale institution in its 2014 research on the type of music that is most preferred by the Indonesian public. The results of the research show that dangdut is the type of music that is most in demand by the Indonesian people, which is 58.1%, surpassing other types of music such as pop genre (31.3%), regional music/songs (3.9%), keroncong (2.6%), kasidah (1.2%), jazz (0.4%), rock (0.3%), and other types (2.3%) (Indonesian Survey Scale: Political Research and Consulting, 2014).

The value of dangdut popularity has then attracted a lot of interest from popular music researchers in Indonesia to study and analyze it from a variety of topic choices and methodological perspectives. In fact, the topic of dangdut music can be said to have dominated the existing research

topics in analyzing the problem of popular music in Indonesia, which is actually very rich and complex. However, as far as can be determined, there has been no published study that attempts to document, review, and present the overall landscape of Indonesian popular music studies which is assumed to be quite complex in terms of genre richness. This kind of study is important because it can provide insights and point to new directions. Therefore, the purpose of this study is to review research on Indonesian popular music whose industry growth is known to have existed since the 1950s until now. However, based on considerations of novelty and analytical ability, this study is only limited to the publication of research or studies over the last 25 years, namely from 1999 to 2024. In order to show what issues are necessary and interesting to analyze, we will briefly discuss the development of Indonesian popular music in this section.

Indonesian Popular Music and Its Development

Before independence, Indonesian popular music in the colonial period was dominated by European classical music. This can be seen from the existence of many orchestras in big cities such as Jakarta, Bandung and Surabaya. In that era, orchestral groups were not only a means of entertainment for the upper class, but also had a major influence on local Indonesian music. One of the striking acculturation outcomes of this period is the *keroncong* music genre, which is a fusion of Portuguese music and traditional Indonesian elements. Keroncong went on to become one of Indonesia's iconic forms of popular music, symbolizing the cultural mixing that took place during the colonial period (Yampolsky, 2013). After Indonesia gained independence, its musical landscape underwent a significant transformation.

The 1940s-1950s were the earliest times of the growth of Indonesia's popular music industry with the emergence of a number of recording companies, one of the most influential being the Lokananta company established by the government in 1956 (Zakaria et al., 2016). In the 1960s, popular music became more diverse with the emergence of new genres such as folk pop. These genres enriched Indonesian music culture and began to dominate the national music scene. Some of the iconic singer-musicians of this period are Dara Puspita group, Titiek Puspa, Bing Slamet, Ernie Djohan, Lilis Suryani, Elly Kasim and Ellya Khadam. These artists played a major role in shaping the identity of Indonesian popular music in the 1960s (Adhiatmaka, 2021). A period that marked the beginning of a long journey of Indonesian popular music until now.

Figure 1. Left: Titiek Puspa (center) with two popular female singers of the 1960s (web 1); Right: Vinyl Covers of Iconic 1970s Group, Koes Plus (web 2)

The Indonesian music industry in the 1970s was characterized by significant progress in the rise of the pop music genre that dominated record sales and the music performance industry. This era saw an explosion in the popularity of music through the use of the medium of cassette tape recording and the role of radio broadcasting. Some of the big names that became icons of this era, such as the Koes Plus group, Panbers, as well as singers Bob Tutupoly, Broery Marantika, Chrisye and Ebiet G. Ade, not only achieved great popularity but also left a legacy of memorable songs that are still remembered today. For most of today's Indonesian popular music audience, they are considered pioneers for their contributions in creating songs that became classics and can be enjoyed across generations (KS, 2013; Mulyadi, 1999b; Sakrie, 2015). One of the important musical moments in this era was the holding of "Lomba Cipta Lagu Remaja Prambors (LCLR)" (youth songwriting competition) in 1977. This songwriting competition acted as a catalyst that broke the deadlock in the popular music industry, paving the way for the birth of new talents of young musicians and songwriters who would influence the Indonesian popular music landscape in the following years. In addition to the dominance of the pop genre, the 1970s also saw the rise of dangdut music spearheaded by Rhoma Irama, whom the Indonesian public dubbed the King of Dangdut (Weintraub, 2010), as well as the rise of the hard rock genre through the era's most popular rock groups, AKA and Godbless.

Figure 2. Godbless in action during a 1975 show in Bandung (web 3)

In the 1980s, the Indonesian popular music industry was not only dominated by whiny songs, but the decade also saw the emergence of more creative and progressive pop genre songs, where the lyrics began to be more diverse and focused on various life themes, not just about love and sadness (KS, 2013). Apart from pop, rock and electronic music genres also began to gain importance. The trend of disco music influenced by electronic music became one of the most prominent at that time. This genre brought a new, more energetic and modern atmosphere to Indonesian music. Two big names such as Fariz RM, Arie Wibowo, Gombloh and Iwan Fals managed to gain popularity and recorded brilliant achievements in the world of Indonesian music. In addition, this era also marked the form of Indonesian rock that was getting stronger with the driving force of a rock competition called Djarum Super Festival Rock, which was driven by the famous rock promoter, Log Zhelebour (KS, 2013; Sakrie, 2015). Entering the 1990s, this era is often considered by the Indonesian public as the golden age of peacock music, where the creativity of musicians has reached a peak by producing works that last long in

people's memories. Various music genres flourished during this era, from alternative rock to dangdut remixes. Even so, the pop genre remained the most dominant, with many music groups and singers who managed to steal the public's attention and such as Dewa 19, Slank, Gigi, Kahitna, Nike Ardila and Anggun.

The 2000s era of Indonesian popular music was initially dominated by the pop genre, with a number of well-known music groups such as Sheila on 7, Kerispatih, and Naif. A major phenomenon that emerged in the mid-2000s was the rise of indie music. This movement gave birth to many independent musicians and music groups that offered a different sound and style of music from the mainstream (Tapiheru & Anshaari, n.d.; Wallach & Clinton, 2013b; Yampolsky, 2013). Bands like White Shoes and The Couples Company, Sore, Seringai, and The Adams became representatives of the indie spirit that emphasized creativity and freer musical expression. The 2000s also saw an evolution in dangdut, especially with the rise of dangdut koplo, which became increasingly popular among music lovers in the country. The phenomenal Inul Daratista of this era is considered the pioneer of the dangdut koplo trend, offering a new color in dangdut music that was previously dominated by the classic dangdut style. In the following decade, Indonesian popular music became more open to new genres such as EDM, hip hop and indie. Some popular indie musicians in Indonesia are Mocca, Efek Rumah Kaca, and Payung Teduh. In the late 2000s, Indonesian popular music became more open to the influence of foreign music, especially Western and Korean music. K-pop and J-pop became very popular among Indonesian youth, with the emergence of music groups such as Super Junior, Girls' Generation, JKT48, and Red Velvet who has many teenage fans in Indonesia.

Figure 3. Red Velvet fans (left) and Super Junior fans (right) expressions at the performance in Jakarta, 2022 (web 4)

This briefly describes the growth of Indonesian popular music that has taken place since the pre-independence era, the 1950s until now. The summary can be visualized as in Figure 4 below. This long musical phenomenon has pointed to musical facts about the richness of musical forms and genres, the creativity of musical invention and the search for fresh themes or issues voiced in Indonesian popular music. These musical facts and phenomena of Indonesian popular music can then be seen more analytically with the help of an appropriate theoretical framework. In the following, we will present a theoretical framework of music sociology that is relevant and can explain important issues in explaining the phenomenon of Indonesian popular music through neo-Gramscian concepts of hegemony and cultural domination.

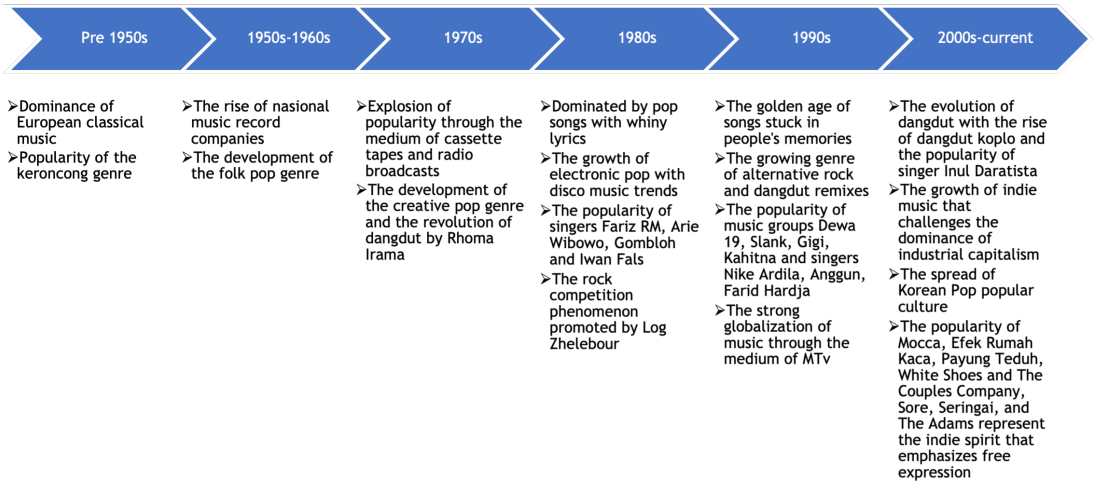

Figure 4. A timeline of the growth of Indonesian popular music

From the facts of the development of Indonesian popular music over the years, it appears that changes in the form, genre, and creativity of music creation along with a number of contextual issues are always filled with the dominance of certain popularity. The emergence of iconic singers and music groups that dominate the music industry in each era is interesting to find the support of its social structure. It is for this purpose that the neo-Gramscian framework of cultural hegemony becomes necessary.

Theoretical Framework

The neo-Gramscian theory of cultural hegemony interprets culture as a site of struggle between the resistance efforts of subordinated groups and dominant groups. In the context of popular music, popular culture is not a culture imposed by theorists or spontaneously emerging from below as an oppositional culture, but rather, as the scope of a transactional exchange, where the two will intertwine in the form of resistance and compromise. Thus, popular cultural texts and practices move in what Gramsci called a "compromise equilibrium" (Gramsci, 1971). The process is synchronic-historical and moves between resistance and compromise. This could explain the phenomenon of dangdut's popularity in Indonesia, which at first tended to be considered "shallow", but over time it transformed into an artistic and aesthetically pleasing music. From the logic of this concept, Indonesian popular music is seen as an arena of ideological struggle between the dominant and subordinate classes. It is understood that Indonesian popular music can be constructed by the dominant ruling class to win hegemony on the one hand, while forming opposition on the other. Thus, this neo-Gramcian resistance approach means that dominant, subordinate and oppositional cultures still have values and ideological elements that can be mixed in a social change.

Importance of the Research

Based on the introductory description above, which has shown the breadth and richness of values in the growth of popular music in Indonesia, as well as the importance of analyzing neo-Gramscian cultural hegemony, it is very important to conduct a systematic literature review. The need for a systematic literature review in scientific publications on Indonesian popular music is essential for, at the very least, researchers and enthusiasts of Indonesian popular music. This urgent argument underlies our work on this systematic literature review project.

Problem of Study

The specific research questions were:

- How did the number of studies change from 1999 to the third quarter of 2024?
- What methodologies were used?
- What topics were covered in the studies?
- What are the implications of these findings for future Indonesian popular music research?

Method

The objective of this study was to review Indonesian popular music research, which has been an industrial phenomenon since the 1950s.Specifically, the frequency and percentage of data analyzed were calculated for output in a five-year period, types of publications, methodologies used and topics found.

Research Model

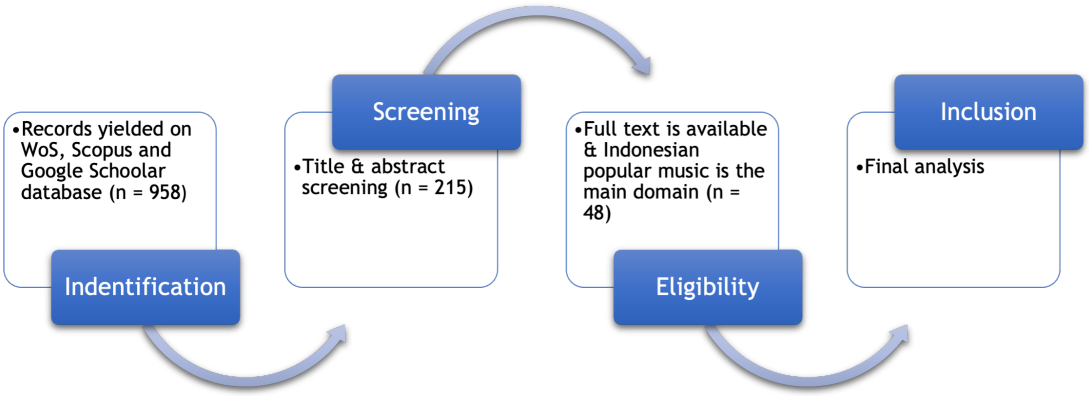

Figure 5. The PRISMA flowchart

We used the methodological guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses/PRISMA (Moher et al., 2009) in this review. Relevant literature published between 1999 and the third quarter of 2024 is searched in the Web of Science (WoS), Scopus, and Google Scholar database. The initial search was carried out on September 19, 2024 and resulted in 958. After the records were manually filtered by title and abstract, a number of records were eliminated as irrelevant (not related to Indonesian popular music), leaving 215 records. We (first author) then took the full text of the remaining 215 records and critically screened them for eligibility according to the following inclusion criteria: (1) the full text was available; (2) Indonesian popular music is the main domain studied; and (3) written in English, Indonesian, or any language. From the full texts that met the three criteria, we obtained 48 records. Furthermore, the content of the 48 paper records was analyzed based on publication type, methodology, and topics covered (Andrés, 2009; Hart, 1998; Petticrew & Roberts, 2006; Tan & Sin, 2019). To reduce selection bias and meet the desired quality of papers, we did not consider the language used, gender and country of the paper authors, but rather the degree of scientific method and analytical results of the paper. To organize the references, we used the management system of Mendeley 1.19.8. This study includes the selected researches, which are organized in a table by author, year, research design, and topic (See Appendix 1).

Results

The results of the research in a five-year period presented at Figure 6. As far as can be determined from the methodological procedures outlined, the first research published in which music is the main domain studied is Mulyadi's (1990) research on the Indonesian popular music industry which has contributed significant economic-tax value to the country, as well as popular music becoming a political tool for the rulers.

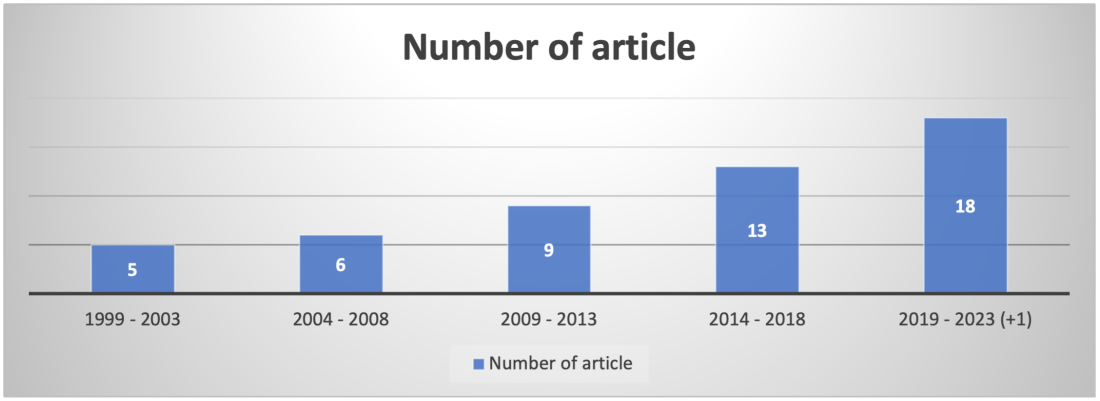

Figure 6. Research output in five-year periods

Following Mulyadi's work, we found a steady increase in the results of Indonesian popular music research, from 4 studies at the end of 2003 to 18 studies in the third quarter of 2024, indicating a sustained increase in interest over the past two decades. Of the 48 records, 21 (10.08%) were in the form of journal articles, while the others were in the form of reference books (n = 9), book chapters (n = 4), conference/proceedings papers (n = 1), undergraduate thesis (n = 3), master's thesis (n = 3), doctoral dissertation (n = 2), academic research report (n = 1), and music journalist-magazine report (n = 4).

Table 1. Statistics on study design (research methods)

Study design	Number of literature	Percentage
Historical/historiography	18	8.64%
Discourse/content/text analysis	9	4.32%
Ethnographic/field research	6	2.88%
Case study	5	2.40%
Sociolinguistics	1	0.48%
Experiment	1	0.48%
Library/literature research	6	2.88%
Book editorials	2	0.96%

From the Table 1, it appears that three types of study designs that are widely used (besides investigative/journalistic study methods) are historical studies (18), followed by discourse/content/text analysis (9), filed research and literature research (6 each), and case studies (5). The rest use a number of study designs such as field research, sociolinguistics, literature studies, and discourse and textual analysis.

Dangdut Genre

In the last two decades of publication of Indonesian popular music studies, collectively, the results of a fairly interesting study of the genre can be seen in a special issue of the *Asian Music Journal* in 2013. Namely their publication entitled *Constructing Genre in Indonesian Popular Music: From Colonized Archipelago to Contemporary World Stage*.

In the introduction of this edition, the value of diversity and complexity of discourse in the history of Indonesian popular music is highlighted, which is rooted in three macro genres, namely music: dangdut (including folk songs and children's songs), pop, and *underground*/indie which includes the rock genre (Wallach and Clinton, 2013:14). If read in its entirety, the articles in this journal show the fundamental importance of understanding Indonesian popular music which has a complex relationship with the values of modernity in its society (Wallach & Clinton, 2013:21-22). One interesting topic from the journal is an article about the dangdut music genre discussed by one of the most diligent dangdut researchers, Andrew N. Weintraub. Through the (postmodern/ poststructuralist) approach of Derrida's deconstruction, he succeeded in analyzing the concept of counter-genre dangdut in the koplo type, whose musical nature and practice collided with the classical dangdut type which has a more established position (Weintraub, 2013: 55).

Through Weintraub's perseverance in dangdut, the quantity of Indonesian popular music studies is clearly gaining weight. In addition to the writing *Dangdut Stories: A Social and Musical History of Indonesia's Most Popular Music* (2010)—which offers a study of dangdut in relation to issues of gender, class, ethnicity, and media, Weintraub also shows how popular dangdut music has become an aesthetic and ideological practice as well as a real reflection on the politics of modern society in Indonesia (Weintraub, 2010: 13-38). He has also analyzed the dangdut singer Inul Daratista as a popular social phenomenon in Indonesia in the early 2000s (Weintraub, 2008:22) . Observation of gender discourse in dangdut was also carried out by A. Decker in 2010. There, he highlighted the influence of religiosity and social panic on the perception of the Indonesian public in viewing the phenomenon of male dangdut singers' performance on television (Decker, 2020:20).

Study from Bader & Richter in 2014 criticizes *the general stereotype* of the immorality of dangdut genre performances on the phenomenon *of nyawer* in West Java (Bader and Richter, 2014: 18). Then there is also an analysis of dangdut music as a medium of cultural diplomacy in Indonesian International relations, namely the use of dangdut songs as the Theme Song of the 2018 Asian Games (Fitriyadi & Alam, 2020). In 2021, Dewi Kusumaningsing wrote a dissertation on linguistic science about sexual exploitation in the lyrics of dangdut songs. The results of the analysis, the psychological aspect that shows women as male sexual objects that still always appear in various kinds of interactions between men and women, the social aspect shows that there is still a nature of gender inequality, where women as partners are still an inferior group and men as superior, while the cultural aspect shows the existence of urban culture (Kusumaningsih, 2021). Then the research of Natasya et al. (2024) in their publication entitled "The Development of Interest of Teenagers in Bandung Towards the Dangdut Koplo Music Genre" shows that nowadays the popularity of popular dangdut music among young people/adolescents in big cities in Indonesia is increasing significantly (Natasya et al., 2024:1245-1246).

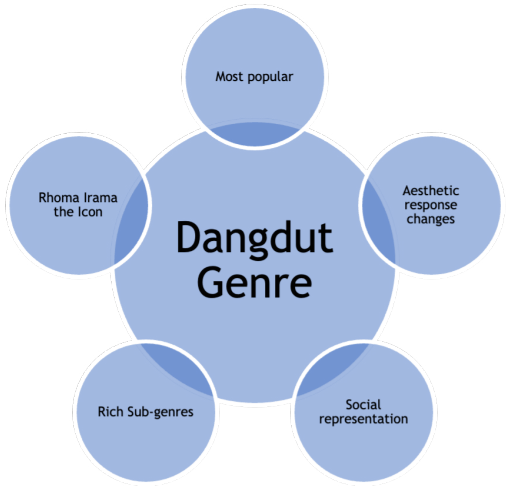

Figure 7. Dangdut genre predicate based on literature review

As shown in Figure 7, our literature review has explained that dangdut is the most popular music genre in Indonesia. Its iconic figure, Rhoma Irama has based dangdut into a number of musical revolutions and evolutions so that it becomes a rich music genre. In addition, the position of dangdut can also represent the dynamic social conditions of Indonesia's multicultural society, so that dangdut gets a dynamic aesthetic response from its public (Weintraub, 2010; Decker, 2020; Fitriadi & Alam, 2020; Natasya et al., 2024).

Complexity in Genres

Outside of dangdut, the rock genre in Indonesian popular music has also been studied by Martinus Indra Hermawan (2024), especially in the "noise" type of rock, there it is known that several interesting facts such as the historical origins of the musicians and the infrastructure of the music industry such as record labels, venues, communities, instrument makers, festivals, as well as the motivation of these noise music musicians to network and their desire to connect on a wider scale have supported the development or popularity of this music (Hermawan, 2024). Rock is an important music genre, besides two other categories of popular Indonesian music genres, besides dangdut and pop, which are oriented towards young people (Wallach, 2008:11-12).

The complexity of genres in Indonesian popular music has also been studied as the publication of a collection of articles entitled *Sounding Out the State of Indonesian Music* edited by Andrew McGraw & Christopher J. Miller and published in 2022. The important value of this publication lies in its efforts to find and explore a methodical paradigm that is functional for the explanation of the complexity of Indonesian popular music. This book is presented by bringing together chapters on the fusion of regional music preferences with popular music aesthetics, the dynamics of underworld music that is developing, the growing interest of the American public in keroncong, and the topic of music discussion in the mass media in Indonesia. From this publication, it can be seen that an academic effort is trying to develop a new paradigm in the study of popular music through the perspective of decolonization and the diversity of popular music practices in Indonesia (McGraw & Miller, 2022:8).

Regarding genres in Indonesian popular music, the publication of Tumimbang & Saliareng (2024) has nationalized a number of potential social functions in the Indonesian popular music scene such as pop, rock, and others genre music that can unite various social groups and melt cultural and religious differences (Tumimbang & Saliareng, 2024:45-54). Similarly, the richness of Indonesian popular music genres was studied by Esther Darlena (2024) who found its creative potential in the cultural values contained in it, and it is known its potential to create a new style using the rules of "musik nusantara" or archipelago music (Darlene, 2024:49-61). Salfredo Andrie & Elty Sarvia entitled "A Comparative Study: The Effects of Pop, Hip-hop, and No Music Music on Alertness and Driving Behavior" (2024) examines the impact of various types of music on alertness and driving behavior using three treatments, namely no music, hip-hop music, and pop music. The results showed that hip-hop genre music produced the highest number of violations, while pop music produced the lowest number of violations (Andrie & Sarvia, 2024: 98-110). These findings emphasize the importance of considering psychological aspects in addition to physiological parameters in evaluating the impact of music on driving.

Historical Distribution

The thesis of History at Gadjah Mada University written by Nurul Afiah Ramadhani Bachri entitled "Transformation of Stambul Music Medium in Java 1920-1942: From the Theater Stage to the Music Industry" discusses Indonesian popular music in the keroncong genre, especially stambul songs. From this, it is known that in the context

of the 1920s, stambul is a popular culture that can be enjoyed not only as a theatrical performing art, but also as a popular music genre in the music industry in Indonesia. Stambul as popular music is also inseparable from the Indis cultural factor which in the first half of the XX Century became popular culture in Indonesia as well as the impact of advances in broadcasting and audio technology (Bachri, 2022).

Another historical thesis written by Yopi Kristanto entitled "Humming in Politics: The Existence of Music and Musicians in the General Election Campaign of the New Order Period (1971-1997)" has shown the work of political power in popular music in Indonesia. In this study, the New Order policy is known to be more liberating from the development of popular music adopted from the West, compared to during the Soekarno administration. This started from the existence of popular music used by the ABRI to integrate with the people after the G30S incident, with the aim of obtaining information and assistance in dissolving the PKI. This situation caused new hope for musicians and singers who had been banned from music during the Soekarno administration. Since the 1971 elections, popular musicians and singers have decided to join the Golkar supporter Safari Artist, which is a party that supports the New Order government. The existence of the Golkar campaign musical entertainment, which was considered successful in inviting a mass of sympathizers in 1971, caused other parties participating in the election to make countermeasures. In the second election campaign of the New Order, musicians and singers began to creatively change the lyrics of songs that contained support for the party they defended (Kristanto, 2015:86-121).

Another historical perspective that is also used to study Indonesian popular music is carried out by several studies from Muhammad Mulyadi, On the topic of the industry, his study explains that the music industry has made a significant contribution to the country. The results of a historical thesis written by Muhammad Mulyadi at the University of Indonesia entitled "Indonesian Music Industry Pop, Jazz, and Rock 1960-1990" (1999)—which was also published in the form of a reference book entitled "Indonesian Music Industry: A History" (Mulyadi, 1999a)—show that, during the late 1980s, the record industry tax, as part of the music industry, has provided the state with revenues of nearly Rp 100,000,000.00 every year (Mulyadi, 1999:1), a large number in that era. In the early days of President Soekarno's leadership, music did not make much economic contribution because of the many restrictions on creativity on music. In the 1960s, popular music in Indonesia seemed to function more as a political tool. Mulyadi's seriousness on the topic of the history of Indonesian popular music was continued by writing an S-3 dissertation entitled "Koes Plus: Milestones and Characteristics of Indonesian in Pop Music (Mulyadi, 2014).

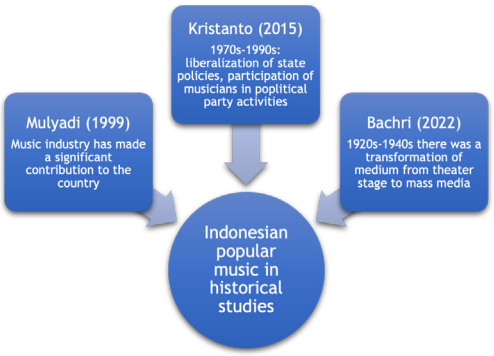

Figure 8. Resume of main results of historical research

It can be shown at Figure 8, the important results from a number of studies of Indonesian popular music from a historical perspective. The three main studies confirm that the Indonesian popular music industry made a significant contribution to the state (Mulyadi, 1999), the participation of popular music performers in political activities occurred due to the state's music liberalization policy from the 1970s-1990s (Kristanto, 2015), and at the beginning of its industrial growth in the 1920s-1940s there was a transformation of the popular music medium from theatrical performances to mass media (Bachri, 2022).

Socio-political Discourse

In addition to the complexity of the genre, the discourse and practice of power politics is a topic that is often chosen by researchers or scholars of popular Indonesian music. For example, in the research of Riyanto & Baha'uddin (2015:1) on the development of Popular Music in Indonesia from 1950-1998, it shows a strong connection between popular music and the political world of the Old Order and New Order governments in Indonesia. That in the 1950s, it became a media in the search for national identity in the Soekarno government. The change of government from Soekarno to Suharto is known to bring "fresh air" to the development of popular music in Indonesia. Western music, which was previously banned during the Soekarno (Old Order) government, then became free to be played and expressed during the reign of Suharto in the New Order era.

Similar to the above theme is the publication of a journal article entitled "Music as Criticism in Indonesian Political History Post-Independence to Post-Reform: A Historical Study" which explains a number of socio-political criticism discourses in popular songs from the era of political power of the Old Order to the post-Reform in Indonesia. This article shows that a number of popular music works in Indonesia have played a role and function as a tool of social criticism, and interestingly, at the same time can be a tool in accommodating the political needs of the rulers (Dhesita & Sanjaya, 2024:97-104).

A similar study of political discourse, but with a wider range, produced by Citra Aryandari in her article entitled "The Indonesian Popular Music Industry" is contained in the book *Made In Nusantara: Studies in Popular Music* (2021:164-171) edited by Adil Johan and Mayco A. Santaella. This study has analyzed popular music in Indonesia which is intrinsically related to Indonesia's ever-dynamic political practices. Through the alternative historical perspective of Faucoult (Madness and Civilization 1964), the discussion is presented diachronically from the colonial period to the present day. From there, it is known that the musical and political constellation system in each era of Indonesian history displays complexity, but this pattern becomes clear when the history is read diachronically. During the colonial era, the national anthem "Indonesia Raya" had ignited the spirit of nationalism and was considered dangerous by the ruling colonizers, however, the growth of the music industry allowed the distribution of the national anthem and other regional songs so that the Dutch could not control their circulation. In the Old Order era, the period of identity search as part of the newly constructed ideology of the Indonesian nation became the reason for the rulers to ban global music, especially music from Western influences. Music from America and Western music in general are considered by the rulers to be not in line with Pancasila and Nasakom (Aryandari, 2021:170).

Specifically, political discourse during the Old Order period was studied by Steven Farram in the publication of his scientific article "*Ganyang!* Indonesian Popular Songs from the Confrontation Era, 1963–1966" in the journal *Bijdragen Tot de Taal-, Land-En Volkenkunde* (2014). Farram's article highlights the meaning of many songs of that era and also discusses the reasons for their creation and aspects of their popularity. Through the analysis of popular culture theory and the views of Indonesian popular culture experts, this study succeeds in showing how popular music can reflect the conditions and situations of the political life

of its people, namely through popular songs that represent the social meaning of its directors/creators (Farram, 2014:1-24). This matter, in the context of the power of the New Order, was discussed by Abdul Firman Ashaf in the publication "The Government's Political Attitude in the Discourse of Popular Music in the 80s & 90s". Ashaf's analysis has shown that the rapid development of the popular music industry in Indonesia has provided a space for musicians or music artists to express their cultural experiences in life, even though the state formally does not want to accept this creative expression (Ashaf, 2006:352-353).

The issue of freedom of expression that is faced with the dominance of the power of the mass media in Indonesian popular music has also been studied by Abdul Aziz Turhan Kariko's S-2 academic thesis in literature entitled Malay Pop: Mass Media Hegemony in the Realm of Popular Music in Indonesia (Kariko, 2009). Through the perspective of critical theory and qualitative analysis of Malay pop songs, observations on music programs on television, and interviews with parties who have information about the phenomenon, this thesis concludes that Malay pop music has a strong musical uniformity so that it is a phenomenon in the context of the cultural industry, as well as its dominant nature because it is confirmed by hegemonic television music programs in Indonesia. The success of Malay pop music brings high profits to those involved in it, so that the spirit of capitalism is very dominant in the music discourse. This thesis also finds resistance from the indie label music movement to counter the dominance of Malay pop, to fight against the decline in musical quality and creativity confirmed by the mainstream mass media.

Relevant to the above academic thesis is a study by M. Jadid Khadavi in a publication entitled "Deconstruction of Indonesian Pop Music in the Perspective of the Cultural Industry" (2014:47-56). Through the use of Derrida's deconstruction analysis, Khadavi has shown that Indonesian popular music has been polarized into two parts, namely *major labels* and *indie labels*. *Major labels* are profit-oriented, while *indie labels* are ideologically oriented to creativity and freedom. The *indie* movement must also be understood as an alternative in the deconstructive efforts of music creators against the ideology of cultural industry capitalism, namely by providing new nuances to popular music genres that are needed by society.

The problem of the dominance of discourse in industrial capitalism with popular music media in Indonesia, so far seems to have produced a paradoxical meaning. For example, the results of a study by Emma Baulch entitled "Alternative Music and Meditation in Late New Order Indonesia" (2002). From this study, it is known that alternative music, as a creative form specific to popular music, in various media can appear in Indonesia at a time when the dominant and official discourse is increasingly unsystematic and disorganized. There, he said that popular music distribution media such as television and print media are more open to state censorship and regulations when compared to recorded tape media, and easier to control when compared to music concerts. He also explained that the number of hours and page space devoted to alternative music seems to exceed the sales of music recordings of the genre. This shows that the system of dissemination of popular music in Indonesia at that time at the beginning of the Reform era had begun to approach the American model where MTV's television media program had become the main ideological force in determining what was popular (Blauch, 2002:219-234).

Regarding the state policy that deals with the problem of popular music in Indonesia, in the context of Soekarno's power during the Old Order period, Ayu Pertiwi has studied it through a historical perspective in the publication "Soekarno's Prohibition of Western Music in 1959–1967". His analysis has

shown that popular music can be functioned by the state, the power of Soekarno, to carry out an ideology and political policy of the government. At that time, President Soekarno issued an Indonesian Political Manifesto, as a struggle to oppose imperialism and colonialism in Indonesia. This opposition to imperialism and colonialism was the basis for the Indonesian government's ban on western music at that time. This is because according to the government, Indonesian music must be music that reflects the personality of Indonesia, and can be used as part of a revolution that can awaken the soul and spirit of Indonesian youth (Pertiwi, 2014:334-345).

In the political context of the Reform era, an article by Bart Barendregt and Wim van Zanten entitled "Popular Music in Indonesia Since 1998, in Particular Fusion, Indie and Islamic Music on Video Compact Discs and the Internet" analyzes how popular music in Indonesia is used in the negotiation of the identity of certain communities, which plays an important role in the dialogue of power at the local level. national, and global. The phenomenon of political change in Indonesia (Reform) and the fall of President Suharto, related to the development of popular music—as shown in the functionalization of VCD and internet media—is more dynamic than in the previous period (Barendregt & Zanten, 2002:67-114).

In the most recent period after the Reform era, the problem of using various online *platforms* through the internet as a medium for disseminating popular music has become important. This can be seen in the article from Resmadi & Baulch (2024) entitled "Indonesian Critiques of The New Musical System". This study has explored the criticism of Indonesian indie musicians towards the new system of distributing and listening to music, consisting of music *streaming platforms*, aggregator services, music industry personnel, collecting institutions, and copyright law. From this study, it can be seen that criticism of popular music dissemination media in Indonesia not only focuses on the platform's business model, but also on the shortcomings of other stakeholders that determine the royalty payment and visibility of music streaming platforms, including collecting agencies, copyright laws, and aggregators (Resmadi & Baulch, 2024:1-15).

Table 2. Socio-political discourse of Indonesian popular music

Socio-political discourse of Indonesian popular music	Social criticism function and state political accommodation tool
	Social reflections of songwriters and musicians
	The arena of the compromising balance of popular culture ideologies
	Industry polarization between major labels (capitalism ideology) and indie labels (freedom of expression ideology)

As we can Table 2, there are four important socio-political discourse factors in the Indonesian popular music industry. Starting from social criticism function and state political accommodation tool, social reflections of songwriters and musicians, industry polarization between major labels (capitalism ideology) and indie labels (freedom of expression ideology), to the arena of the compromising balance of popular culture ideologies.

Archives and Documents

In addition to history, archival disciplines or topics about archives, Indonesian popular music seems to have appeared in a number of publications. Ignatius Aditya Ahiatmaka entitled "Indonesian Popular Music Archiving Groups: Value and Meaning Attribution to Popular Cultural Products" has discussed archiving groups to define, identify, document, preserve, and reconstruct the history of Indonesian popular music through archival activities (Adhiatmaka, 2018:130).

The archiving of popular music shows that archives can be a means of preserving memory and cultivating collective identity awareness because popular music records personal and communal experiences at an event (Darajat & Waluyo, 2022; Tapiheru & Anshaari, n.d.). A scientific article entitled "Memory in Songs: Understanding the Management of Popular Music Archives in Indonesia" written by Irfan Rizky Darajat and Waluyo Waluyo explains how each information institution in obtaining, collecting, and managing Indonesian popular music archives will provide an overview of how these institutions understand Indonesian popular music archives and the challenges in managing them. The article also provides an overview of the importance of managing Indonesia's popular music archives as a continuous work between state information agencies, music lovers communities, and the music industry.

Noviana's thesis entitled "Management of Audiovisual Archives in Lokananta: A Case Study of Music Archives as the Collective Memory of the Indonesian Nation" discusses the management of the Lokananta music archive which is not only carried out technically, but also non-technically which is reflected in the cultural value of the manager in managing the Lokananta music archive as the collective memory of the Indonesian nation. This study aims to describe the management of music archives in Lokananta. The results of this study illustrate that the management of music archives physically has been carried out but has not been maximized, then the cultural value of the manager which can be seen is a sense of belonging, the value of mutual cooperation, the value of responsibility to pass on to the next generation (Noviana, 2017). Regarding the Lokananta music archive or studio, the publication of a book entitled *Lokananta* by Fakhri Zakaria, Dzulfikri Putra Malawi, and Syaura Qotrunadha has explained the history and work of Lokananta as a state-owned record label in the Indonesian music industry, especially in 2010-2015, as well as discussed several archives found in Lokananta (Zakaria et al., 2016).

Regarding archives or documents of Indonesian popular music, the S-2 thesis in library science at the University of Indonesia written by Adista Nurfitri entitled "Preservation of Music Archives as Collective Memory: A Case Study in Irama Nusantara" (2021) discusses the management of preservation carried out by the Irama Nusantara institution in preserving popular music made by the Indonesian nation. Irama Nusantara is committed to collecting archives of popular music from the past and re-empowering them by digitizing archives. This kind of institution is useful for the public, so that people can be more aware of the existence of Indonesian popular music as part of the nation's identity. Since 2013 until now, Irama Nusantara has digitized archives of 5,294 releases, 48,458 songs, and 253 music libraries (Tapiheru & Anshaari, n.d.).

In addition to providing open access for the general public to listen to the results of the archive, Irama Nusantara also makes various other educational efforts. For example, Irama Nusantara released a mini album containing songs from the past performed by musicians in the present so that these songs can still be listened to. In addition, Irama Nusantara also compiles podcasts, conducts online seminars, and conducts broadcasts containing chats about music in the past and the stories behind these musics. The archiving efforts and educational activities carried out by Irama Nusantara are a form of returning their work to the community (Nurfitria, 2021). A scientific journal article entitled "Digitization as an Effort to Preserve Popular Classical Music Archives at the Irama Nusantara Foundation" shows that the Irama Nusantara Foundation is the only non-profit foundation that provides free access services to the digitization collections they have through the long iramanusantara.org (Mediteranio et al., 2023). Other educational work from Irama Nusantara is also seen in the book publishing program entitled *Dari Ngak*

Ngik Ngok ke Dheg Dheg Plas (Adhiatmaka, 2021) by Ignatius Adhitya Adhiyatmaka. The book is divided into three chapters: Chapter I Pre-1960s, Chapter II 1960-1965, and Chapter III 1965-1969, complete with a timeline, special interviews, album reviews and details of archival sources and further reading. The election of the 1960s era was not without reason. Because there are many popular culture explosions. Such as rock n' roll music, musical instrument innovations and many more. All of them have a direct impact on Indonesian music. Which was closed at the end of 1969 when Koes Plus released its first album, *Dheg Dheg Plas* which was influential for the development of popular music in Indonesia, especially the rock genre.

From the Journalistics

The book entitled *Rock 'n Roll Indonesian Music Industry: From Analog to Digital* (2013) written by Theodor KS presents in detail what and how the music industry in Indonesia has developed since the era of vinyl records (PH), cassettes, CDs, to RBT. Including the ups and downs of the recording studio and the outbreak of song piracy. This book has shown the importance of paying attention to music archives in Indonesia (KS, 2013). A similar book was also written by Denny Sakrie entitled *100 Years of Indonesian Music* (2015). This book tries the long history of Indonesian music ranging from jazz music, keroncong, dangdut, film soundtracks, rock and roll, folk, indie, to stage music. There were also discussions about record labels in Indonesia, to music creation and singing competitions that also stimulated the growth of music artists in Indonesia. Then the book entitled *Documentation of the History of Indonesian Popular Music 1967-1978* written by Hengky Purwanto and the Indonesian Music Museum team published in 2022 presents excerpts of the history of music in Indonesia in the period from 1967 to 1978. This book seeks to collect Indonesian popular music journalistic archives from a number of music magazines that have been published in Indonesia from 1967 to 1978 such as *Aktuil* magazine and others. After 1978.

Figure 9. Cover book *Rock 'n Roll Indonesian Music Industry…* (KS, 2013), *100 Years of Indonesian Music* (Sakrie, 2015), *Documentation of the History of Indonesian Popular Music 1967-1978* (Herwanto et al., 2020)

In addition to the topic of the history of Indonesia's popular music industry, from the perspective of journalistic research, *Rolling Stone Indonesia* (RSI) magazine has conducted evaluative research by gathering observers and music collectors to curate and evaluate the works of popular Indonesian music albums. The result is a list of "150 Best Indonesian Albums" published by RSI in the 31st Edition in December 2007. The list contains Indonesian music albums that are considered to have the best quality.

The evaluators are Denny MR, Denny Sakrie, David Tarigan, and Theodore KS. Then in the 56th edition of December 2009, RSI also published the "150 Best Indonesian Songs", and in December 2010 published the list of "50 Best Indonesian Singers." This list of the best singers is made based on selection criteria with the application of Indonesian singers who are considered to have inspired the next generations. In determining the list of the best singers, RSI Indonesia magazine also has a team *of voters*, as well as a categorization team.

Figure 10. *Three covers of RSI magazine's evaluation edition of Indonesian popular music* (MR et al., 2007), 2009 (Team, 2009), (Team, 2010)

Similar to the publication of RSI, in 2020 Elevation Books, a subdivision of Elevation Records which diligently publishes music books and local albums, released a new handbook in looking at Indonesian music, namely *This Album Could Be Your Life: 50 Best Albums Indonesia: 1955-2015*. Interestingly, this book presents a different list from RSI's. For comparison, if in first place on the RSI list is occupied by the soundtrack album *Badai Pasti Berlalu*, then successively the album *Guruh Gypsy* and the compilation of *the 1978 Youth Song Creation Competition*, then the book *This Album Could Be Your Life...* put the album *Badai Pasti Berlalu* in fifth place. Instead, the first place was occupied by *Dheg Dheg Plas* from Koes Plus, the second place was the album *Ports of Lima* from the group Sore which was previously not on the list, and the Swami album from Swami as the top three.

Figure 11. *This Album Could Be Your Life…* book cover (Boer et al., 2020)

One interesting thing from the results of the journalistic evaluation, especially in RSI magazine, that can be concluded is the prominence and superiority of Indonesian popular music works in the 1970s compared to other decades (1950s to 2000s). From the list of "150 Best Indonesian Albums", it is known that the ten best albums are dominated by albums (six albums out of ten) of Indonesian popular music in the 1970s. In terms of production, the 1970s were also the most productive era in terms of quantity.

Conclusion

Finally, the results of this systematic literature review have prompted us to provide important notes. The first note is that while it is known that Indonesian popular music in the 1970s had a high quality of inspiration and productivity compared to other decades, there has been no specific study or research analyzing this phenomenon. Based on political issues with all their critical discourses, most of the existing studies are more interested in Indonesian popular music in the 1950s, 1960s, 1980s and 1990s, which had strong critical political discourses. Therefore, research on Indonesian popular music that focuses on the works and social settings of the 1970s is important.

Secondly, the dominance of the dangdut genre in Indonesia, which according to the neo-Gramscian perspective takes place due to the compositional balance between the ideological subjects of popular culture, and the absence of studies on the cross-genre phenomenon of Indonesian popular music has opened a wide door for interested academics to enter. As a final note, the tendency to use the perspective of humanities sciences in studying Indonesian popular music so far indicates a lack of educational disciplinary approach. Therefore, we suggest that educational perspectives can also be used to produce meaningful educational knowledge contributions about Indonesian popular music with its genre complexity.

Limitations of Study

This study has limitations in terms of the literature data used so that a number of conclusions from the findings obtained may have a generalization gap. In particular, the data only covers literature after 1999.

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References

Adhiatmaka, I. A. (2018). Kelompok pengarsipan musik populer indonesia: atribusi nilai dan makna pada produk Budaya populer *(Indonesian popular music archiving groups: value attribution and meaning in popular culture products)*. Master thesis. University of Indonesia. Indonesia

Adhiatmaka, I.A. (2021). Dari Ngak Ngik Ngok ke Dheg Dheg Plas: Perjalanan Musik Pop Indonesia 1960–1969 *(From "Ngak Ngik Ngok" to "Dheg Dheg Plas": The Journey of Indonesian Pop Music 1960-1969)*. Binatang Press.

Andrés, A. (2009). *Measuring academic research: How to undertake bibliometric study*. Chandos Publishing.

Andrie, S., & Sarvia, E. (2024). Studi komparatif: efek musik pop, hip-hop, dan tanpa musik pada kewaspadaan dan perilaku mengemudi *(Comparative study: effects of pop, hip-hop, and no music on alertness and driving behavior)*. *Journal of Integrated System, 7*(1), 98–110. https://doi.org/10.28932/jis.v7i1.8925

Aryandari, C. (2021*). The Indonesian popular music industry: navigating shadows of politics and cultural uncertainty*. In A. Johan & M. A. Santaella (Ed.), Made in Nusantara: Studies in Popular Music (hal. 164–171). Routledge.

Ashaf, A. F. (2006). Sikap Politik pemerintah Dalam Perwacanaan Musik Populer tahun 80-an dan 90-an *(The political stance of the government in the popular music scene of the 80s and 90s)*. Jurnal Ilmu Sosial dan Ilmu Politik, 9(3). https://doi.org/10.22146/jsp.11028

Bachri, N. A. R. (2022). Transformasi Medium Musik Stambul di Jawa 1920-an - 1942: Dari Panggung Sandiwara ke Industri Musik *Transformation of the Stambul Music Medium in Java 1920s-1942: From theatrical stage to music industry)*. Bachelor thesis. University of Gadjah Mada. Indonesia.

Bader, S., & Richter, M. M. (2014). "Dangdut" beyond the sex: creating intercorporeal space through "nyawer" encounters in West Java, Indonesia. *Ethnomusicology Forum, 23*(2), 163–83. https://doi.org/10.1080/17411912.2014.926629

Barendregt, B., & Zanten, W. van. (2002). Popular Music in Indonesia Since 1998, in Particular Fusion, Indie and Islamic Music on Video Compact Discs and the Internet. *Yearbook for Traditional Music, 34*, 67–114. https://doi.org/10.2307/3649190

Blauch, E. (2002). Alternative Music and Meditation in Late New Order Indonesia. *Inter-Asia Cultural Studies, 3*(2), 219–234. https://doi.org/10.1080/1464937022000000138

Blauch, E. (2020). *Genre Publics: Popular Music, Technologies, and Class in Indonesia*. Wesleyan University Press.

Darajat, I. R., & Waluyo, W. (2022). Memori dalam Lagu-Lagu: Memahami Pengelolaan Arsip Musik Populer di Indonesia *(Memory in Songs: Understanding the Management of Popular Music Archives in Indonesia)*. *Khazanah: Jurnal Pengembangan Kearsipan, 15,* 62–83. https://doi.org/10.22146/khazanah.71510

Darlene, E. (2024). Identitas Kultural Musik Pop Indonesia dalam Konteks Seni Urban *(Cultural Identity of Indonesian Pop Music in the Context of Urban Art)*. *Tonika: Jurnal Penelitian dan Pengkajian Seni, 7*(1), 49–61. https://doi.org/10.37368/tonika.v7i1.573

Decker, A. (2020). Hidden for their protection: gendered power, provocation, and representation in dangdut competition television. *Bijdragen Tot de Taal-, Land- En Volkenkunde, 176*(1), 37–69. https://doi.org/10.1163/22134379-17601002

Dhesita, S. J., & Sanjaya, A. (2024). Musik sebagai Kritik dalam Sejarah Politik Indonesia Pasca Kemerdekaan hingga Pasca Reformasi: Sebuah Kajian Historis *(Music as Criticism in Indonesian Political History from Post-Independence to Post-Reformation: A Historical Study)*. Nagri Pustaka: *Jurnal Pendidikan, Ilmu Sejarah, dan Budaya, 2*(1), 97–106. https://doi.org/10.62238/nagripustaka.v2i1.33

Farram, S. (2014). Ganyang! *(Raid!)* Indonesian Popular Songs from the Confrontation Era, 1963–1966. *Bijdragen Tot de Taal-, Land- En Volkenkunde, 170*(1), 1–24. https://doi.org/10.1163/22134379-17001002

Fitriyadi, I., & Alam, G. (2020). Globalisasi Budaya Populer Indonesia (Musik Dangdut) di Kawasan Asia Tenggara *(Globalization of Indonesian Popular Culture (Dangdut Music) in the Southeast Asian Region)*. Padjadjaran Journal of International Relations, 1(3), 251–269. https://doi.org/10.24198/padjir.v1i3.26196

Hart, C. (1998). *Doing a literature review: Releasing the social science research imagination*. SAGE Publications Sage UK: London, England.

Hermawan, M. I. (2024). *Digging through the network of the Indonesian noise scene*. Contemporary Music Review, Indonesian Music. https://doi.org/10.1080/07494467.2024.2391155

Kariko, A. A. T. (2009). *Pop Melayu: Hegemoni Media Massa dalam Ranah Musik Populer di Indonesia (Pop Malay: Mass Media Hegemony in Indonesia's Popular Music Scene)*. Master thesis. University of Indonesia. Indonesia.

Kristanto, Y. (2015). Bersenandung dalam Politik: Eksistensi Musik dan Musisi pada Kampanye Pemilihan Umum Masa Orde Baru (1971-1997) *(Singing in Politics: The Existence of Music and Musicians in the New Order Election Campaign (1971-1997)*. Bachelor thesis. University of Gadjah Mada. Indonesia.

KS, T. (2013). Rock 'n Roll Industri Musik Indonesia: Dari Analog ke Digital *(Rock ,n Roll Indonesian Music Industry: From Analog to Digital)*. Penerbit Buku Kompas.

Kusumaningsih, D. (2021). *Eksploitasi Seksual Dalam Lirik Lagu-Lagu Dangdut Berbahasa Indonesia (Tinjauan Sosiolinguistik) (Sexual Exploitation in the Lyrics of Indonesian Language Dangdut Songs (Sociolinguistic Review)*. Doctoral dissertation. University of Sebelas Maret. Indonesia.

McGraw, A., & Miller, C. J. (2022). *Sounding out the state of Indonesian music*. Cornell University Press.

Mediteranio, B. S., Damayani, N. A., & Kusnandar. (2023). Digitisasi Sebagai Upaya Preservasi Arsip Musik Klasik Populer di Yayasan Irama Nusantara *(Digitization as an Effort to Preserve Popular Classical Music Archives in Irama Nusantara)*. *Diplomatika Jurnal Kearsipan Terapan, 5*(2), 92. https://doi.org/10.22146/diplomatika.79014

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, the P. (2010). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine, 15*(4), 264–269. https://doi.org/10.1016/j.ijsu.2010.02.007

Mulyadi, R. M. (1999a). Industri Musik Indonesia: Suatu Sejarah *(The Indonesian Music Industry: A History)*. Koperasi Ilmu Pengetahuan Sosial.

Mulyadi, R. M. (1999b). *Industri Musik Nasional: Pop, Jazz, dan Rock, 1960-1990 (The National Music Industry: Pop, Jazz, and Rock, 1960-1990)*. Master thesis. University of Indonesia. Indonesia.

Mulyadi, R. M. (2014). Koes Plus: Tonggak dan Karakteristik ke-Indonesia-an dalam Musik Pop *(Koes Plus: Milestones and Characteristics of Indonesianness in Pop Music)*. University of Indonesia. Indonesia

Natasya, Aqmar, L., Triana, K., & Faith, T. (2024). Perkembangan Minat Para Remaja Di Bandung Terhadap Genre Musik Dangdut Koplo *(The Development of Teenagers' Interest in the Dangdut Koplo Music Genre in Bandung)*. *Multiple: Journal of Global and Multidisciplinary, 2*(2), 1238–1247. https://journal.institercom-edu.org/index.php/multiple/article/view/323

Noviana, A. F. (2017). *Pengelolaan Arsip Audiovisual di Lokananta: Studi Kasus Arsip Musik sebagai Memori Kolektif Bangsa Indonesia (Audiovisual Archives Management at Lokananta: A Case Study of Music Archives as a Collective Memory of the Indonesian Nation)*. Master thesis. University of Indonesia. Indonesia.

Nurfitria, A. (2021). Preservasi Arsip Musik sebagai Memori Kolektif: Studi Kasus di Irama Nusantara *(Preservation of Music Archives as Collective Memory: A Case Study at Irama Nusantara)* [University of Indonesia]. https://lib.ui.ac.id/detail?id=9999920520410&lokasi=lokal

Pertiwi, A. (2014). Larangan Soekarno Terhadap Musik Barat Tahun 1959–1967 *(Soekarno's Ban on Western Music 1959-1967)*. *Avatara: e-Journal Pendidikan Sejarah, 2*(3), 334–345.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Blackwell Publishing.

Resmadi, I., & Baulch, E. (2024). Indonesian critiques of the new musical system. Continuum: *Journal of Media & Cultural Studies,* 1–15. https://doi.org/10.1080/10304312.2024.2393878

Sakrie, D. (2015). 100 Tahun Musik Indonesia *(100 Years of Indonesian Music)*. Gagas Media.

Skala Survei Indonesia: Political Research and Consulting. (2014). Jenis Musik Yang Dicintai Publik Indonesia *(Types of Music Loved by the Indonesian Public)*. Skala Survei Indonesia: Political Research and Consulting. https://www.skalasurveiindonesia.com/jenis-musik-yang-dicintai-publik-indonesia/

Tan, L., & Sin, H. X. (2019). Flow Research in music contexts: a systematic literature review Leonard. *Musicae Scientiae, 25*(4), 1–30. https://doi.org/10.1177/1029864919877564

Tapiheru, A., & Anshaari, N. (n.d.). Memoar Memori Musik Populer Indonesia *(Memoirs of Indonesian Popular Music Memory)*. https://www.balairungpress.com/2023/09/memoar-memori-musik-populer-indonesia/

Tumimbang, M. A., & Saliareng, R. (2024). Simfoni Kebhinekaan: Menggagas Peran Musik dalam Memperkuat Persatuan Bangsa Berlandaskan Nilai-Nilai Pancasila *(Symphony of Diversity: Initiating the Role of Music in Strengthening National Unity Based on Pancasila Values)*. In M. Haris (Ed.), Prosiding Seminar Nasional Ilmu Pendidikan Agama dan Filsafat (hal. 45–55). Asosiasi Riset Ilmu Pendidikan Agama dan Filsafat Indonesia. https://doi.org/https://doi.org/10.61132/prosemnasipaf.v1i1.4

Wallach, J. (2008). *Modern noise, fluid genres: popular music in Indonesia, 1997-2001*. The University of Wisconsin Press.

Wallach, J., & Clinton, E. (2013). History, Modernity, and Music Genre in Indonesia: Introduction to the Special Issue. *Asian Music, 44*(2), 3. https://doi.org/10.1353/amu.2013.0020

Weintraub, A. N. (2006). Dangdut Soul: Who are 'the People' in Indonesian Popular Music?, *Asian Journal of Communication, 16,* 411–431. https://doi.org/10.1080/01292980601012444

Weintraub, A. N. (2008). Dance Drills, Faith Spills: Islam, Body Politics, and Popular Music in Post-Suharto Indonesia. *Popular Music, 27*(3), 367–369. http://dx.doi.org/10.1017/S0261143008102185

Weintraub, A. N. (2010). D*angdut Stories: A Social and Musical History of Indonesia's Most Popular Music*. Oxford.

Weintraub, A. N. (2013). The Sound and Spectacle of Dangdut Koplo: Genre and Counter-Genre in East Java, Indonesia. *Asian Music, 44*(2), 160–194. https://www.jstor.org/stable/24256937

Weintraub, A. N. (2017). *Titiek Puspa: Genered Modernity in 1960s and 1970s Indonesian Popular Music. In Vamping the Stage: Female Voices of Asian Modernities (hal. 144-173)*. Hawai'i University Press.

Yampolsky, P. (2013). Three Genres of Indonesian Popular Music: Genre, Hybridity, and Globalization, 1960-2012. *Asian Music, 44*(2), 24–80. https://doi.org/10.1353/amu.2013.0018

Zakaria, F., Malawi, D. P., & Qotrunadha, S. (2016). Lokananta *(Lokananta)*. Perum Percetakan Negara Republik Indonesia.

Web Sites

Web 1. https://pin.it/3GSH5XcqR

Web 2. https://pophariini.com/koes-plus-lima-dekade/

Web 3. https://www.kompasiana.com/jimsharianto/63a93dff08a8b528d2239d52/setengah-abad-god-bless-bermusik-cadas-keras?page=4&page_images=3

Web 4. https://kumparan.com/nilam-khoerunnisa/parasocial-relationship-menyoal-dampak-hubungan-imajinatif-fans-terhadap-idola-20v0CSjNYvl/full

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Google Scholar: https://scholar.google.co.id/citations?user=ukYa3uQAAAAJ&hl=en

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Research Article

Differences in brain electrical activity between musicians and non-musicians while listening to 440 Hz and 432 Hz musical compositions

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Abstract
The aim of this study was to examine the effects of music played at 432 Hz and 440 Hz on brain electrical activity, considering the specialization in music. The study included 11 non-musicians and 10 musicians, with participants completing two sessions, 24 hours apart. In the first session, participants listened to the 432 Hz Samuel Osmond Barber "Adagio for Strings Op. 11" and the 440 Hz Petrovich Mussorgsky "Night on Bald Mountain" compositions. In the second session, the 440 Hz "Adagio for Strings Op. 11" and the 432 Hz "Night on Bald Mountain" were performed. Brain electrical activity was assessed using coherence and Power Spectral Density (PSD) methods. The results revealed differences in brain electrical activity between musicians and non-musicians when listening to music at different frequencies. In the PSD analysis, a two-way ANOVA showed a significant group effect ($p < 0.05$; $\eta p2=0.086$) in the O1 channel within the theta frequency. Post hoc Tukey HSD tests revealed that O1 theta values were higher in musicians. Additionally, a significant frequency effect was observed in the Pz channel within the theta frequency ($p<0.05$; $\eta p2=0.128$), with 440 Hz producing higher Pz theta values. In the T8 channel, a significant frequency effect was found across the alpha 1, alpha 2, and beta 1 bands ($p<0.05$; $\eta p2=0.103$, 0.102, 0.118), with higher values observed at 440 Hz, but no significant group effect or interaction between group and frequency. Furthermore, coherence analysis indicated higher coherence values in the fronto-occipital region while listening to music at 432 Hz ($p<0.05$; $\eta p2=0.101$). In conclusion, the findings suggest that music frequency can influence brain activity and that there are significant differences in brain responses between musicians and non-musicians.

Keywords
connectivity, EEG, frequency, music therapy, musical expertise

Introduction
Sounds, such as noise, human voice, or musical compositions, constitute a significant aspect of our environment, influencing our behaviors and emotions. Through sound, we establish communication not only with fellow humans but also with various species (Frühholz et al., 2016). Moreover, musical evaluations play a substantial role in the scientific realm. For instance, neuroscientists explore the impact of music on the treatment of certain diseases (Rodríguez-Rodríguez et al., 2022; Sesso & Sicca, 2020), performance changes in sports-related activities (Atan, 2013; Belkhir et al., 2019), shopping and marketing dynamics (Yi & Kang, 2019), meditation practices (Hernandez-Ruiz & Dvorak, 2021), and sleep disorders (Dubey et al., 2019). The investigation of musical effects on the brain electrical activity considerably increased in the last decade.

Music has been linked to various advantages in sound processing, contributing to structural and functional enhancements in certain cognitive abilities while also inducing neuroplasticity (Herholz & Zatorre, 2012; Neves et al., 2022). Recent studies over the past decade have

underscored the correlation between music training and executive functions, specifically in inhibitory control, cognitive flexibility, and working memory (D'Souza et al., 2018; Ding et al., 2018; Li et al., 2015). The exploration of experience-based modifications resulting from musical exposure is deemed crucial for understanding arousal-related neurophysiological changes. In this context, electroencephalogram (EEG) emerges as a well-suited method for investigating such changes due to its provision of high temporal resolution. EEG is a powerful non-invasive method for the investigation of brain electrical activity via electrodes on the scalp surface. Brain oscillations are commonly classified based on their frequency intervals measured in Hertz (Hz), known as sub-bands, including delta (1-4 Hz), theta (4-8 Hz), alpha (8-12 Hz), beta (12-30 Hz), and gamma (+30 Hz). These sub-bands are intricately linked to a diverse range of somatic, visual, auditory, motor, perceptual, and cognitive functions. Notably, specific investigations have suggested a correlation between heightened alpha activation and exposure to music (Verrusio et al., 2015).

The reference frequency of musical instruments was identified as 440 Hz in the 1950s and officially confirmed as a global standard by the International Organization for Standardization (ISO) in 1975, although efforts toward this standardization began much earlier, with ISO initially recommending 440 Hz in 1939 to resolve discrepancies across European orchestras (Gribenski, 2021). In 1989, the Schiller Institute, associated with Lyndon LaRouche, sought to challenge this prevailing standard by petitioning the Italian legislature to adopt 432 Hz instead, a slightly lower reference pitch believed to align more closely with natural resonances and to offer a more harmonious experience. This initiative gained notable support from prominent opera figures such as Placido Domingo, Luciano Pavarotti, Renata Tebaldi, and Birgit Nilsson, yet ultimately failed to achieve legislative change. Nevertheless, the Schiller Institute continued to advocate for 432 Hz, arguing that it was indispensable for preserving the authenticity of Western art music and resonated with broader movements promoting music's connection to natural vibrations (Rosenberg, 2021; Haynes, 2002).

After years, the 432 Hz reference frequency unexpectedly gained popularity in the online sphere. Various writings and shares have emerged claiming the efficacy of 432 Hz in multiple aspects of music, although these claims often lack a scientific basis. Among these assertions are that 432 Hz enhances emotional balance, strengthens mental clarity, and even aligns better with natural frequencies. However, within scientific areas, there is a widespread consensus that musical frequency preferences are subjective and lack a scientific foundation (Palmblad, 2008). Evidence supporting the idea that 432 Hz provides a special 'natural harmony' is either insufficient or inconclusive. On the other hand, the surge in popularity of 432 Hz is propelled by alternative music communities and the influence of digital media. On platforms like YouTube and other music-sharing platforms, a plethora of content revolves around popular songs and new compositions transformed to 432 Hz. Such content often claims to offer listeners a more 'natural' or 'harmonious' experience (Rosenberg, 2021). In light of all this information, it remains uncertain whether the purported effects of 432 Hz music on human physiology are mythical or grounded in scientific reality.

Some studies reported the effect of 432 Hz music on the human organism such as heart rate and stress quantification (Calamassi & Pomponi, 2019; Menziletoglu et al., 2021; Calamassi et al., 2022; Di Nasso et al., 2016). Despite several studies with EEG and musical exposure, in the different frequencies, musical compositions' effects on EEG sub-bands and coherence are not clear yet. In light of these considerations, the present study aims to investigate the coherence and power spectral density (PSD) values of

the brain electrical activations during the listening of music at 432Hz and 440Hz among both musicians and non-musicians. We hypothesized that there would be differences in coherence and spectral density values within the frontal cortex, an area actively involved in cognitive processes, and the temporal cortex, which plays a crucial role in auditory processing and comprehension of auditory stimuli.

Method

Participants

The sample size was determined to be 24 participants based on a power analysis conducted using G*Power (effect size = 0.25, power = 0.80, α = 0.05). 24 right-handed participants were recruited for the study. Before the experiment, the participants were not informed about the song they would listen to. 3 people who stated that they were familiar with the songs after the recordings were finished were excluded from the study (11 non-musicians, 10 musicians, age: 32.74±7.43). The musician group comprised participants who were either students or graduates of the Faculty of Fine Arts or Conservatory, and who continued to engage in musical processes as instrumentalists playing at least one instrument or as vocalists. The non-musician group consisted of participants who had never played any musical instrument throughout their lives and had not undergone any music education. The participants stated that they had no neurological or psychological disease and had normal hearing abilities. This study was approved by the ethical committee of Anadolu University (329087). Alcohol and caffeinated drinks are indicated to affect the electrical activity in the brain. Therefore, the participants were instructed not to consume caffeinated or alcoholic drinks at least 24 hours before the experiments (Ajjimaporn et al., 2022). The process and risks associated with the study were explained to the participants, and written informed approval was acquired.

Experimental Procedure

EEG data were recorded in Eskisehir Technical University, Movement and Motor Control Laboratory. The participants joined two experiment days ~24 hours apart. Before listening to music, participants were seated comfortably on a chair. Electrode locations were prepared using an abrasive gel (Nuprep, Weaver and Co., Aurora CO) to reduce impedance level. Conductive gel (Electro-Gel, Electrocap International Inc., USA) was injected into electrodes. Then resting state EEG (rsEEG) was recorded for 3 min in eyes-closed (EC) condition before each experiment day. Two musical compositions which have 432 Hz and 440 Hz were performed. On the first visit participants sequentially listened to 432 Hz Samuel Osmond Barber's "Adagio for Strings Op.11" and 440 Hz Petrovich Mussorgsky's "Night on Bald Mountain" with ~10 minutes intervals. During the second visit, the participants sequentially listened to 440 Hz Samuel Osmond Barber's "Adagio for Strings Op.11" and 432 Hz Petrovich Mussorgsky's "Night Bald on Mountain" compositions ~10 minutes intervals.

The selection of Samuel Barber's Adagio for Strings Op.11 and Modest Mussorgsky's Night on Bald Mountain in this study is driven by the stark contrasts between the two works. Samuel Barber's Adagio for Strings Op.11 and Modest Mussorgsky's Night on Bald Mountain exhibit striking differences in both musical structure and emotional atmosphere. Adagio for Strings is characterized by a slow tempo, minimal melodic development, and a delicate orchestration that fosters a melancholic and introspective mood. The piece progresses with subtle harmonic transitions, primarily utilizing strings to create a sense of emotional depth and introspection, gradually building in intensity without departing from its serene and contemplative character. In contrast, Night on Bald Mountain is marked by fast tempos, expansive orchestral forces, and the prominent use of brass instruments, generating a dramatic tension that evokes an

eerie and supernatural atmosphere. The work features sudden dynamic shifts and intense thematic material, with the orchestration being far more vibrant and explosive. While Barber's composition creates a sustained emotional resonance through its simplicity and subtlety, Mussorgsky's piece is driven by dramatic contrasts and energetic orchestral color, emphasizing external conflict and visceral excitement. The fundamental contrast between these two works lies in Barber's focus on a gradual emotional buildup within a serene framework, while Mussorgsky's piece thrives on vivid orchestral textures and rapid shifts in mood to convey tension and fear.

All recordings were acquired at the same time of the day. During the experiments, the temperature of the recording room was 24 °C and the lights were dimmed. Both musical compositions were converted from 440Hz to 432Hz (-31,7 cents) using Audacity software (ver.3.1). After the converting was done, an experienced sound engineer checked these sound files. It is thought that the sound level affects the electrical activities of the brain (Pavlygina et al., 2004). Therefore, before the experiments sound level was checked using the NIOSH sound level meter (Crossley, 2021), and the mean level was kept between 74dB and 79dB. Musical compositions were played using 4 speakers (Pioneer, S-H210V, S-CR30) and 1 amplifier (Pioneer, VSX-609RDS).

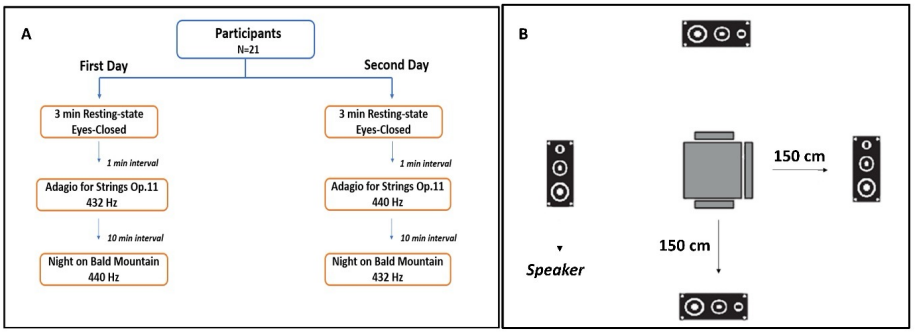

Figure 1. (A). Experimental design of the study; (B) Sitting and EEG recording position

Data Acquisition

EEG data were recorded using the Mentalab Explore device which has 9 channels of AG/AgCl wet electrodes (Mentalab US LLC / 2670 Worden St #19 San Diego, CA 92110). The proper cap size was selected for the participant's head from M and S sizes. Electrodes were located on Fp1, Fp2, Fpz, T7, T8, O1, O2, Pz, and M2 (ground-reference). M2 electrode were placed on the right mastoid. Impedance levels were kept below 10 kΩ during experiments. The sampling rate was selected at 250 Hz and recorded online with a 0,5-100 Hz band-pass filter and a 50 Hz notch filter was used to remove the power line interference in the signal.

Signal Processing

EEG data were processed with MATLAB R2022a (The Mathworks, Natick, MA, USA) and EEGlab v2022 (Delorme and Makeig, 2004). Recorded data were filtered between 0.1 and 40 Hz using an IIR Butterworth filter (8 order, 48dB/oct) in EEGlab software. Then Artifact Subspace Reconstruction (ASR) was used (SD=10) (Chang et al., 2018; Plechawska-Wojcik et al., 2019) for the artifact rejection process. Following this, we improved the spatial information of the artifact-free EEG epochs through the application of surface Laplacian estimation. Surface Laplacian estimation acts as a spatial filter for the distribution of EEG potentials, mitigating the volume conductor effects of the head and eliminating the impact of the electrode reference (Carvalhaes and De Barros, 2015).

We used the individual alpha frequencies (IAPF) method to reduce the individual differences between participants (Klimesch, 1999). First data were analyzed with Welch's modified periodogram method (window length 1 sec; 50% overlap; 0.1 frequency resolution; Hanning window). Then, IAPF was identified for each participant in EC rsEEG data, and sub-bands were determined according to IAPF. Theta frequency band was defined as IAPF-6 Hz to IAPF-2 Hz, alpha1 frequency band was defined as IAPF-2 Hz to IAPF, alpha2 frequency band was defined as IAPF to IAPF+2 Hz, beta1 frequency band was defined as IAPF+2 Hz to 20 Hz, beta2 frequency band was defined as 20 Hz to 30 Hz. The data obtained during music listening has been normalized in percentage terms using rsEEG data. The calculation formula is as follows:

$$\left(\frac{EEG_{music} - EEG_{base}}{EEG_{base}}\right) \times 100$$

Where EEG_{music} represents EEG data (coherence or PSD) during listening to musical composition and EEG_{base} represents resting state EEG data (coherence or PSD). This procedure was conducted to ensure the standardization of the obtained data. Subsequently, coherence was calculated for 28 electrode pairs in the 5 frequency bands (theta, alpha1, alpha2, beta1, beta2) using the 'mscohere' algorithm in MATLAB. This analysis aimed to assess the degree of synchronization or correlation between the signals recorded from these electrode pairs. PSD values were analyzed with Welch's modified periodogram method in five frequency bands (window length 1 s, 50% overlap; 0.1, frequency resolution, and Hanning window).

Statistical Analysis

The R software was utilized for the statistical analysis of PSD and coherence data. The statistical analysis involved a two-way ANOVA (Analysis of Variance) to examine the difference of group (musician, non-musician), and frequency (432Hz, 440Hz) on a dependent variable measured across electrode pairs (for coherence) and electrodes (for PSD). Post-hoc Tukey HSD tests were conducted on factors showing significance. The effect size was calculated using partial eta squared (ηp2) for the effect of group, frequency, and interaction between group and frequency. The analysis was carried out separately for each frequency band and electrode pair. The significance level was set at 0.05, ensuring that results with a p-value below this threshold were considered statistically significant.

Results

Coherence and PSD patterns of Adagio for Strings Op.11

In the coherence analysis, a two-way ANOVA revealed a significant group effect ($p < 0.05$) in the theta frequency for the T7Pz electrode pair, in the alpha 1 frequency for the T8O1 and Fp2Fpz electrode pairs, in the alpha 2 frequency for the T8O1, T7O1, and FpT7 electrode pairs, and in the beta 1 frequency for the Fp1O1 electrode pair. Additionally, significant frequency effects were observed in the Fp1T8 theta, O1Fpz alpha 1 and beta 1, T8Pz alpha 1, T8O1 alpha 1 and alpha 2, and beta 1, Fp2Pz alpha 2, Fp2O2 alpha 2, and Fp1O1 alpha 2 channels. Furthermore, significant interaction effects between frequency and group were found in the T7Pz, Fp2Fpz, and T8Fpz electrode pairs. There were also significant interactions between group and frequency in the T7Pz theta, Fp2Fpz alpha 1, T8Fpz, and Fp2Fpz beta 1 frequencies. Tukey HSD post hoc tests for the group effect revealed that T7Pz theta ($p = 0.035$), T8O1 alpha 1 ($p = 0.016$), T7O1 alpha 2 ($p = 0.035$), and T8O1 alpha 2 ($p = 0.027$) were significantly higher in musicians. Additionally, Fp2Fpz alpha 1 ($p = 0.036$), Fp1T7 alpha 2 ($p = 0.026$), and Fp1O1 beta 1 ($p = 0.027$) were significantly higher in non-musicians. The Tukey HSD post hoc tests for frequency effects revealed that the Fp1T8 theta, O1Fpz alpha 1 and beta 1, T8Pz alpha 1, T8O1 alpha 1 and alpha 2, and beta 1, Fp2Pz alpha 2, Fp2O2 alpha 2, and Fp1O1 alpha 2 electrode pairs were significantly higher for the 432 Hz frequency.

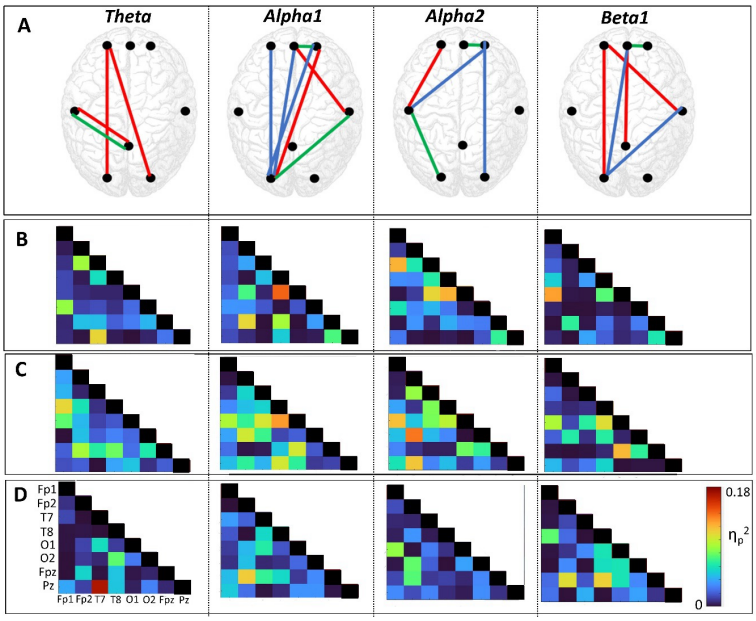

Figure 2. The results of the coherence and partial eta squared in theta, alpha 1, alpha 2, and beta 1 frequencies for Adagio for Strings Op.11 composition. (A) Significant effect and interaction of group and frequency. Black dots represent the electrode locations. Red lines represent the significant effect of the group, blue lines represent the significant effect of frequency, and green lines represent the significant interaction between the group and frequency. (B) The results of parietal eta squared in the group effect in theta, alpha 1, alpha 2, and beta 1 frequencies. (C) The results of parietal eta squared in the frequency effect in theta, alpha 1, alpha 2, and beta 1 frequencies. (D) The results of parietal eta squared in the interaction between group and frequency in theta, alpha 1, alpha 2, and beta 1 frequencies.

In the PSD analysis, a two-way ANOVA revealed a significant effect ($p < 0.05$) of the group in the O1 channel within the theta frequency. Moreover, significant frequency effects were observed in the Pz channel in the theta frequency. Notably, there were significant interactions between group and frequency in the Pz channels in the theta frequency. Post hoc Tukey HSD tests for the group effect revealed that O1 theta values were higher in musicians. Additionally, the frequency effect showed that 440 Hz had higher values in Pz theta.

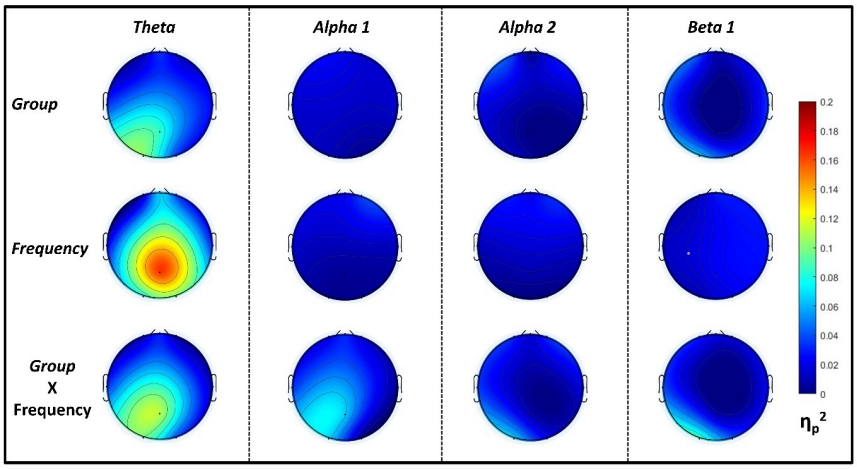

Figure 3. The topographic map of the effect size of PSD in theta, alpha 1, alpha 2, and beta 1 frequency for Adagio for Strings Op.11 composition.

Coherence and PSD patterns of Night on Bald Mountain

In the coherence analysis, a two-way ANOVA revealed a significant group effect ($p < 0.05$) in the theta frequency for the T7Pz and Fp1O1 electrode pairs, in the alpha 1 frequency for the Fp2O1 electrode pair. Additionally, significant frequency effects were observed in the O1O2 theta, and O2Fpz electrode pairs in alpha 1. There were also significant interactions between group and frequency in the T7Pz theta, O1O2, T8O1, Fp2Fpz alpha 1, and T8Pz beta 1. Tukey HSD post hoc tests for the group effect revealed that T7Pz theta and Fp2O1 were significantly higher in musicians, but Fp1O1 electrode pairs were significantly higher in non-musicians. Additionally, significant frequency effects were observed in the O1O2 theta and O2Fpz alpha1. Tukey HSD post hoc tests for the frequency effect revealed that O1O2 theta and O2Fpz alpha 1 were significantly higher in 432Hz.

In the PSD analysis, a two-way ANOVA revealed a significant effect ($p < 0.05$) of the frequency in the T8 channel within the alpha 1, alpha 2, and beta 1 frequency bands. Post hoc Tukey HSD tests for the frequency effect revealed that T8 apha1, T8 alpha 2, and T8 beta 1 values were higher in 440Hz. There was no significant effect of group and interaction between group and frequency.

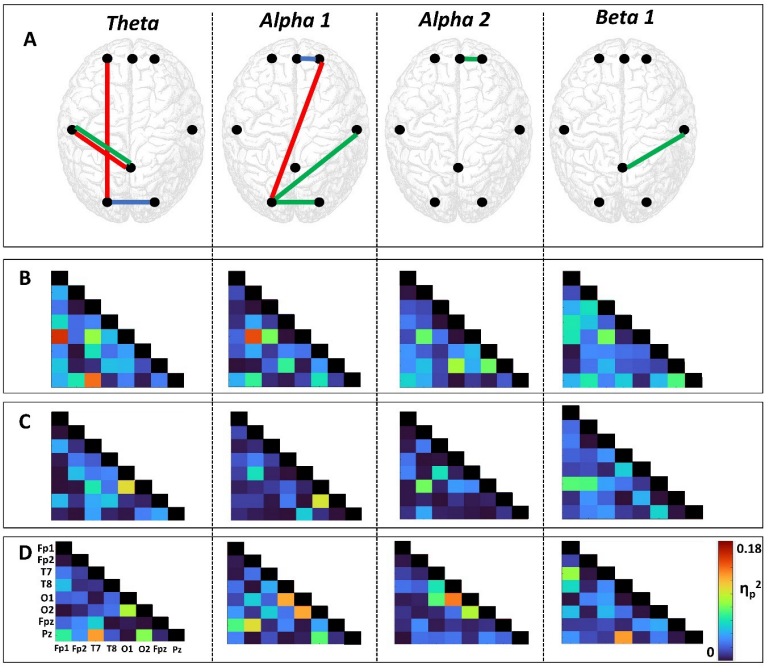

Figure 4. The results of the coherence and partial eta squared in theta, alpha 1, alpha 2, and beta 1 frequencies for Night on Bald Mountain composition. (A) Significant effect and interaction of group and frequency. Black dots represent the electrode locations. Red lines represent the significant effect of the group, blue lines represent the significant effect of frequency, and green lines represent the significant interaction between the group and frequency. (B) The results of parietal eta squared in the group effect in theta, alpha 1, alpha 2, and beta 1 frequencies. (C) The results of parietal eta squared in the frequency effect in theta, alpha 1, alpha 2, and beta 1 frequencies. (D) The results of parietal eta squared in the interaction between group and frequency in theta, alpha 1, alpha 2, and beta 1 frequencies.

In the PSD analysis, a two-way ANOVA revealed a significant effect ($p < 0.05$) of the frequency in the T8 channel within the alpha 1, alpha 2, and beta 1 frequency bands. Post hoc Tukey HSD tests for the frequency effect revealed that T8 apha1, T8 alpha 2, and T8 beta 1 values were higher in 440Hz. There was no significant effect of group and interaction between group and frequency.

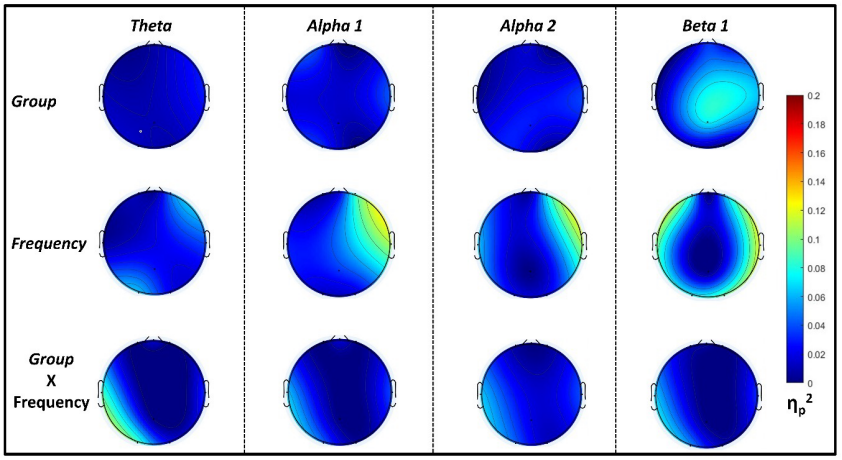

Figure 5. The topographic map of the effect size of PSD in theta, alpha 1, alpha 2, and beta 1 frequency for Night on Bald Mountain composition.

Discussion

This study aims to investigate differences in coherence and PSD patterns during the listening of two different musical compositions at 432 and 440 frequencies among musician and non-musician participants. In line with this objective, EEG data obtained during the listening of musical compositions at 432 and 440 frequencies were analyzed and compared across 28 electrode pairs (coherence) 8 electrodes (PSD), and 5 frequency bands.

In this study, the focus is initially on the differences in brain electrical activations observed when listening to different musical compositions between musicians and non-musicians. Our results indicate that musicians exhibit higher coherence values in the temporo-parietal and temporo-occipital regions. On the other hand, non-musician participants show higher coherence values in the fronto-occipital and fronto-temporal regions. Moreover, PSD results showed that O1 channel in theta frequency was higher in non-musicians. Music education is a significant factor that induces structural and functional changes in the human brain. Particularly in professional musicians, noticeable alterations are observed in processes such as increased temporal discrimination abilities (Agrillo and Piffer, 2012), enhanced auditory perception, relevant cortical arrangements (Francois and Schon, 2011), and effective working memory (George and Coch, 2011). Mikutta and colleagues (2014), reported that professional musicians exhibit more consistent features during music listening. In this context, our study demonstrates that the most prominent differences in expertise related to music manifest in the temporal, parietal, and occipital regions of the brain. These findings contribute significantly to our understanding of the effects of music education on the brain.

In our study, aimed at understanding the effects of musical experience on brain activity, participants were exposed to two different types of musical compositions. The first composition, titled " Adagio for Strings Op.11" was characterized by a slow tempo, while the other, titled " Night on Bald Mountain" had a higher tempo. The results obtained indicated that the slow-tempo music elicited a broader regional coherence in participants' EEG findings. These significant observations provide a new perspective on how the characteristic features of musical compositions can create distinct effects on brain activity. Husain and colleagues (2002) examined the effects of tempo and mode variations in Mozart's sonatas on spatial ability, arousal, and mood were investigated. It was reported that listening to music played at a fast tempo

and in a major mode enhanced spatial task performance. Tempo changes influenced arousal, while mode changes affected mood. In this context, our study contributes to understanding the complex interactions of music by demonstrating that slow-tempo music establishes broad regional coherence, while tempo and mode changes affect brain activity.

In the last decade, there has been a noticeable surge in the popularity of 432 Hz, particularly in online platforms. This frequency is often associated with claims of various effects on mental and emotional well-being. For instance, the latest study conducted by Di Nasso and colleagues (2016) specifically aimed to examine the effects of 432 Hz music on patients' vital signs, particularly during root canal treatment. They have found that listening to music during the root canal treatment process positively influences the overall health status of patients. The study suggests that the use of music as a supportive element in this treatment process can reduce stress levels and enhance the general well-being of patients. In another similar study, Menziletoglu and colleagues (2021) reported that 432 Hz music exposure was associated with reduced anxiety levels during the preoperative stage in dental treatment. Moreover, some studies reported the effect of 432 Hz music on the human organism such as heart rate and stress quantification (Calamassi & Pomponi, 2019; Calamassi et al., 2022). These studies demonstrate the positive effects of 432 Hz on various emotional states. Despite studies demonstrating the positive effects of 432 Hz on various emotional states, research on the impact of 432 Hz on brain electrical activities is limited. To address this gap, our conducted study aimed to reveal differences in brain electrical activations during the listening of both musical compositions. Specifically, in the fronto-occipital, and temporo-occipital regions, we found that 432 Hz exhibited higher coherence values compared to 440 Hz. These findings contribute to our understanding of the specific effects of musical frequency on brain activations, suggesting that 432 Hz may enhance activation in certain brain regions, potentially positively influencing emotional states.

Conclusion

Our study aimed to examine the differences in brain electrical activation observed between individuals interested and not interested in music while listening to compositions at different frequencies. Increased coherence values in the temporo-parietal and temporo-occipital regions among musicians indicate that they exhibit more coordinated brain activations during the music listening process. On the other hand, non-musician participants show higher coherence in fronto-occipital and fronto-temporal regions, suggesting that individuals not engaged in music experience more intense interactions in different brain areas. The study also highlights that slow-tempo music induces broader regional coherence and, by demonstrating higher coherence values in the 432 Hz frequency, particularly in fronto-temporal, fronto-occipital, and temporo-occipital regions, suggests that this frequency may lead to stronger activation in specific brain areas and positively influence emotional states. These findings contribute to a more detailed understanding of the complex interaction between music experience, composition characteristics, and frequency.

Recommendations

Recommendations for Further Research

It is recommended that future research investigates the cognitive, emotional, and behavioral effects of different music genres on individuals. In this context, examining music's impact within various age groups, cultural settings, or specific situations (e.g., learning, stress management, or physical activity) could provide significant contributions to the literature. Additionally, supporting these studies with both quantitative and qualitative methods would enable a more comprehensive evaluation of the findings.

Recommendations for Applicants

While traditional analysis methods such as Power Spectral Density (PSD) and coherence are commonly employed, it is recommended that future studies incorporate alternative analytical techniques. Specifically, time-frequency analysis, effective connectivity, and artificial intelligence-based methods can enable a more detailed examination of the data, allowing for a better understanding of the dynamic changes, temporal, and frequency components of the signals. These approaches can enhance the accuracy of the findings and provide deeper insights. Furthermore, the application of multivariate analysis techniques could offer a more comprehensive exploration of the interactions and relationships between different factors.

Limitations

In this study, we evaluated two different musical compositions using only PSD and coherence methods. This study serves as a pilot for a larger-scale research project. In future research, we suggest developing a more comprehensive approach by incorporating alternative methods such as phase locking value and graph theory to expand the analysis methodology. Additionally, we suggest working with a larger music sample that includes various musical genres and frequencies. This way, we foresee that a more extensive evaluation, enhancing the generalizability of the results, will be achieved.

References

Agrillo, C., & Piffer, L. (2012). Musicians outperform nonmusicians in magnitude estimation: Evidence of a common processing mechanism for time, space and numbers. *Quarterly Journal of Experimental Psychology*, *65(*12), 2321-2332. https://doi.org/10.1080/17470218.2012.680895

Ajjimaporn, A., Noppongsakit, P., Ramyarangsi, P., Siripornpanich, V., & Chaunchaiyakul, R. (2022). A low- dose of caffeine suppresses EEG alpha power and improves working memory in healthy University males. *Physiology & Behavior, 256*, 113955. https://doi.org/10.1016/j.physbeh.2022.113955

Atan, T. (2013). Effect of music on anaerobic exercise performance. *Biology of Sport*, *30*(1), 35-39. https://doi.org/10.5604/20831862.1029819

Belkhir, Y., Rekik, G., Chtourou, H., & Souissi, N. (2019). Listening to neutral or self-selected motivational music during warm-up to improve short-term maximal performance in soccer players: Effect of time of day. *Physiology & Behavior, 204*, 168-173. https://doi.org/10.1016/j.physbeh.2019.02.033

Calamassi, D., & Pomponi, G. P. (2019). Music tuned to 440 Hz Versus 432 Hz and the health effects: a double-blind cross-over pilot study. *Explore, 15*(4), 283–290. https://doi.org/10.1016/j.explore.2019.04.001

Calamassi, D., Li Vigni, M. L., Fumagalli, C., Gheri, F., Pomponi, G. P., & Bambi, S. (2022). The Listening to music tuned to 440 Hz versus 432 Hz to reduce anxiety and stress in emergency nurses during the COVID-19 pandemic: a double-blind, randomized controlled pilot study. *Acta Bio-medica: Atenei Parmensis*, *93*(S2), e2022149. https://doi.org/10.23750/abm.v93iS2.12915

Carvalhaes, C., & De Barros, J. A. (2015). The surface Laplacian technique in EEG: Theory and methods. International Journal of Psychophysiology, 97(3), 174-188. https://doi.org/10.1016/j.ijpsycho.2015.04.023

Chang, C. Y., Hsu, S. H., Pion-Tonachini, L., & Jung, T. P. (2018, July). Evaluation of artifact subspace reconstruction for automatic EEG artifact removal. In 2018 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 1242-1245). IEEE. https://doi.org/10.1109/EMBC.2018.8512547

Crossley, E., Biggs, T., Brown, P., & Singh, T. (2021). The accuracy of iPhone applications to monitor environmental noise levels. *The Laryngoscope*, *131*(1), E59-E62. https://doi.org/10.1002/lary.28590

Delorme, A., & Makeig, S. (2004). EEGLAB: An open-source toolbox for analysis of single-trial EEG dynamics including independent component analysis. *Journal of Neuroscience Methods*, *134*(1), 9-21. https://doi.org/10.1016/j.jneumeth.2003.10.009

Di Nasso, L., Nizzardo, A., Pace, R., Pierleoni, F., Pagavino, G., & Giuliani, V. (2016). Influences of 432 Hz music on the perception of anxiety during endodontic treatment: a randomized controlled clinical trial. *Journal of Endodontics, 42*(9), 1338–1343. https://doi.org/10.1016/j.joen.2016.05.015

Ding, Y., Gray, K., Forrence, A., Wang, X., & Huang, J. (2018). A behavioral study on tonal working memory in musicians and non-musicians. PloS one, 13(8), e0201765. https://doi.org/10.1371/journal.pone.0201765

D'Souza, A. A., Moradzadeh, L., & Wiseheart, M. (2018). Musical training, bilingualism, and executive function: working memory and inhibitory control. *Cognitive Research: Principles and Implications, 3*(1), 11. https://doi.org/10.1186/s41235-018-0095-6

Dubey, P., Kumar, Y., Singh, R., Jha, K., & Kumar, R. (2019). Effect of music of specific frequency upon the sleep architecture and electroencephalographic pattern of individuals with delayed sleep latency: A daytime nap study. *Journal of Family Medicine and Primary Care, 8*(12), 3915–3919. https://doi.org/10.4103/jfmpc.jfmpc_575_19

Francois, C., & Schon, D. (2011). Musical expertise boosts implicit learning of both musical and linguistic structures. *Cerebral Cortex, 21*(10), 2357–2365. https://doi.org/10.1093/cercor/bhr022

Frühholz, S., Trost, W., & Kotz, S. A. (2016). The sound of emotions-Towards a unifying neural network perspective of affective sound processing. *Neuroscience and Biobehavioral Reviews, 68,* 96–110. https://doi.org/10.1016/j.neubiorev.2016.05.002

George, E. M., & Coch, D. (2011). Music training and working memory: An ERP study. *Neuropsychologia, 49*(4), 1083–1094. https://doi.org/10.1016/j.neuropsychologia.2011.02.001

Gribenski, F. (2021). S*ounding standards: A history concert pitch, between musicology and STS*. In Rethinking Music through Science and Technology Studies (pp. 26-46). Routledge.

Haynes, B. (2002). *A history of performing pitch: the story of 'A*'. Scarecrow Press.

Herholz, S. C., & Zatorre, R. J. (2012). Musical training as a framework for brain plasticity: behavior, function, and structure. *Neuron, 76*(3), 486–502. https://doi.org/10.1016/j.neuron.2012.10.011

Hernandez-Ruiz, E., & Dvorak, A. L. (2021). Music and mindfulness meditation: Comparing four music stimuli composed under similar principles. *Psychology of Music, 49*(6), 1620–1636. https://doi.org/10.1177/0305735620969798

Husain, G., Thompson, W. F., & Schellenberg, E. G. (2002). Effects of musical tempo and mode on arousal, mood, and spatial abilities. *Music Perception, 20*(2), 151-171. https://doi.org/10.1525/mp.2002.20.2.151

Klimesch, W. (1999). EEG alpha and theta oscillations reflect cognitive and memory performance: a review and analysis. Brain Research. *Brain Research Reviews, 29*(2-3), 169–195. https://doi.org/10.1016/s0165-0173(98)00056-3

Li, H. C., Wang, H. H., Chou, F. H., & Chen, K. M. (2015). The effect of music therapy on cognitive functioning among older adults: A systematic review and meta-analysis. *Journal of the American Medical Directors Association, 16*(1), 71-77. https://doi.org/10.1016/j.jamda.2014.10.004

Menziletoglu D, Guler AY, Cayır T, Isik BK. (2021). Binaural beats or 432 Hz music? which method is more effective for reducing preoperative dental anxiety? *Med Oral Patol Oral Cir Bucal., 26*(1):e97-e101. https://doi.org/10.4317/medoral.24051

Mikutta, C. A., Maissen, G., Altorfer, A., Strik, W., & König, T. (2014). Professional musicians listen differently to music. *Neuroscience, 268*, 102-111. https://doi.org/10.1016/j.neuroscience.2014.03.007

Neves, L., Correia, A. I., Castro, S. L., Martins, D., & Lima, C. F. (2022). Does music training enhance auditory and linguistic processing? A systematic review and meta-analysis of behavioral and brain evidence. *Neuroscience & Biobehavioral Reviews, 140,* 104777. https://doi.org/10.1016/j.neubiorev.2022.104777

Palmblad, S. (2018). A=*432: A superior tuning or just a different intonation? How tuning standards affect emotional response, timbre, and sound quality in music*. Bachelor's thesis, Media Arts, Aesthetics, and Narration, University of Skövde, Sweden

Pavlygina, R. A., Sakharov, D. S., & Davydov, V. I. (2004). Spectral analysis of the human EEG during listening to musical compositions. *Human Physiology, 30*(1), 54-60. https://doi.org/10.1023/B:HUMP.0000013765.64276.e6

Plechawska-Wojcik, M., Kaczorowska, M., & Zapala, D. (2019). The artifact subspace reconstruction (ASR) for EEG signal correction. A comparative study. *In Proceedings of 39th International Conference on Information Systems Architecture and Technology – ISAT 2018*, eds J. Świątek, L. Borzemski, and Z. Wilimowska (Cham: Springer), 125–135. https://doi.org/10.1007/978-3-319-99996-8_12

Rodríguez-Rodríguez, R. C., Noreña-Peña, A., Chafer-Bixquert, T., Lorenzo Vásquez, A., González de Dios, J., & Solano Ruiz, C. (2022). The relevance of music therapy in pediatric and adolescent cancer patients: a scoping review. *Global Health Action, 15*(1), 2116774. https://doi.org/10.1080/16549716.2022.2116774

Rosenberg, R. E. (2021). Perfect pitch: 432 hz music and the promise of frequency. *Journal of Popular Music Studies, 33*(1), 137-154. https://doi.org/10.1525/jpms.2021.33.1.137

Sesso, G., & Sicca, F. (2020). Safe and sound: Meta-analyzing the Mozart effect on epilepsy. Clinical neurophysiology: official journal of the International Federation of *Clinical Neurophysiology, 131*(7), 1610–1620. https://doi.org/10.1016/j.clinph.2020.03.039

Verrusio, W., Ettorre, E., Vicenzini, E., Vanacore, N., Cacciafesta, M., & Mecarelli, O. (2015). The Mozart Effect: A quantitative EEG study. *Consciousness and Cognition, 35*, 150–155. https://doi.org/10.1016/j.concog.2015.05.005

Yi, F., & Kang, J. (2019). Effect of background and foreground music on satisfaction, behavior, and emotional responses in public spaces of shopping malls. Applied Acoustics, 145, 408-419. https://doi.org/10.1016/j.apacoust.2018.10.029

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Research Article

Song composition for early childhood music teaching activities

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Abstract

This study composes and evaluates songs specifically designed for early childhood music activities. The composition process integrates insights from a thorough analysis of relevant literature, theoretical perspectives on early childhood development, and the Early Childhood Education Curriculum established by the Ministry of Education (2017). To assess the quality of the composed songs, the research team consults a panel of five experts, including three specialists in early childhood education and two music education specialists from the Yamaha Music Institute. The team selects these experts based on their professional qualifications and extensive experience in early childhood pedagogy and music instruction. Using a five-point Likert scale, the study evaluates six key criteria: (1) appropriateness of lyrics, (2) melodic and rhythmic appeal, (3) suitability of vocal range, (4) appropriateness of instrumentation, (5) contribution to child development, and (6) practical applicability in music activities. Researchers conduct a content analysis to interpret the data and present the results descriptively. The findings reveal that the composed songs align with the Early Childhood Education Curriculum and fall into four thematic units: (1) rhythm, featuring *"Magical Rhythm"* and *"The Value of Notes"*; (2) singing, including *"Let's Sing Together"* and *"Singing Do-Re-Mi with Joy";* (3) movement, with *"The Elephant's Gentle Walk"* and *"The Frog's Joyful Leap";* and (4) playing musical instruments, incorporating *"Drumming: Tuk-Tuk-Tum-Tum"* and *"Strumming the Guitar: Plak-Plak-Poong-Poong."* The compositions integrate simple rhythms, age-appropriate vocabulary, and accessible vocal ranges to facilitate learning, while repetitive elements enhance engagement and retention among young learners. Expert evaluations yield an overall mean score of 4.23 with a standard deviation of 0.56, confirming the songs' suitability for early childhood music activities.

Keywords

early childhood music, music teaching activities, song composition

Introduction

Music actively shapes young children's holistic development by enhancing their cognitive, emotional, and motor skills, all of which support early learning. Gordon (2012) emphasizes that well-designed songs actively enhance early childhood listening skills, movement, and creativity. Barrett (2016) highlights how music-based learning fosters children's musical perception and language skills, strengthening their ability to recognize and retain vocabulary. However, Young (2008) notes that many songs used in early childhood music activities lack a foundation in music education principles or child development theories. As a result, these songs often fail to effectively support children's musical learning and developmental progress.

To maximize the educational benefits of songs in early childhood settings, composers should base their work on fundamental music education principles. The Kodály Method, for example, prioritizes singing as the primary medium of instruction and incorporates simple rhythmic structures to support children's musical development (Houlahan & Tacka, 2015). Similarly, the Orff Schulwerk approach integrates singing, movement, and percussion instruments to promote experiential learning and holistic musical engagement (Goodkin, 2018). Trehub and Trainor (1998) emphasize that effective early childhood songs should feature simple, easily understandable structures and use repetition techniques to enhance memory retention and encourage active participation in musical activities.

Despite extensive research on music's role in early childhood development, studies on the composition and evaluation of high-quality, developmentally appropriate songs remain limited, particularly in Thailand and Southeast Asia. Few studies apply music education methodologies to the creation of songs tailored to young learners within culturally relevant contexts. To address this gap, this study composes songs specifically designed for early childhood music teaching activities, integrating established music education principles and child development theories to effectively support children's learning needs. Additionally, the study evaluates these compositions by gathering expert insights on key musical elements, including lyrical appropriateness, melody, rhythm, and practical applicability in educational settings. The findings will serve as a valuable resource for music educators, composers, and early childhood practitioners, guiding the development of high-quality songs that effectively promote musical learning and overall development in early childhood education.

Compositional Aspects

Composing songs for early childhood music teaching activities demands thoughtful consideration of musical elements that align with children's cognitive, emotional, and physical growth. A well-crafted children's song emphasizes clarity, repetition, and ease of use, fostering active engagement and participation in young learners. (Hewitt, 2004). Overly complex melodies, rhythms, or lyrics can hinder children's ability to internalize musical patterns and fully enjoy the learning experience.

Bergonzi (2011) emphasizes the importance of composing uncomplicated songs with vocabulary appropriate for children's developmental stages. The melody should remain simple, singable, and within an accessible vocal range, often utilizing a pentatonic scale or stepwise motion to accommodate young voices. Additionally, the rhythm should be clear and steady, allowing children to follow along easily and develop a sense of pulse. Jellison (2015) asserts that incorporating well-structured songs into early childhood music activities enhances listening and singing abilities while also fostering rhythmic movement and peer collaboration.

Lyrical content also plays a crucial role in engaging young learners. Hewitt (2004) highlights the necessity of selecting relatable and age-appropriate lyrics, incorporating familiar themes such as animals, everyday objects, or simple narratives that help children connect with the music. The repetition of lyrics and melodies aids in memory retention and encourages active participation. Furthermore, integrating movement into songs enhances early childhood music teaching activities. Wood (2013) emphasizes that songs should promote physical activity, such as dancing, jumping, or clapping, to support the simultaneous development of motor skills and auditory perception. Therefore, the rhythm and phrasing of a song should allow for natural movement responses, reinforcing kinesthetic learning.

Method

The Creation of Songs for Early Childhood Education

The researcher conducted a comprehensive study by collecting and reviewing relevant literature, including theories on early childhood development, the organization of music activities for young children, and related research studies. The song composition process incorporated concepts that support the physical, emotional, social, and cognitive development of early childhood learners. Additionally, the researcher analyzed the early childhood education curriculum, referencing data from the Office of Academic Affairs and Educational Standards under the Office of the Basic Education Commission, Ministry of Education (2017). Following these guidelines, the researcher composed songs in alignment with the Early Childhood

Education Curriculum, organizing them into four thematic units:

Unit 1: Rhythm – Includes the songs *"Magical Rhythm"* and *"The Value of Notes."*

Unit 2: Singing – Features the songs *"Let's Sing Together"* and *"Singing Do-Re-Mi with Joy."*

Unit 3: Movement – Comprises the songs *"The Elephant's Gentle Walk"* and *"The Frog's Joyful Leap."*

Unit 4: Playing Musical Instruments – Incorporates the songs *"Drumming: Tuk-Tuk-Tum-Tum"* and *"Strumming the Guitar: Plak-Plak-Poong-Poong."*

Research Methodology: Expert Evaluation of Composed Songs

This study employed a purposive sampling method to select expert evaluators for assessing the composed songs. The research team assembled a panel of experts, consisting of three specialists in early childhood education and two specialists in children's music education from the Yamaha Music Institution. The team selected these experts based on their professional expertise and extensive experience in early childhood education and music pedagogy. The evaluators assessed the composed songs using a set of predetermined criteria, focusing on the following aspects:

Appropriateness of Lyrics – Evaluating whether the lyrics align with children's developmental stages and comprehension levels.

Melodic and Rhythmic Appeal – Assessing the attractiveness, memorability, and engagement of the melody and rhythm.

Vocal Range Suitability – Determining whether the vocal range accommodates children's vocal abilities, ensuring ease of singing and vocal health.

Instrument Suitability – Examining the appropriateness of the instruments used, considering accessibility, sound quality, and alignment with early childhood music education practices.

Contribution to Child Development – Measuring the extent to which the song supports children's physical, cognitive, emotional, and social growth.

Practical Applicability – Assessing the feasibility of implementing the songs in actual early childhood music education settings.

Result and Discussion

Principles of Song Composition for Early Childhood Music Teaching Activities

Composing songs for early childhood education requires careful consideration of various musical and developmental factors to ensure they effectively support children's growth across multiple domains. The following principles guided the composition of songs in this study:

Simplicity and Memorability

Simple and easily memorable melodies enhance children's ability to learn and recall music by incorporating basic notes and natural rhythmic patterns. Overly complex melodies can hinder their capacity to internalize and remember musical structures, reducing engagement. Moreno-Morilla et al. (2021) emphasize that simple melodies with natural rhythms facilitate children's learning and memory retention, aligning with the principle that music should have a clear and accessible structure to support the learning process. Additionally, intricate melodies may decrease children's interest and limit their participation in musical activities. Well-structured music supports emotional perception and communication through sound, helping children understand and express emotions more effectively. This study recommends incorporating simple and natural melodies into children's musical activities to optimize learning, retention, and emotional development.

Clear and Engaging Rhythms

Songs should feature distinct and lively rhythms, allowing children to move naturally in response to the music. Rhythmic clarity supports the development of motor skills and coordination. Wuttipanyarattanakun (2012) notes that music activities enhance children's movement abilities, such as jumping, dancing, and moving in rhythm, which are essential for physical development. Integrating playful yet structured rhythmic elements encourages active participation in musical learning, making rhythm a fundamental aspect of early childhood education.

Encouraging Participation Through Actions

Lyrics should invite children to engage in physical activities such as clapping, jumping, dancing, or playing instruments. This participatory approach fosters interactive learning and sustains engagement. Roeksamut (2018) states that music activities provide opportunities for children to collaborate with peers, enhancing social skills, teamwork, and cooperation. Therefore, incorporating lyrics that prompt movement and group participation strengthens social interaction in early childhood settings while promoting both physical and cognitive development.

Educational Content to Support Learning

Songs should not only entertain but also introduce fundamental musical concepts such as rhythm, melody, and note values. Themes related to animals, everyday experiences, or familiar objects help children connect with the music more effectively. Phatthalung (2023) highlights that music fosters children's creativity by allowing them to explore and combine different sounds, enhancing their decision-making and problem-solving abilities. Integrating educational content into song lyrics and melodies enables children to develop musical understanding while engaging in creative expression, reinforcing both musical and cognitive growth.

Natural and Enjoyable Learning Experiences

Music should create an engaging learning environment, encouraging exploration through play. Enjoyable musical experiences boost motivation and participation, making learning more effective. Curbelo-González et al. (2024) emphasize that early childhood music education should integrate singing, movement, and body expression. Their study found that 91.3% of teachers used music and movement, 90.1% emphasized body expression, and 72.5% incorporated active listening. However, some teachers lacked musical expertise, and limited instrument availability led to alternative teaching methods. The study recommends better integration of music into curricula and improved teacher training. Similarly, Syla (2024) stresses the importance of adequate instruments, equipment, and teacher preparation to enhance music education. Ensuring accessible, well-supported music programs can significantly enrich children's early learning experiences.

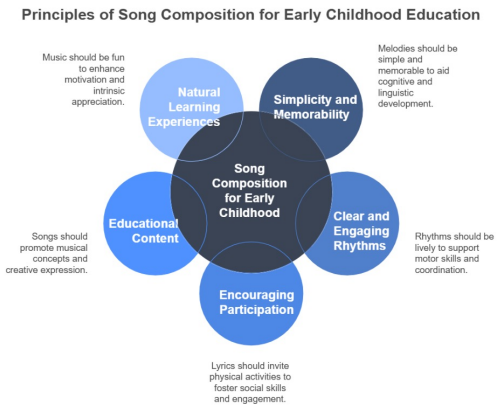

Figure 1. Principles of Song Composition for Early Childhood Education
Source: Suthasinee Theerapan (2025)

Analysis of the Structure of Songs for Early Childhood

Song Structure

The songs composed for early childhood music teaching activities in this study primarily follow the Ternary Form (ABA or AABA), a three-part structure consisting of

an initial section (A), a contrasting middle section (B), and a return to the initial section (A). Commonly known as "Song Form," this structure provides balance and coherence while clearly distinguishing different sections of the song.

Section A introduces the main theme, which may incorporate storytelling elements, movement descriptions, or representations of musical concepts. This section establishes the foundation of the song, ensuring it is both engaging and easy for young children to remember.

Section B introduces variations in rhythm, melody, or harmonic structure to sustain interest and encourage active participation. This contrast enhances the song's appeal, capturing the listener's attention and maintaining engagement.

Returning to Section A reinforces thematic consistency, aiding children's memorization and fostering a sense of familiarity. This repetition strengthens cognitive connections, making it easier for young learners to internalize musical patterns and concepts.

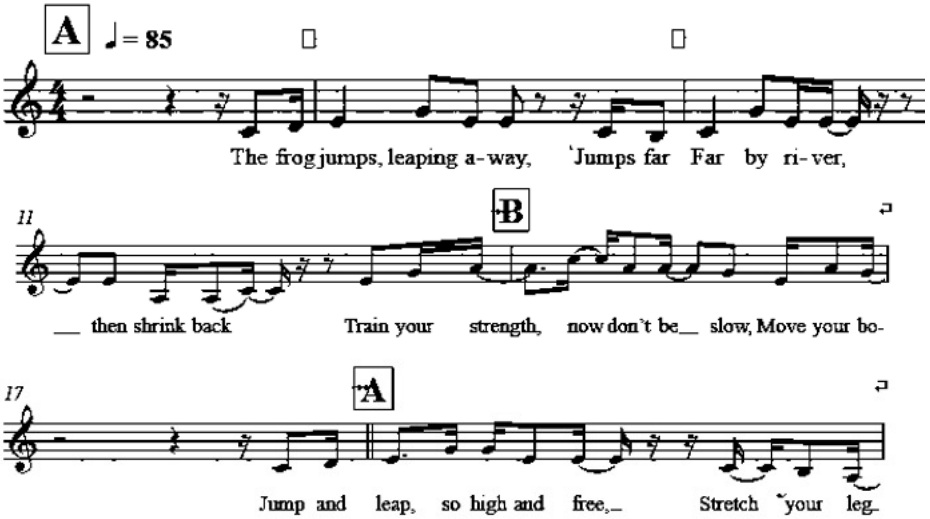

Figure 2. Ternary Form (ABA) in the Song *"The Frog's Joyful Leap"*.
Source: Suthasinee Theerapan (2025)

According to Figure 2, the song *"The Frog's Joyful Leap"* follows the Ternary Form (ABA), demonstrating the distinct roles of each section within the composition.

Section A (Verse) introduces the main theme, describing the frog's characteristics and jumping motion, along with the movements of other animals and the surrounding environment. The melody in this section remains stable and continuous, making it easy for singers to memorize and follow.

Section B (Chorus) enhances excitement and encourages movement among singers and listeners. This section incorporates variations in rhythm and lyrics to promote interaction, prompting actions such as jumping or moving in sync with the beat.

When Section A (Reprise) returns, the song restores its original melody, reinforcing structural balance and creating a sense of unity. By repeating the main theme at the end, the composition strengthens the connection between the singer, the listener, and the musical content, ensuring greater engagement and retention.

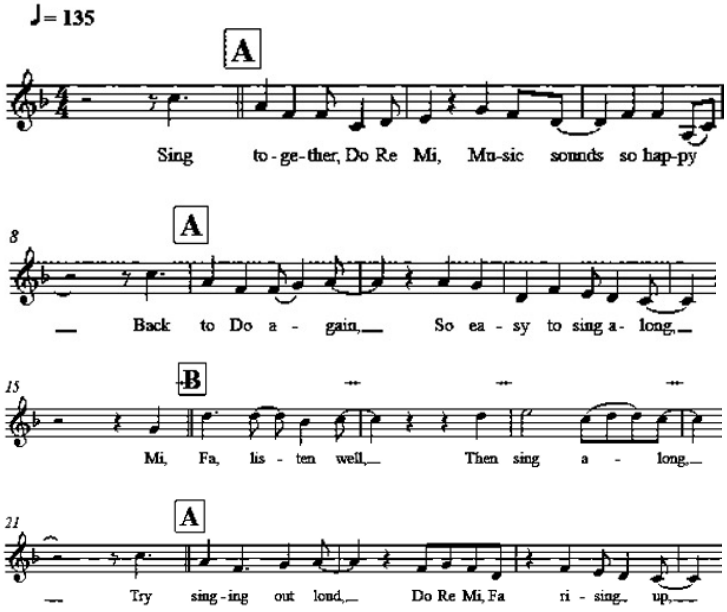

Figure 3. Ternary Form (AABA) in the Song *"Singing Do-Re-Mi with Joy"*.
Source: Suthasinee Theerapan (2025)

According to Figure 3, the song *"Sing Do-Re-Mi with Joy"* follows the Ternary Form (AABA), illustrating the distinct roles of each section in enhancing musical learning.

Section A introduces the main theme, presenting musical notes and vocal patterns through a simple and memorable melody. This structure makes it easy for children to follow and sing along, reinforcing fundamental musical concepts.

Section B introduces contrast by incorporating variations in pitch and lively vocal expressions. These elements add excitement, making the song more engaging and encouraging active participation from young singers.

When Section A returns at the end, it reinforces continuity and establishes a sense of unity within the composition. The repetition of the main theme strengthens familiarity, ensuring that learners can easily grasp and retain the musical concepts embedded in the song.

The structural analysis of early childhood songs highlights the effectiveness of Ternary Form (ABA and AABA) in promoting musical engagement and retention. This three-part structure—consisting of an initial section (A), a contrasting middle section (B), and a final section (A) that reinstates the main theme—ensures balance, memorability, and variety within the composition. According to Kuka (2025) emphasizes that the middle section (B) introduces melodic, rhythmic, or pitch variations, creating contrast that sustains children's interest and prevents monotony. This contrast not only enriches the song's diversity but also supports long-term learning by reinforcing cognitive and auditory development. Similarly, Sun and Sondhiratna (2024) highlight that Ternary Form (ABA) provides a structured yet dynamic approach to composition. The first section (A) introduces the main theme, the middle section (B) enhances engagement through variation, and the final section (A) reintroduces familiarity, reinforcing recognition and comprehension. The cyclical nature of this structure strengthens children's ability to internalize musical patterns, making it particularly effective for early childhood music education.

Vocal Range

The analysis of the vocal range in the eight songs indicates that most compositions span approximately one octave, making them well-suited for early childhood singers. The lowest pitch observed is B♭3, providing a comfortable range that allows children to sing without excessive vocal strain, while the highest pitch extends to A4, ensuring ease of vocalization. This finding aligns with Welch (2016), who emphasizes the importance of selecting an appropriate vocal range that supports young children's vocal development. Since children at this stage have not yet fully developed their vocal abilities, their singing should follow structured yet natural melodic patterns. Research suggests that an optimal vocal range for early childhood singers typically falls between D4 and A4, covering approximately five to six notes, which closely aligns with their natural speaking range. By selecting an appropriate vocal range, composers can foster healthy vocalization, confidence in singing, and natural voice production, ensuring that children can sing comfortably while developing fundamental musical skills.

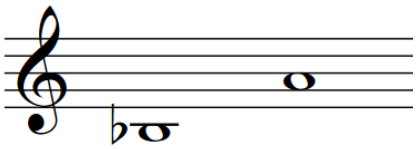

Figure 4. Vocal range in songs for early childhood
Source: Suthasinee Theerapan (2025)

Cadence

The analysis of the eight composed songs reveals that Perfect Cadence (V - I) and Half Cadence (I - V) play crucial roles in structuring rhythmic resolution and phrase endings. Perfect Cadence appears predominantly at the end of each song, creating a sense of completeness and aiding children in memorizing melodies more easily. For instance, in *"Singing Do-Re-Mi with Joy,"* the cadence provides a strong and stable closure. Conversely, Half Cadence is used in transitional sections, such as between Sections A and B, to establish continuity and anticipation for the next phrase. This approach is evident in *"Magical Rhythm,"* where the Half Cadence introduces a sense of musical expectation.

Additionally, songs with a steady rhythmic structure, such as *"The Elephant's Gentle Walk"* and *"Strumming the Guitar: Plak-Plak-Poong-Poong,"* predominantly employ Perfect Cadence to reinforce musical stability. In contrast, songs with varied rhythmic patterns, such as *"Drumming: Tuk-Tuk-Tum-Tum"* and *"The Value of Notes,"* incorporate both Half Cadence and Perfect Cadence to enhance musical engagement and maintain continuity. This structural approach aligns with Trujillo Galea and Juárez Ramos (2024), who describe Perfect Cadence (V - I)—also known as Authentic Cadence—as the harmonic movement from the dominant (V) to the tonic (I) chord. This progression provides a strong, conclusive resolution, signaling a definitive phrase or piece ending and ensuring a clear sense of closure for the listener. For example, in C Major, the progression from G (V) to C (I) establishes a Perfect Cadence, reinforcing finality and stability.

Conversely, Half Cadence (I - V) creates a temporary pause by resolving on the dominant (V) chord, evoking suspension and anticipation for further musical development. This movement introduces harmonic tension, leading the listener to expect a continuation. For example, in C Major, the transition from C (I) to G (V) forms a Half Cadence, contributing to a sense of temporary resolution before progressing to the next section.

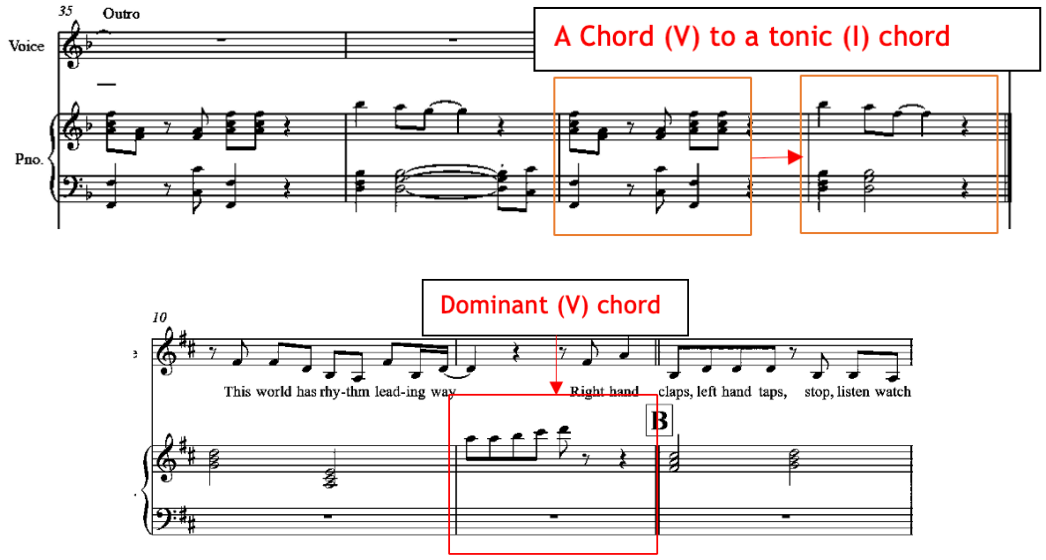

Figure 6. Half cadence in the song *"Magical Rhythm"*.
Source: Suthasinee Theerapan (2025)

Melody

Singable Melodies – Stepwise Motion Facilitates Ease of Singing

All eight songs use Stepwise Motion, where notes move in adjacent steps (e.g., C → D → E), making melodies easier for children to sing. This approach supports vocal control, confidence, and musical skill development. Rueben (2017) found that Stepwise Motion helps children anticipate melodies and improves memorization. This aligns with Cox's (2011) Mimetic Hypothesis, which suggests that stepwise melodies feel intuitive as listeners associate them with physical movement, fostering a natural and emotional connection to music.

Natural Melody – Utilizing Arch Shape and Wave Shape for Ease of Singing

The songs incorporate Arch Shape (ascending and descending curves) and Wave Shape (continuous rises and falls) to align with natural speech patterns, simplifying vocal demands. For example, in *"The Frog's Joyful Leap"* and *"The Elephant's Gentle Walk,"* the melodies mirror animal movements, making them engaging and easy to follow. Wermke et al. (2021) emphasize that melodic contour shapes musical expression and emotional perception, with Arch Shape creating a sense of development and resolution, while Wave Shape enhances movement and variation, keeping music dynamic and engaging.

Repetition – Enhancing Children's Ability to Memorize Songs

Repetition plays a key role in helping children memorize songs and recognize musical structure. In *"Let's Sing Together,"* the repeated main section reinforces learning and engagement. Assadi and Murad (2024) highlight that repetition enhances language acquisition, memory retention, and musical comprehension, particularly when combined with play-based learning tools such as songs, games, and interactive activities.

Rhythm

The analysis of rhythm in all eight composed early childhood songs reveals that they predominantly employ the 4/4 time signature (Common Time) as a fundamental rhythmic framework. This choice enables young children to perceive and move along with the beat easily, fostering their confidence in engaging with music. The steady and clear nature of the 4/4 rhythm supports children's ability to follow along, while quarter notes provide

stability and predictability. Additionally, the incorporation of eighth notes adds liveliness, encouraging physical movement and active participation. Songs such as "The Frog's Joyful Leap" and "Strumming the Guitar: Plak-Plak-Poong-Poong" prominently feature 4/4 time to facilitate easy beat recognition, enhancing children's participation in musical activities while naturally supporting their rhythmic and motor skill development.This finding aligns with Bond and Bond (2010), who emphasize the significance of the 4/4 time signature in early childhood music education. The regularity and simplicity of this time signature enable children to develop effective beat counting and listening skills, while also supporting rhythmic movement through activities such as dancing and musical games. These movements enhance coordination between auditory perception and physical actions, allowing children to internalize rhythm more naturally.

Additionally, Cary (2012) highlights the Kodály and Orff approaches, both of which prioritize 4/4 rhythm in early childhood music education. The Kodály Method integrates Tonic Solfa and folk songs in 4/4 time, helping children develop a strong foundation in rhythmic structure and musical literacy. Meanwhile, the Orff Schulwerk Approach incorporates body movements and percussive instruments (e.g., drums and xylophones) to encourage rhythmic creativity and group collaboration. Both methods recognize 4/4 rhythm as essential in fostering children's musical comprehension, physical coordination, and social development in a natural and engaging manner.

Harmony

The analysis of all eight composed songs reveals that the compositions incorporate simple, clear, and warm harmony to enhance early childhood music. The harmony has been structured using basic chord progressions familiar to young children, such as I–IV–V–I and I–vi–IV–V, creating a sense of comfort, predictability, and engagement. Additionally, the key signatures employed—C Major, G Major, and A Major—have been intentionally selected to complement the harmonic framework and support children's vocal development. These keys provide simplicity by minimizing sharps and flats, making it easier for young learners to recognize pitches and sing with confidence. C Major, consisting solely of natural notes, offers an ideal starting point for beginners, while G Major and A Major introduce slight pitch variations that enhance adaptability without exceeding an accessible vocal range. By combining simple harmonic progressions with these carefully chosen key signatures, the compositions promote musical stability, ease of learning, and vocal confidence, fostering a positive and effective musical experience in early childhood education.

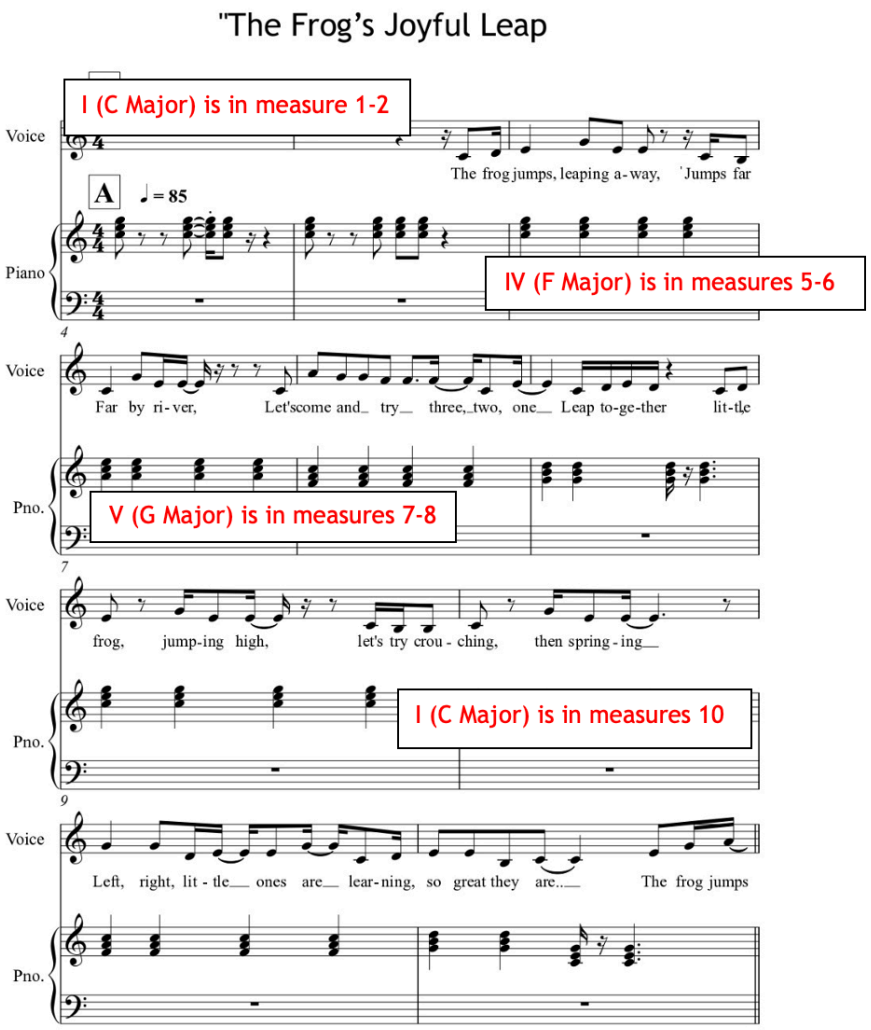

Figure 7. The I - IV - V - I chord structure in the song *"The Frog's Joyful Leap"*.
Source: Suthasinee Theerapan (2025)

The I - IV - V - I Chord Progression (C - F - G - C)

This chord progression provides a simple yet highly effective framework for establishing stability and completeness in music, making it predictable and enjoyable for children. The structured harmonic movement creates a sense of security, strengthens children's confidence in singing, and enhances memorization.

Songs such as *"The Frog's Joyful Leap"* incorporate these basic chord progressions to produce a bright and warm atmosphere, which effectively supports early childhood development. By using familiar and accessible harmonic structures, these compositions help children internalize musical patterns more easily while encouraging active engagement in singing and movement-based activities.

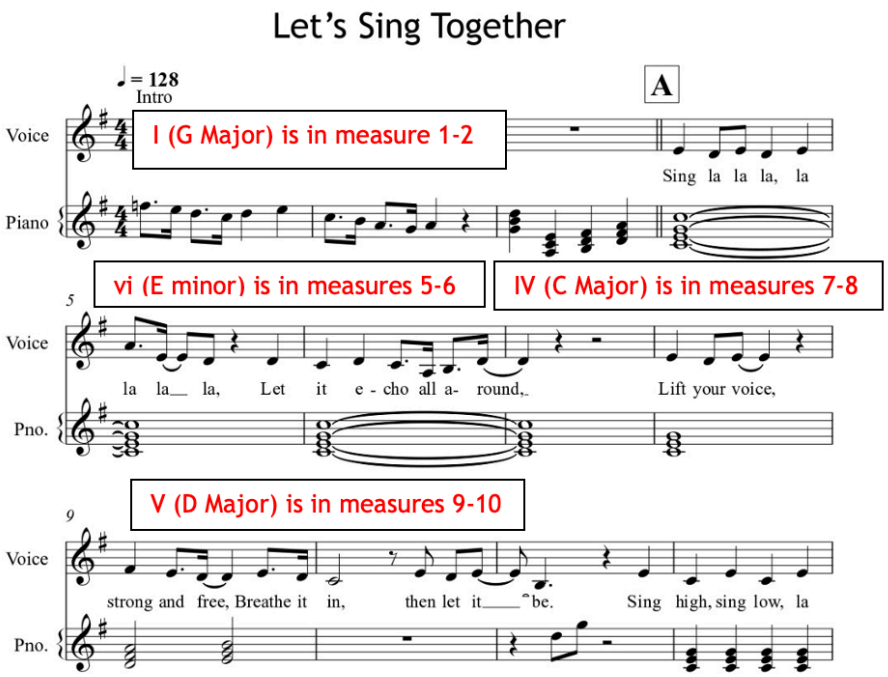

Figure 8. The I - vi - IV - V chord structure in the song *"Let's Sing Together"*.
Source: Suthasinee Theerapan (2025)

The I - vi - IV - V Chord Progression (G - Em - C - D)

This chord progression enhances emotional variety, making it well-suited for early childhood music teaching activities. The I - vi - IV - V progression creates a gentle and soothing atmosphere, stimulating children's imagination and emotional engagement.

Songs such as *"Let's Sing Together"* incorporate this progression to establish a joyful, bright, and welcoming environment, encouraging children to actively participate in singing and musical activities. By blending major and minor chords, this harmonic structure introduces subtle emotional contrasts while maintaining a warm and accessible musical experience for young learners.

Harmony in early childhood music should be simple, warm, and clear, using uncomplicated chord progressions such as I - IV - V - I (C - F - G - C) or I - vi - IV - V (G - Em - C - D) to create a predictable and memorable musical environment that reinforces children's understanding of musical structure and encourages active participation. Additionally, third-interval harmony enhances musical brightness and appeal, keeping children engaged without overwhelming them. Jørgensen (2020) emphasizes that simple harmonic structures help children comprehend musical form, with basic triadic chords such as I - IV - V or I - V - vi - IV providing harmonic stability in children's music. Similarly, Lilja and Creutlein (2019) found that simple harmonic progressions facilitate chord recognition and prediction, supporting aural development and musical awareness. Furthermore, Pereverzeva et al. (2021) highlight that alternating third and fifth intervals add musical depth without unnecessary complexity, while key modulation broadens children's listening experiences and enhances their musical adaptability. Gradual dynamic changes also improve expressiveness and engagement, making songs more captivating. These elements collectively

enhance musical learning motivation, improve auditory perception, and foster creative thinking, aligning with active music teaching approaches that prioritize learner engagement.

Musical Instruments

The selection of appropriate musical instruments plays a crucial role in enhancing early childhood music education. The composed songs incorporate percussion instruments such as drums, egg shakers, and xylophones, which effectively develop rhythmic skills and fine motor coordination by helping children internalize musical rhythm. Additionally, piano and guitar provide harmonic stability for group singing, while instruments like the flute and xylophone, with their bright and pure tones, create a lively and imaginative musical atmosphere that fosters engagement and enjoyment in music learning.

This approach aligns with Andrioti (2024), whose study on Talempong Pacik, a traditional Minangkabau percussion instrument, demonstrated significant improvements in musical development among 5–6-year-old children, with their musical ability scores increasing from 8.4 to 21 after instrumental training. Similarly, Kodály (1954) emphasized the human voice as the primary instrument for music learning but also advocated for simple instruments like xylophones and rhythm instruments to reinforce rhythm and harmonic comprehension. Likewise, Orff (1930) promoted active music-making through accessible instruments such as drums, xylophones, metallophones, and percussion instruments, allowing children to internalize fundamental musical concepts through playing instruments, movement, and singing. These methods collectively support rhythmic awareness, harmonic understanding, and overall musical development in a highly engaging and interactive manner.

Dynamics and Articulation

The control of dynamics and articulation techniques plays a crucial role in designing music for early childhood. Using Mezzo Piano (MP) in the verse section ensures lyrical clarity, helping children focus on the content without distractions. In contrast, incorporating Forte (F) in the chorus section enhances engagement and enthusiasm, encouraging active participation in singing and movement. This approach aligns with Sekehal (2025), who emphasizes that dynamics in music education serve as a tool for developing musical skills and emotional understanding, allowing students to comprehend musical structure and express emotions effectively. Additionally, techniques such as crescendo and decrescendo support expressive performance and help children distinguish different emotional nuances in music.

The use of articulation techniques also enhances musical engagement. Staccato (short, detached notes) fosters excitement and playfulness, making the music more lively and interactive. For example, in *"Let's Sing Together, Ha Ha Ha,"* staccato articulation sharpens rhythmic clarity, making it easier for children to follow while encouraging movement. Conversely, Legato (smooth, connected notes) is used in sections requiring a soft, flowing, and gentle melodic line, creating a warm and friendly atmosphere suited for young learners. Tominaga (2023) highlights that staccato and legato techniques in piano performance significantly enhance musical expression and technical development. While staccato playing sharpens rhythmic perception and boosts performance energy, legato playing strengthens note connectivity and emotional expression. Combining these techniques enhances flexibility in musical interpretation, allowing children to engage with music in a dynamic and expressive manner.

Expert Evaluation Results

Experts conducted a quality assessment of the eight composed early childhood songs, producing the following results:

Table 1. Expert evaluation of the quality of early childhood songs

Item No.	Evaluation Criteria	Mean	SD	Interpretation
1	Appropriateness of Lyrics	4.2	0.44	Appropriate
2	Melodic and Rhythmic Appeal	4.4	0.54	Appropriate
3	Vocal Range Suitability	4.2	0.44	Appropriate
4	Instrument Suitability	4.4	0.54	Appropriate
5	Contribution to Child Development	4	0.70	Appropriate
6	Practical Applicability	4.2	0.83	Appropriate
Overall	**Average Score**	**4.23**	**0.56**	**Appropriate**

SD: Standard Deviation

According to Table 1, experts rated the quality of the composed early childhood songs with an overall mean score of 4.23 and a standard deviation of 0.56, confirming their appropriateness for early childhood music education. Among the six evaluation criteria, Melodic and Rhythmic Appeal and Instrument Suitability received the highest mean score of 4.4, reflecting the songs' effectiveness in engaging children's attention. Appropriateness of Lyrics, Vocal Range Suitability, and Practical Applicability each received a mean score of 4.2, indicating that the songs aligned well with children's developmental needs and learning environments. However, Contribution to Child Development received the lowest mean score of 4.0 with the highest standard deviation of 0.70, suggesting variability in expert opinions regarding how effectively the songs support children's physical, cognitive, emotional, and social development.

Experts praised the songs for their clear rhythmic structure, simple musical forms, and appropriate instrumentation, all of which enhance children's learning experiences. The use of the 4/4 time signature and alternating dynamic levels was noted as particularly effective in facilitating active engagement. These findings align with Gordon (2013), who emphasized that early childhood music should maintain a simple structure to promote auditory development, movement, and participation.

Additional expert feedback highlighted the songs' bright and playful melodies, which create a warm and engaging atmosphere that fosters effective learning. The incorporation of Third Interval Harmony added musical depth without excessive complexity, supporting Feierabend (2006), who found that simple harmonic structures enhance learning and emotional development in children.

However, experts identified some limitations, particularly in repetitive melodic and harmonic patterns, which may reduce engagement over time. They recommended introducing variations in chord progressions or melodic phrasing to enhance musical diversity.

To further improve the songs, experts suggested incorporating a wider range of vocal harmonies, such as alternating third and fifth intervals, to enrich the musical texture. Additionally, modulating key signatures across different songs was proposed to expand children's listening experiences and musical adaptability. Experts also emphasized the importance of gradual dynamic changes to make the songs more expressive and engaging, ensuring their effectiveness in both music education and child development.

Originality and Cultural Distinctiveness of the Composed Songs

The songs composed in this study have been intentionally designed to demonstrate originality and cultural distinctiveness by

integrating foundational music education principles, child development theories, and culturally relevant elements tailored to the context of early childhood education in Thailand and Southeast Asia. Unlike many existing children's songs—often adopted from Western curricula or popularized without pedagogical foundations—these compositions have been developed to align with the linguistic, cultural, and developmental characteristics of the region.

In the Thai early childhood context, it has been observed that songs commonly used emphasize simple rhythms, short and familiar lyrics, and content related to animals or the immediate environment to facilitate comprehension and memorization (Sakalpasak & Halathaingam, 2019) These songs have been employed to accompany movement, singing, games, and simple percussion activities. Contemporary popular songs have also been adopted to increase engagement. Children have been encouraged to create gestures independently or collaboratively with teachers and peers, promoting creativity, confidence, and free expression. However, it has been reported that many early childhood teachers in Thailand lack the skills to compose developmentally appropriate songs for educational purposes, resulting in continued reliance on existing materials that may not fully align with educational or cultural objectives.

To address this gap, the songs composed in this study have been deliberately crafted by embedding local cultural elements, familiar narratives, and linguistic patterns into both lyrics and melodies. This approach aligns with Campbell's (2013) proposition that arts and music education within cross-cultural contexts should promote cultural understanding and artistic expression grounded in local traditions. By integrating culturally resonant themes, the compositions have been designed to enable young learners to internalize cultural values through music that reflects their sociocultural environment, thereby fostering meaningful engagement and identity formation.

Moreover, the originality of the compositions has been reinforced by a commitment to child-centered learning environments that encourage experimentation, creativity, and active participation. Tan (2019) emphasizes that musical creativity in early childhood should be nurtured within environments that support exploration and authentic expression. Accordingly, the composition of these songs has been viewed not only as the creation of suitable musical content but also as the provision of opportunities for children to develop originality, creative thinking, and self-expression through culturally responsive music.

The clear distinctions between these compositions and existing songs—which have often lacked cultural integration and pedagogical alignment—underscore the necessity of this study. Without the development of culturally responsive, pedagogically grounded songs, early childhood music education risks relying on resources disconnected from children's linguistic, cultural, and developmental contexts. Therefore, these compositions contribute significantly by bridging global music education principles with localized pedagogical needs, offering musical resources that foster engagement, cultural identity, and holistic development among young learners in Southeast Asia.

Conclusion

This study composed songs for early childhood music teaching activities that align with children's developmental stages and integrate effectively into music activities. The research team followed a systematic approach, beginning with defining learning objectives and structuring songs in Ternary Form (ABA, AABA) to facilitate melodic memorization. The selected pitch ranges and scales (C Major, G Major, A Major) ensured comfortable vocal execution, while stepwise motion and arch/wave-shaped

melodies created a natural and intuitive flow for singing. The lyrics remained simple and repetitive, supporting language acquisition, while percussion instruments, guitar, and keyboard enhanced engagement and participation. The use of mezzo piano (MP) in verses and forte (F) in choruses established contrast and emotional expression, while staccato and legato articulation added musical variety. The research team tested and refined the songs based on educator and expert feedback to ensure they effectively captured children's attention and supported learning.

Experts evaluated the eight composed songs and assigned an overall mean score of 4.23 (SD = 0.56), confirming their suitability for early childhood music teaching activities. Melodic and Rhythmic Appeal and Instrument Suitability received the highest mean score (4.4), highlighting their effectiveness in fostering engagement and enjoyment. Appropriateness of Lyrics, Vocal Range Suitability, and Practical Applicability scored 4.2, indicating strong alignment with children's developmental needs. However, Contribution to Child Development received a lower score of 4.0 with the highest standard deviation (0.70), reflecting variability in expert opinions regarding its impact on physical, cognitive, emotional, and social development.

Experts praised the songs for their simple structures, clear rhythms, and child-friendly instrumentation, particularly the 4/4 time signature and dynamic contrasts, which encouraged active participation. They also highlighted the playful melodies, warm atmosphere, and Third Interval Harmony, which added musical depth without excessive complexity. However, experts identified limitations, particularly repetitive melodic and harmonic patterns, which could reduce engagement over time. They recommended introducing variations in chord progressions and melodic phrasing to maintain interest and diversity. Additional suggestions included expanding vocal harmonies (e.g., incorporating third and fifth intervals for greater musical richness), modulating key signatures to broaden listening experiences, and enhancing dynamic contrasts to increase expressiveness and engagement.

To integrate these songs effectively into early childhood music activities, educators can implement them in singing, movement, instrumental play, and creative expression. Singing activities like echo singing and call-and-response develop melodic recall and group participation. Movement activities, including marching to a steady beat, staccato-legato movements, and creative dance, enhance coordination and rhythmic awareness. Instrumental activities, such as percussion play-alongs, dynamic exploration, and simple chord accompaniment, strengthen musical understanding. Creative activities like lyric substitution, melodic variation, and sound exploration encourage imaginative expression.

The composed songs demonstrate strong potential for early childhood music teaching activities, particularly in enhancing engagement, memorization, and active participation. However, increasing musical variety, enriching harmonic depth, and incorporating more dynamic contrasts could further optimize their effectiveness. By integrating these songs into structured music-based activities, educators can support children's auditory, motor, cognitive, and social development, ensuring a comprehensive and enriching musical experience.

Recommendations

Recommendations for Further Research

Future research should investigate how structured music education influences cognitive, linguistic, social, and emotional development over time through longitudinal studies that provide deeper insights into its sustained effects. Researchers should compare Kodály, Orff, Dalcroze, and Gordon's Music Learning Theory to evaluate their effectiveness in developing musical abilities,

motor skills, and cognitive functions in young children. Examining music integration with multisensory learning, including movement, visual stimuli, and tactile experiences, could lead to more engaging and effective teaching models. Additionally, studies should explore how digital technology, such as interactive music applications, virtual instruments, and AI-assisted tools, impacts children's musical engagement and skill acquisition. Researchers should also develop standardized assessment tools to measure musical progress, creativity, and cognitive development in early childhood education. Establishing reliable evaluation frameworks would enable educators to track children's growth and refine instructional approaches more effectively.

Recommendations for Applicants

Applicants should integrate movement-based learning by incorporating physical activities, such as marching, clapping, and interactive gestures, into songs to enhance rhythmic perception, coordination, and engagement. Using child-friendly instruments, including xylophones, percussion instruments, and small keyboards, allows children to actively participate in music-making while refining motor skills. Developing adaptive teaching methods through flexible lesson plans enables educators to adjust song structures, tempo, and instrumentation based on children's age, skill level, and learning environment. Encouraging creativity and self-expression by incorporating lyric improvisation, melodic variations, and call-and-response singing fosters confidence and engagement, making the learning experience more interactive and enriching.

Limitations of Study

This study faces limitations in its practical application in early childhood education activities. Researchers need to develop a structured lesson plan or guide to systematically implement the songs in classrooms or early childhood music programs. Additionally, the evaluation of the songs was carried out by a panel of five experts. Although the experts were carefully selected based on their qualifications and professional expertise, the small sample size may limit the generalizability of the findings. Despite these limitations, this study offers valuable insights into composing songs for young children and lays a foundation for future research on practical implementation in teaching and systematic evaluation of their impact on children's development.

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References

Andrioti, E. (2024). Playing by ear and the development of music skills at pre-school age. *International Journal of Music Education*, 1-22. https://doi.org/10.1177/02557614241244794

Assadi, J., & Murad, T. (2024). Melodic mastery: Enhancing vocabulary acquisition through musical repetition. Educational Administration: *Theory and Practice*, 30(5), 1547-1557. https://doi.org/10.53555/kuey.v30i5.3117

Barrett, M. S. (2016). Attending to "culture in the small": A narrative analysis of the role of play, thought, and music in young children's world-making. *Research Studies in Music Education*, 38(1), 41-54. https://doi.org/10.1177/1321103x15603557

Bergonzi, L. (2011). *Music play: The early childhood music curriculum guide for parents*, teachers, and caregivers. GIA Publications. Retrieved from https://giamusic.com/resource/music-play-book-gj236

Bond, T., & Bond, M. (2010). Measure for measure: Curriculum requirements and children's achievement in music education. *Juan Carlos Montoya-Rubio Journal of Applied Measurement*, 11(4), 368-383. Retrieved from https://pubmed.ncbi.nlm.nih.gov/21164226/

Campbell, P.S. (2013). Creative Arts, Education, and Culture in Global Perspective. In: Leong, S., Leung, B. (eds) Creative Arts in Education and Culture. *Landscapes: the Arts, Aesthetics, and Education*, vol 13. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-7729-3_1

Cary, D. G. (2012). A comparison of two approaches in early music education. *Journal of Social Sciences*, 8(15), 1-16. Retrieved from https://dergipark.org.tr/en/pub/ijmeb/issue/54849/751079#article_cite.

Cox, A. (2011). Embodying music: Principles of the mimetic hypothesis. *Music Theory Online*, 17(2). Retrieved from https://mtosmt.org/issues/mto.11.17.2/mto.11.17.2.cox.php

Curbelo-González, O., et al. (2024). The integration of musical contents in the classroom of the second cycle of early childhood education. *International Journal of Music Education*, 43(1), 75-91. https://doi.org/10.1177/02557614241309641

Feierabend, J. M. (2006). *First steps in music for preschool and beyond: The curriculum*. GIA Publications.

Goodkin, D. (2018). *Play, sing, & dance: An introduction to Orff Schulwerk*. Schott Music Corporation.

Gordon, E. E. (2012). *Learning sequences in music: Skill, content, and patterns*. GIA Publications.

Gordon, E. E. (2013). *Music learning theory for newborn and young children*. GIA Publications.

Hewitt, M. (2004). *Music and the young mind: Enhancing brain development and language acquisition through music*. R&L Education.

Houlahan, M., & Tacka, P. (2015). *Kodály today: A cognitive approach to elementary music education*. Oxford University Press.

Jellison, J. A. (2015). *Including everyone: Creating music classrooms where all children learn*. Oxford University Press.

Jørgensen, H. (2020). *The role of harmony in children's music education: How simple chord progressions facilitate musical understanding (Master's thesis)*. University of Oslo.

Kodály, Z. (1954). *Let us sing correctly (Pentaton Tanítás)*. Editio Musica Budapest.

Kuka, R. (2025). Early postmodernist and socialist realism tendencies in the creative work of ramadan sokoli. Anglisticum. *Journal of the Association-Institute for English Language and American Studies*, 14(1), 37–52. Retrieved from https://www.anglisticum.ielas.org/index.php/IJLLIS/article/view/2478

Lilja, E., & von Creutlein, T. (2019). Textbook form of the SDT chord progression in Finnish music theory textbooks and in four different musical styles. *The Journal of the Finnish Musicological Society,* 49(1), 43-95. Retrieved from https://musiikki.journal.fi/issue/view/5513

Moreno-Morilla, S., et al. (2021). The effect of music on the emotional development of children aged 3–12: A systematic review. *International Journal of Environmental Research and Public Health,* 18(7), 3668. https://doi.org/10.3390/ijerph18073668

Office of Academic Affairs and Educational Standards, Office of the Basic Education Commission, Ministry of Education. (2017). *Early childhood education curriculum B.E. 2560 (2017)*. Bangkok, Thailand: Ministry of Education.

Orff, C. (1930). *Schulwerk: Musik für Kinder (Music for Children)*. Schott Music.

Pereverzeva, M., Anufrieva, N., Shcherbakova, A., Kuznetsova, E., et al. (2021). Analysis of research on active music teaching at primary education: The case of Russia. *Rast Musicology Journal*, 9(2), 2739-2756. https://doi.org/10.12975/rastmd.2021922

Phatthalung, P, N. (2023). How does music contribute to movement skills development in early childhood?. *Journal of MCU Ubon Review*, 8(1), 675-684. Retrieved from https://so06.tci-thaijo.org/index.php/mcjou/issue/view/17449

Roeksamu, P. (2018). Developing of music skills kindergarten's originality to creative thinking by Kodály approach-based musical activity. *Srinakharinwirot Research and Development (Journal of Humanities and Social Sciences)*, 11(21), 74–87. Retrieved from https://so04.tci-thaijo.org/index.php/swurd/article/view/198172

Rueben, J. N. (2017). *Formation of Jewish identity in children V'Shinantam Levanecha: Music as an educational tool in Jewish early childhood programs*. Master's thesis. Hebrew Union College-Jewish Institute of Religion, New York.

Sakalpasak, W., & Halathaingam, W. (2019). Music and movement activity for early childhood. *Vajira Medical Journal: Journal of Urban Medicine*, 63(3), 203–208. https://doi.org/10.14456/vmj.2019.21

Sekehal, H. (2025). Diagnostic study of teaching innovation in the teaching of Spanish as a foreign language at the University of Orán 2: Use of songs. *Journal Secretariat: Ez-Zohra Ayed*, 21(1), 311–328. Retrieved from https://asjp.cerist.dz/en/article/261279

Sun, J., & Sondhiratna, T. (2024). The problem solving on Chopin's piano Etude Op. 10 No. 12 in fingering and emotional expression at Shanghai Xuanyi Piano School in Huinan City of Pudong District in Shanghai Province. *Journal of Modern Learning Development*, 9(6), 176–185. Retrieved from https://so06.tci-thaijo.org/index.php/jomld/article/view/267899

Syla, M. (2024). Primary school teachers' opinions on the effective use of music in language and speech development of autistic children. *Rast Müzikoloji Dergisi*, 12(1), 63–78. https://doi.org/10.12975/rastmd.20241214

Tan, AG., Tsubonou, Y., Oie, M., Mito, H. (2019). Creativity and Music Education: A State of Art Reflection. In: Tsubonou, Y., Tan, AG., Oie, M. (eds) Creativity in Music Education. *Creativity in the Twenty First Century*. Springer, Singapore. https://doi.org/10.1007/978-981-13-2749-0_1

Tominaga, A. (2023). *The sound of teaching music: Transmitting expressive skills in piano performance* (Doctoral dissertation). Central European University, Department of Cognitive Science.

Trehub, S. E., & Trainor, L. J. (1998). *Singing to infants: Lullabies and play songs*. Advances in Infancy Research, 12, 43–77.

Trujillo Galea, Y., & Juárez Ramos, V. (2024). Creative musical activities in early childhood education: An analysis of teaching practices. *International Journal of Music Education*, 1–15. https://doi.org/10.1177/02557614241295740

Welch, G. F. (2016). *Singing and vocal development. In G. McPherson (Ed.), The child as musician: A handbook of musical development (Chapter 24)*. Oxford University Press.

Wermke, K., et al. (2021). Melody complexity of infants' cry and non-cry vocalisations increases across the first six months. *Scientific Reports*, 11, 2712. https://doi.org/10.1038/s41598-021-83564-8

Wood, A. (2013). *Child development and the power of music: An early childhood perspective*. Routledge.

Wuttipanyarattanakun, D. (2012). *Effects of using music and movement activity based on Dalcroze approach on kindergarteners' intellectual ability.* Master's thesis. Chulalongkorn University. Bangkok, Thailand.

Young, S. (2008). Lullaby light shows: Everyday musical experience among under-two-year-olds. *International Journal of Music Education*, 26(1), 33–46. https://doi.org/10.1177/0255761407085648

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Research Article

A musical analysis of the "Mizan" cycle: the 24 preludes and fugues by Azerbaijani composer Yashar Sufi

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Abstract

The presented article examines the emergence and development of polyphonic cycles, focusing on how various composers, particularly Azerbaijani composers, have utilized these. The article discusses the significance of J.S. Bach's "Well-Tempered Clavier" in the field of polyphonic cycles, a masterpiece not only of the composer himself but also of world music literature. It highlights how this genre was adopted and developed by Azerbaijani composers. The article also delves into how Azerbaijani composer Yashar Sufi's "Mizan" cycle integrates national modes within polyphonic structures and how these elements are presented in a polyphonic form. The study also explores the innovations brought by Sufi's work in applying polyphonic cycles within Azerbaijani music and how this form is synthesized with national modes. Additionally, the article highlights the continued influence of polyphonic cycles from Bach to the present day. Since Yashar Sufi's "Mizan" is one of the first examples of polyphonic cycles in Azerbaijani music, analyzing this work helps us understand the composer's creative approach. This article also contributes significantly by showing how the polyphonic form in Azerbaijani music can blend national elements with traditional polyphonic techniques. The research was conducted using both descriptive and analytical methods. Yashar Sufi's "Mizan" cycle was studied in detail from a music theory perspective, and theoretical analyses of the prelude and fugue structures were carried out. The data collection process involved examining the sheet music of Yashar Sufi's "Mizan" cycle and relevant music works. The sheet music of Sufi's work served as the primary data source for the structural analysis of the preludes and fugues. The article underscores the pedagogical and historical significance of polyphonic cycles as a music form, showing that this genre thrives in the 21st century. Sufi's work offers a new perspective on Azerbaijan's musical identity, illustrating the vital role of local elements in polyphonic music.

Keywords

Azerbaijani music, Bach, fugue, prelude, polyphonic cycle, Yashar Sufi

Introduction

The most perfect and complex form of the polyphonic texture is represented by the polyphonic style. Known as the "ensemble of melodies" polyphony is considered a significant means of expression in music composition and has undergone a long historical development. The source of rich polyphonic style traces back to the folk music of various peoples, gradually developing in professional music as well, expanding and diversifying across various genres and works.

As we know, the most perfect form of imitative polyphony is the fugue. In composition practice, the fugue is used in various ways, such as an independent instrumental or choral work, a part of an instrumental or vocal-instrumental sequence, or as a section within a larger form. Starting from the second half of the 17th century, the fugue was combined with a preceding introductory piece, such as a prelude, fantasia, or toccata, in a two-part sequence. In music practice, the prelude and fugue sequence became more widespread, and their relationship in musical works expressed the highest level of contrast and unity. These two fundamental forms of classical music are directly related to the historical development of polyphony. The

highest achievement in the unity of prelude and fugue was reached in the work The Well-Tempered Clavier by the German composer J.S. Bach. By writing this work, Bach was the first to demonstrate the possibility of using all major and minor tonalities.

"In writing his WTC Bach not only wrote fascinating pieces for the interest and instruction of his students, but he also created musical offerings of praise to his God and pieces of incredible variety in affection. With all of these intended effects of his collection, one might expect Bach's music to sound forced or only excel in one area over another. Yet Bach managed to write beautiful masterpieces even as he fulfilled his pedagogical, theological, and emotional aims. These masterpieces can stand alone as teaching pieces, offerings of worship, or studies in a certain mood. But the whole collection carries an even more powerful impact when all three of these aims are considered." (Rachel, 2013: 28)

J.S. Bach's The Well-Tempered Clavier (WTC) has inspired the creation of new works of a similar nature in the future. Particularly in the 20th century, polyphonic cycles began to experience a period of revival. Among the first polyphonic cycles written in the example of J.S. Bach's famous collection and those that followed, one can highlight the work "Ludus Tonalis" by the prominent German composer Paul Hindemith (Vlahopol, 2010) as well as the "24 Preludes and Fugues" cycles by composers who left an invaluable legacy in this area, such as Dmitri Shostakovich and Roman Shchedrin. This list can be extended further, including composers like V.P. Zaderetski (Makarova, 2024), G. Mushel (Mushel, 1978), K. Sarokin, S. Slonimski and others.

One of the giants of the 20th century, Dmitri Shostakovich's polyphonic cycle (Ursova, 2009), written on the occasion of the 200th anniversary of the death of the great composer J.S. Bach, was created under the influence of Shostakovich's visit to Leipzig, Germany, and quickly became a major success, embellishing concert life and teaching repertoires. In his cycle, the composer introduced new tonal thinking and referred to major and minor keys, as well as the diatonic system, alongside a new system he created (c-d-es-fes-g-as-b-ces). Shostakovich arranged his preludes and fugues according to the circle of fifths in parallel major and minor tonalities. Musicologist A. Dolzhansky, in his book dedicated to Shostakovich's 24 Preludes and Fugues, highly praised the cycle, writing, "The compositional features of Shostakovich's fugues resulted in the innovative realization of many of the most progressive ideas of our time. ... With his preludes and fugues cycle, Shostakovich achieved a result that no composer has reached in the two hundred years since Bach's death." (Dolzhansky, 1970: 225).

Even in China, composers have written works in this style, drawing on Bach's traditions, achieving new accomplishments in finding new means of expression and enriching the musical language. "The formation of the style of the Chinese composer was particularly influenced by the work of the great polyphonist J. S. Bach. The national roots of the polyphonic style of Ding Shande are connected with the refraction of the characteristic trends of modern music, including the linearity of orchestral thinking, which is more or less characteristic of most of the greatest composers of the XX century. The composer has particularly well and comprehensively developed polymelodic tendencies associated not only with the creative development of the traditions of the past, but also with the traditions of Chinese folk music." (Chernyavska, Mengzhe, 2021: 2947)

It should also be noted that the main reason for the emergence of new polyphonic cycles during this period was, in particular, the enrichment of educational and pedagogical literature through them, the development process of contemporary polyphony, the

expansion of the concert repertoire for pianists, and the necessity of creating textbooks on polyphony. In the preludes and fugues written during this period, each composer introduced their innovations into the form, further enriching it in terms of style and means of expression.

Polyphonic Series in the Creative Work of Azerbaijani Composers

In the creative work of Azerbaijani composers, the series of preludes and fugues The roots of polyphony in Azerbaijan must be sought in the multi-voiced characteristics of orally transmitted musical examples. In folk music genres, various types of polyphony can sometimes be found very clearly, while at other times, they are more hidden. Here, we refer to sound polyphony, homophony, as well as other types of polyphony. The imitation present in vocal-instrumental mugham, the ostinato style in ashik music, and the features of sound polyphony in songs, dances, and tasnifs further confirm this.

The foundation of the development of polyphony in Azerbaijani compositional art was laid by the founder of Azerbaijani professional music, U.H. Hajibeyli. In his creative work, polyphony and the essential regularities of traditional Azerbaijani music found their artistic embodiment in unity, and the future development path of national music was determined. The great composer once wrote in the "Azerbaijani Folk Music Fundamentals" section of his scientific-theoretical work titled The Problem of Polyphony in Azerbaijani Folk Music: "There is an opinion that if harmony (consonance) is applied to Azerbaijani music, which is inherently monophonic, then all of its tonal characteristics might be lost. This idea is entirely true. Incompetently applying harmony to the Azerbaijani melody could change its nature, remove its brilliance in tonal characteristics, and even make it dull. However, this does not mean that Azerbaijani music must remain permanently monophonic.

> ... The problem of polyphony in Azerbaijani music is still a matter of concern for composers and musicologists. The main issue is that polyphony should not be based on the principle of constructing harmonic cadences that require the correct succession of chords and changes in the tonal structure. Instead, it must be based on the logical combination of independent melodies that follow the laws of coherence." (Hajibeyli, 2019: 45).

Thus, in this scientific work, the composer not only discusses the monophonic nature of Azerbaijani music but also shares his thoughts on the problems of polyphony, emphasizing the theoretical possibility of resolving this issue. Through his creative work, he has set an example for future generations of composers in this area. Azerbaijani composers, in almost all of their works, including their operas, ballets, musical comedies, symphonies, songs, and romances, have skillfully utilized all the features of Azerbaijani folk music, blending it with classical polyphony. In their creations, one can encounter brilliant examples of both contrastive and imitative polyphony.

Azerbaijani composers, continuing the creative traditions of world composers, have turned to polyphonic cycles in their works. The first step in this area of Azerbaijani music was taken by the prominent composer Q. Qarayev with his 12 Fugues cycle. In this work, the composer masterfully assimilates the styles of both past and contemporary classical polyphonists, creating an exceptionally perfect piece. In the monothematic cycle, Qarayev used various styles of polyphonic techniques. In this regard, the work reminds one of J.S. Bach's Art of Fugue. Qarayev's 12 Fugues cycle is "a brilliant manifestation of the mutual unity of Azerbaijani oral folk music and Western European polyphony" (Dadashova, 1991: 68).

The tradition of creating polyphonic cycles, established by Qara Qarayev (Garayev,1982)

in Azerbaijan, has been continued by the great composer's students, professor and composer Elnara Dadashova, and composer Yashar Sufi (Khalilov). Dadashova's 21 Fugues in Azerbaijani Mugham Modes series has made a significant contribution to Azerbaijani piano music (Dadashova, 2010, 2012). The 21 fugues, placed in two volumes, were composed by the composer in Azerbaijani mugham modes, and the cycle includes fugues written on the modes of Rast, Shur, Segah, Shushtar, Mukhalif, Humayun, and Chahargah. In these fugues, one can hear the intonations of various genres — folk dances, diringas, lyrical songs, and ashik music.

Azerbaijani composer Yashar Sufi

Yaşar Sufi, one of the prominent figures of contemporary Azerbaijani music, is a composer whose body of work spans a wide range of musical genres. His compositions in opera, ballet, symphonic, chamber-instrumental, and chamber-vocal forms demonstrate both a strong connection to traditional musical heritage and an openness to modern compositional approaches. In Sufi's oeuvre, a refined aesthetic balance is established between the rich musical legacy of Azerbaijan and the formal and harmonic structures of the Western classical tradition. In this regard, his artistic output may be considered a successful attempt to preserve national identity while simultaneously constructing a universal musical language.

Photo 1. Composer Yashar Sufi (personal archive)

Sufi was a student of Gara Garayev, an internationally renowned Azerbaijani composer who played a significant role in shaping the post-Soviet musical landscape of Azerbaijan. Garayev's aesthetic principles and musical discipline have had a formative influence on Sufi's artistic development. Nevertheless, Sufi's compositions reflect not only the legacy of his mentor but also his own original and innovative creative vision.

Among the composer's most significant contributions to the musical repertoire are the 9 Preludes, Scherzo for violin and piano, Theme and Variations for piano, Concerto for tar and folk instrument orchestra, "Mansuriyya" for piano and folk instrument orchestra, Four Mugham Etudes and Four Short Pieces for piano, Ballad – Garland of Salvation for choir and piano, Requiem, Hymn "Heydar", Symphony – "Karbala" for symphonic orchestra, the ballet "Ashab al-Kahf", the opera "Iblis", and the romances "Nakhchivan Nights" and "Girls' Spring", along with numerous compositions for theatrical productions. (Asadova, 2015)

Among these works, the polyphonic composition titled "Mizan" holds particular significance. In this work, Sufi skillfully merges classical Western musical forms with Azerbaijani national modal systems, presenting a unique synthesis that reflects his innovative compositional approach. "Mizan" stands out as a tangible manifestation of the composer's aspiration to transcend traditional musical boundaries and construct a novel language of musical expression, both technically and aesthetically.

The term "Mizan" literally denotes measure, criterion, balance, scale, and equilibrium. In a more specific and theological context, particularly within Islamic discourse, Mizan refers to the divine scale that will be used on the Day of Judgment to weigh an individual's good and bad deeds. Thus, beyond its literal implication as a physical instrument of measurement, Mizan also embodies a symbolic representation of moral and metaphysical balance (Akhundov, 2005: 259).

Problem of Study

The main problem of the study is to determine the significance of Azerbaijani composer Yashar Sufi's work "Mizan" within the context of Azerbaijani music and to reveal the musical characteristics of the composition.

The subtopics of the study are as follows:

- To identify Yashar Sufi's polyphonic style of expression and to examine the modal, tonal, formal, and thematic features of the preludes and fugues in Mizan;
- To explore the relationship of the preludes and fugues in the work with European musical traditions, as well as their national characteristics.

Method

The research utilized both descriptive and analytical approaches. Yashar Sufi's "Mizan" cycle was thoroughly examined from a music theory standpoint, with a particular focus on analyzing the prelude and fugue structures. The study delved into the work's form, melodic, and rhythmic aspects, as well as its use of modes and the integration of major-minor tonal systems (Skrebkov,2020). Furthermore, a comparative analysis of musical forms and structures was included in the study.

Research Model

This research model aims to bridge the gap between the historical context and contemporary practices in Azerbaijani music by integrating both qualitative and theoretical approaches. The study focuses particularly on Yashar Sufi's innovative contributions to the polyphonic genre. In this context, a musical analysis of the composer's Mizan, a cycle consisting of 24 Preludes and Fugues, has been conducted.

During the analysis process, particular emphasis has been placed on tonal structure, contrapuntal techniques, and methods of formal analysis. While the formal and harmonic structure of the work has been examined using traditional Western analytical approaches, the cultural, aesthetic, and modal elements found in Yashar Sufi's composition enrich the study with a multi-layered perspective.

Research Materials

The primary subject of investigation in this study is Mizan, a cycle of 24 Preludes and Fugues composed by Yashar Sufi. In addition, the relevant works of J.S. Bach and Dmitri Shostakovich have been examined for the purposes of comparative analysis. Furthermore, a limited number of written documents related to the composer's oeuvre, interview notes, and published writings on his music have been utilized as supplementary materials in the contextual analysis.

The theoretical framework is primarily grounded in the historical development and formal structures of the prelude and fugue forms. In this regard, works such as J.S. Bach's Das Wohltemperierte Klavier and Dmitri Shostakovich's 24 Preludes and Fugues have been used as key reference points.

Data Collection Tools

- The notated materials of the Mizan cycle constituted the primary source of data.
- Literature concerning the composer, academic publications, and historical background information were systematically examined.
- Existing written documents related to the works, as well as the composer's own statements and interpretations, were analyzed.
- Structural, technical, and formal comparisons were conducted with key examples from the history of Western music.

Data Analysis

The data analysis was structured to encompass various levels of music theory. The analytical process was carried out according to the following steps:

- The tonal centers, modulatory processes, and harmonic progressions of each prelude and fugue were examined in detail.
- Technical aspects such as thematic construction, number of voices, order of entries, stretto, and inversion were analyzed within the fugues.
- The formal structures of the preludes and fugues were evaluated through comparison with classical models.
- Modal characteristics, rhythmic patterns, and melodic structures reflecting elements of the Azerbaijani musical tradition were interpreted within a contextual framework.

This analytical structure enabled a systematic and in-depth investigation and facilitated the integration of theoretical and analytical tools in the effort to understand Yashar Sufi's musical thought.

Results

A Musical Analysis of Composer Yashar Sufi's "Mizan" Cycle

Among the recently composed polyphonic cycles, Yashar Sufi's new work, consisting of 24 preludes and fugues, has also been included. (Sufi, 2023). The composer has named this cycle "Mizan" and dedicated it to the 300th anniversary of the great German composer J.S. Bach's The Well-Tempered Clavier collection.

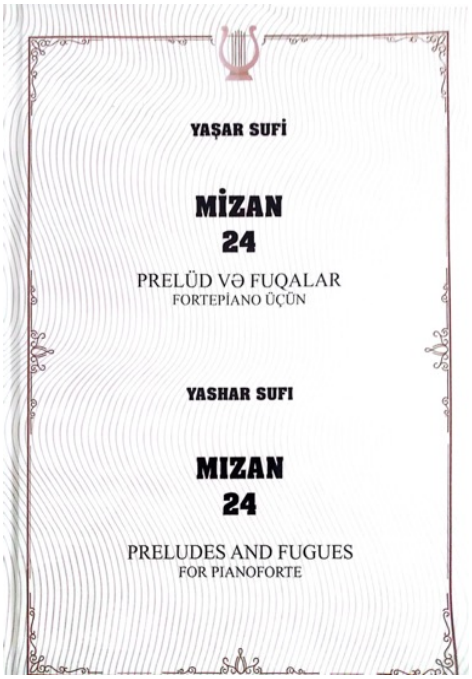

Photo 2. Mizan cycle. (Sufi, 2023)

The collection consists of a two-part cycle of preludes and fugues, where the preludes serve as an introduction to the fugues. The preludes are written in a free, homophonic-harmonic style, while the fugues are written in a serious style. Although the preludes and fugues differ in terms of content and musical material, they are unified by a common tonality. Thus, the cycle encompasses all the sharps and flats in both major and minor keys through a continuous chromatic movement, similar to the structure of J.S.Bach's famous Well-Tempered Clavier collection. In the Mizan cycle, the arrangement of fugues follows a regularly maintained chromatic system, just as in Bach's collection.

The chromatic arrangement of the preludes and fugues is realized in the following sequence:

Table 1. The chromatic arrangement of Preludes and Fugues in "Mizan" cycle

1. C	13. Fis
2. c	14. fis
3. Cis	15. G
4. cis	16. g
5. D	17. As
6. d	18. gis
7. Es	19. A
8. es	20. a
9. E	21. B
10. e	22. b
11. F	23. H
12. f	24. h

As can be seen, the cycle begins in the key of C major and ends with a fugue written in the key of B minor. It is also worth noting that all the preludes and fugues written in minor keys are completed with the same major tonality. In general, the composer's work stands out with its distinctive tonal foundation. In these works, Yashar Sufi has synthesized the major-minor system with the mugham tradition. The fugues are based on the main Azerbaijani modes. In the fugues, the theme and answer subjects are given following the classical fugue structure, following the fourth-fifth relationship. Throughout the fugues, adherence to classical harmony is evident, and the use of dissonances reflects the principles of the Renaissance period.

The preludes and fugues are distinguished by their variety in genre. Each prelude in the work has a vivid musical character. Here, lyrical, tragic, cheerful, and dance-like pieces alternate. The preludes are written in simple yet precise and colorful forms. Some of them are characteristically close to dances. An example of this is the a-minor prelude, which is based on a passacaglia dance. Corresponding to its Spanish origin, the fugue is in a slow tempo, in a minor key, and has a calm, melancholic character, developed in a variation form. The theme is placed in the tenor voice, and at the base, repeated, unchanged figurations are presented. The prelude is written in the rarely used 7/4 time signature.

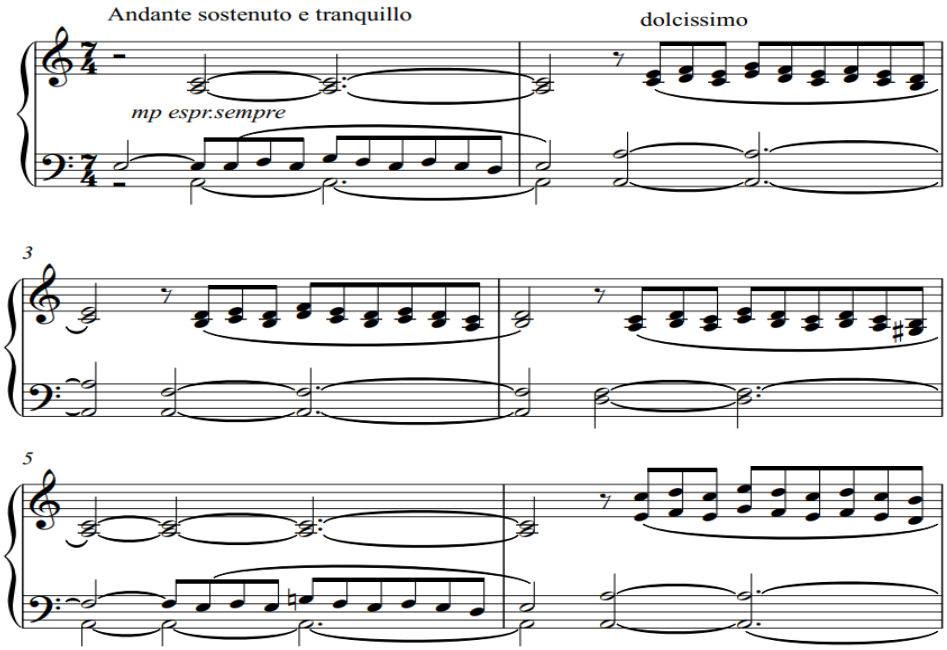

Figure 1. Prelude in A minor from the "Mizan" cycle. No.20, p.152

Some of the preludes are mugham-like (V, XVIII), while others (such as the E minor X prelude) resemble études. The collection also includes preludes based on elements of improvisation. For example, preludes VIII, XIII, and XVIII are improvisational.

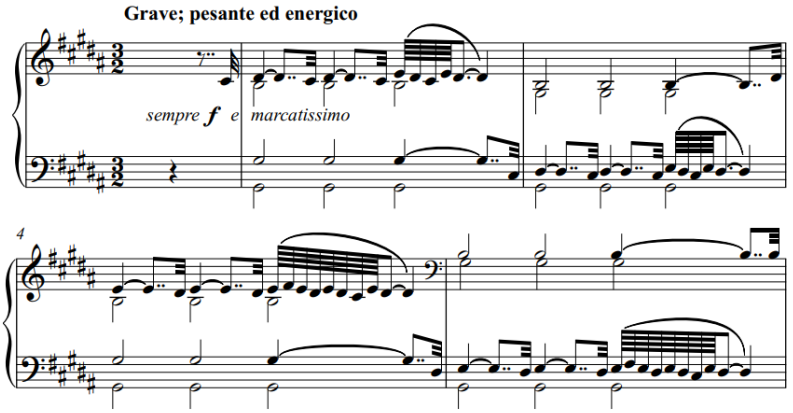

Figure 2. Prelude in Gis minor from the "Mizan" cycle. No. 18, p.134

Overall, the preludes stand out with their diversity in character, structure, and content. For example, in the VIII prelude, the movement of 32nd notes in sextuplets gives it great energy and liveliness. The fast-moving sextuplets alternate with octave chord textures, and the prelude ends with a 10-voice chord.

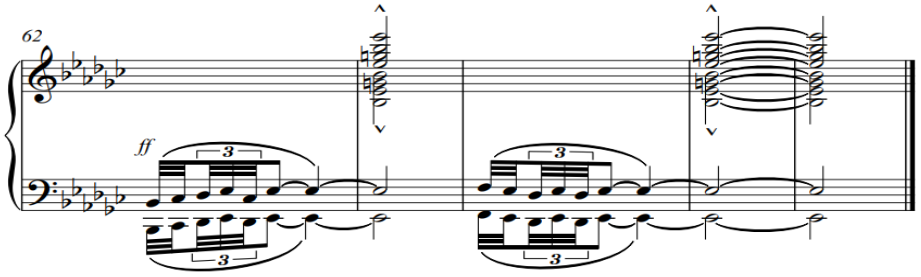

Figure 3. Prelude in E-flat minor from the "Mizan" cycle. № 8, p. 48

The IX prelude is presented with an octaval movement from the beginning to the end. The prelude makes use of 5, 6, and also 7-8 note chords.

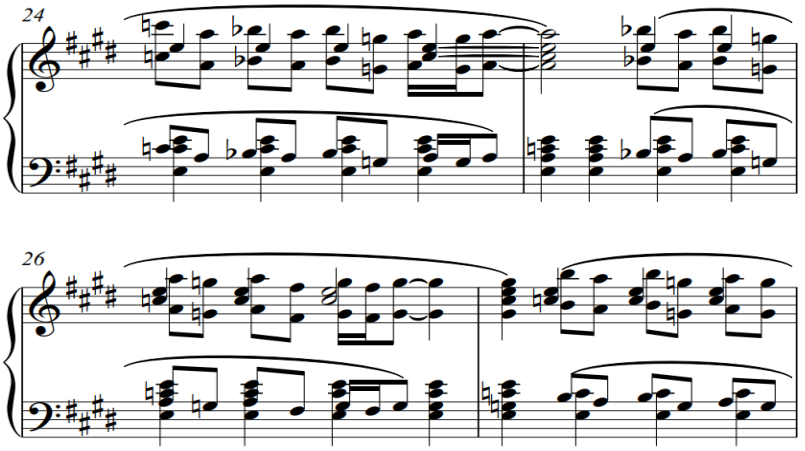

Figure 4. Prelude in E major from the "Mizan" cycle. No. 9, p. 55

In the XII, XVI, and XIX preludes, the composer has used complex contrapuntal techniques with horizontal movement.

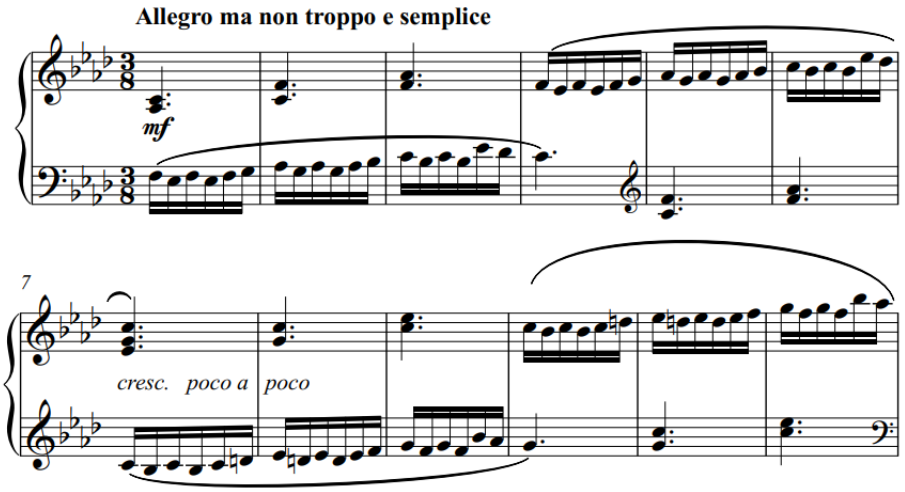

Figure 5. Prelude in F minor from the "Mizan" cycle. No.12, p.79

The XIII prelude, written in F-sharp major, is composed in a fast tempo and is presented with continuous movement of 32nd notes. The same melodic movement, transferred from one hand to the other, continues from the beginning to the end. The prelude, written in a three-part form, has a coda section where the movement of syncopated octaves gives it a majestic character.

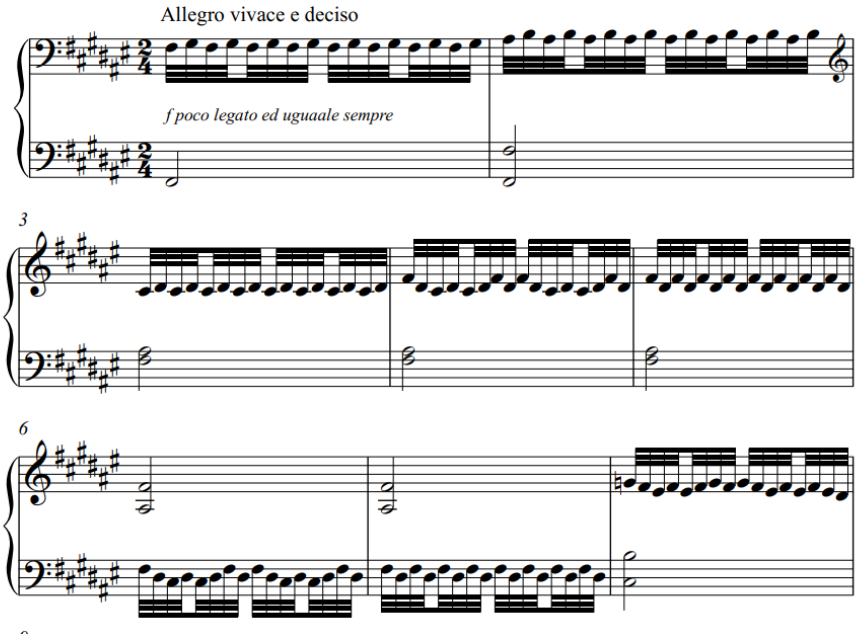

Figure 6. Prelude in F-sharp major from the "Mizan" cycle. No.13, p. 86

In this work, Y. Sufi particularly demonstrated the possibilities of the fugue genre. The fugues included in the collection are simple 3-4 voice fugues. In the collection, only the G major fugue is a complex 5-voice fugue. Thus, the collection contains 15 fugues with 3 voices, 8 fugues with 4 voices, and 1 fugue with 5 voices. The themes of the fugues are compact, covering 2, 4, and sometimes 6 measures (for example, the XI song-like fugue), and at times, they consist of a single measure (the X fugue written in the Shushtar mode (mi), or even just a few notes. For example, the G major XV fugue.

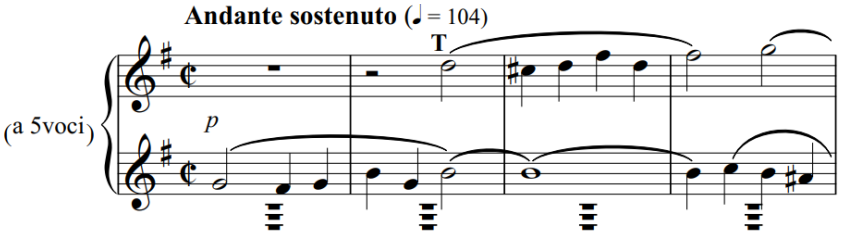

Figure 7. Fugue in G major from the "Mizan" cycle. No. 15, p.111

The fugue themes are mostly written within a single tonality. Most of the fugues begin in the tonic or dominant key. However, sometimes they also start from other degrees, such as the leading tone (for example, the Fugue in C-sharp major, No. III). The themes typically end in the tonic key or in the dominant key, and very often in the mediant (third) note. The themes do not exceed the octave in range, meaning they change in the range of a fourth and an octave. Only in the XVIII fugue (in G-sharp minor) does the theme's range extend to an undisturbed seventh.

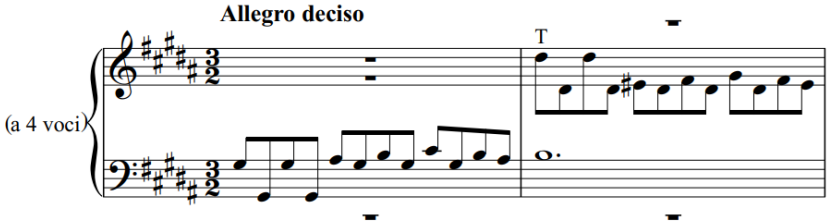

Figure 8. Fugue in G-sharp minor from the "Mizan" cycle. No. 18. Page 137

The smallest range in terms of the theme is found in the G major (third) fugue. In terms of the development of the melodic line, the themes differ from one another. In some fugues, the melodic movement is gradually descending (e.g., Fugue I), while in others, it is presented in ascending scale-like sequences (e.g., Fugue XXIII in B major). In some fugues, the movement alternates in a wave-like manner, first moving upward and then descending (e.g., Fugue II in C minor), or it is presented in a sequence form (e.g., Fugue VI in D minor, Fugue VII in E-flat major, Fugue VIII in E-flat minor, Fugue XI in F major, Fugue XXIV in B minor). In some fugues, the theme begins with a leap of a fourth (e.g., Fugue IX), in others with a fifth interval (e.g., Fugues V, XIV), and in some with a leap of a sixth interval (e.g., Fugue XXIV). The fugues, written with high polyphonic skill, are distinguished by their character and diversity. Among the themes, there are serious, sorrowful, and melancholic, as well as cheerful, song-like, lyrical, and dance-like images. Some themes are soft, calm, and thoughtful, while others are majestic and dramatic in character. Additionally, there are delicate, pastoral, and energetic themes. Examples include cheerful, simple C-sharp minor (IV), lyrical, expressive C major (I), C-sharp major (III), sorrowful E minor (X), fiery B minor (XXII), energetic, playful D major (V), E-flat minor (VIII), A major (XIX), B minor (XXIII), majestic

D minor (VI), joyful, grandiose E-flat major (VII), and E major (IX) fugue themes. All the fugues begin monophonically, without accompaniment, from any voice such as bass, soprano, alto, etc. In the majority of three-voice fugues, the theme is introduced in the bass voice, and in four-voice fugues, it is presented in the tenor voice. Real answers are dominant in the fugues, and it can be said that all the fugues have real answers. Only in one fugue—Fugue XVIII—is there a tonal answer. In this fugue, the theme, starting with octaval movement, has its non-diatonic leap in the answer replaced by a second interval.

In most of the fugues, the use of the inverse structure is maintained. The fugues in the series display a three-part structure. The first part, the exposition, begins with the theme presented in the main tonality, and this part includes the transition of the theme through all voices. Sometimes, there is also an additional transition of the subject within this section. For example, in Fugue I in C major. In the second and third sections of the fugue, the theme's stretto transition is used. The middle section is presented in related tonalities, and the theme is developed through various polyphonic variations. In this section, the intermediary holds particular significance. Some fugues are noted for their abundance of stretto. In these fugues, the theme is presented in straight motion or with inverted, counter-motion. For example, in Fugue VI. However, there are also fugues where stretto is not used. For instance, in Fugues I, III, IV, and others. In these, the theme is presented in straight, inverted, or paired transitions. In Fugue III, only 9 transitions of the theme are used, and here, the main focus is on the intonations of the subject based on the intermediary. The volume of the intermediary in the fugue extends to 12 measures. In the fugues, alongside the stretto transition of the theme, as we mentioned, the paired transition of the theme at the same time in different voices also appears. For example, in the Fugue in C major.

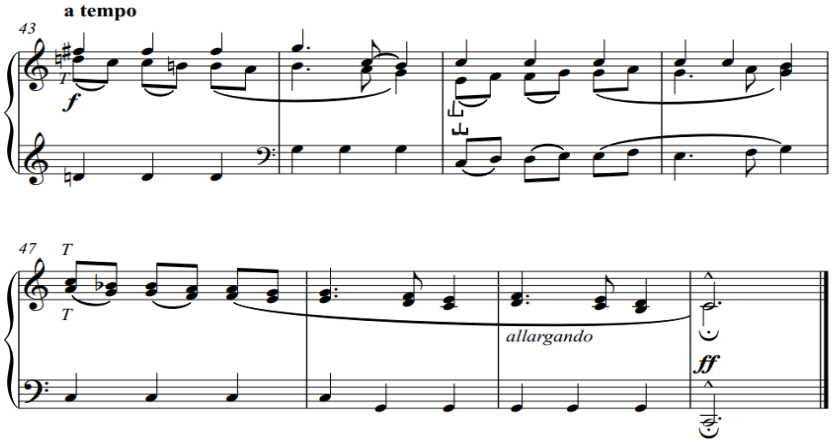

Figure 9. Fugue in C major from the "Mizan" cycle. No. 1, p. 6

The intermedia is based on the material of the theme and the counter-subject. In the fugues, the intermediates are characterized by their development and are structured in the form of a sequence, playing a significant role in the fugue.

The themes of the fugues are diverse in terms of genre. In particular, the intonations of song and dance genres are present. For example, the dance-like fugues XIII and XXII, and the song-like fugue XII can be cited as examples. Thus, the composer, by utilizing the richness of folk song and dance arts in his polyphonic themes, has created highly memorable examples. His polyphonic themes are distinguished by their clarity and transparency.

Like the preludes, the fugues also attract attention with many distinguishing features. For example, the IV C-sharp minor fugue ends in the same major tonality. Written in three parts, this four-voice fugue (a total of 63 bars - 24 + 18 + 21) has the theme presented in a retrograde motion in the middle section. The reprise begins with the coupled transition of the theme.

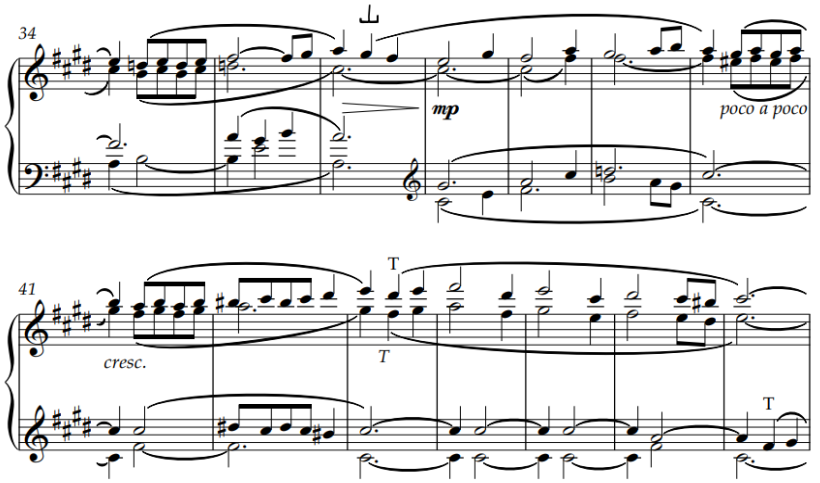

Figure 10. Fugue C-sharp minor from "Mizan" cycle. No. 4, p.25

Fugues V and XIII have a cheerful, playful character. They are written in 6/8 time, typical of Azerbaijani folk dance music. The theme of Fugue XVIII, which spans one measure, begins with octave motion. In this fugue, the composer has used a double subject. Starting from measure 25, the organ point becomes evident.

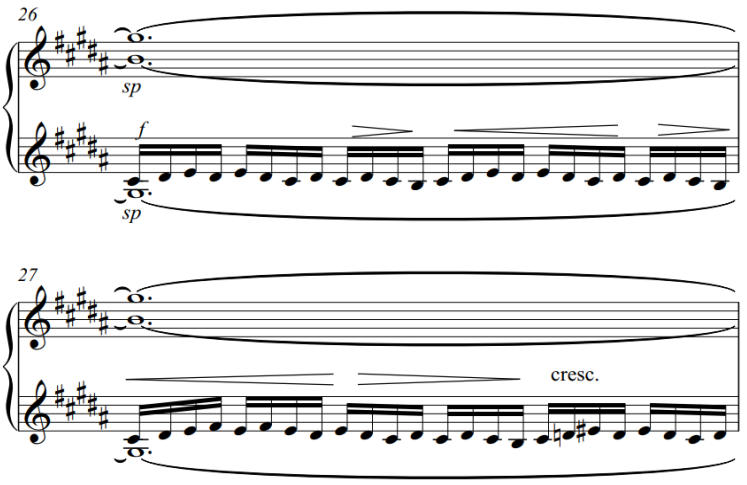

Figure 11. Fugue in G-sharp minor from "Mizan" cycle. No.18, p.140

As mentioned, Y. Sufi, in his "Mizan" work, not only used simple fugues but also resorted to complex fugues. The 15th fugue is a 5-voice fugue. Written in G major, the theme of this fugue spans a compact 1 and a half measures. The theme, presented with a somewhat thoughtful character, begins with the tonic note of the key and concludes on the mediant. The fugue emphasizes chordal textures, with stretto playing a significant role in its development.

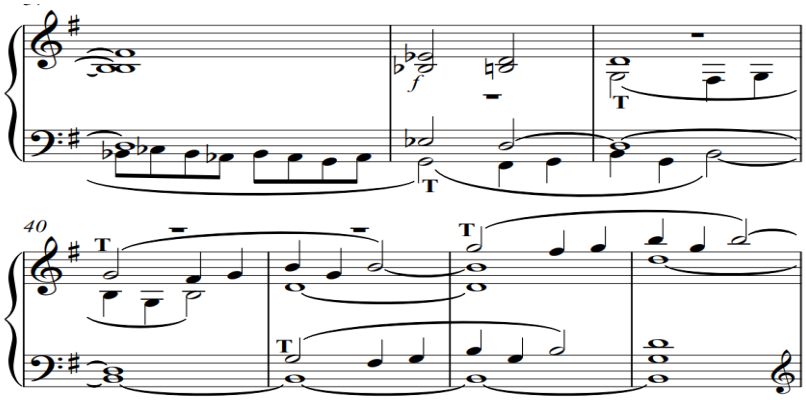

Figure 12. Fugue in G major from "Mizan" cycle. No.15, p.113

As mentioned, Y. Sufi, in his "Mizan" work, not only used simple fugues but also resorted to complex fugues. The 15th fugue is a 5-voice fugue. Written in G major, the theme of this fugue spans a compact 1 and a half measures. The theme, presented with a somewhat thoughtful character, begins with the tonic note of the key and concludes on the mediant. The fugue emphasizes chordal textures, with stretto playing a significant role in its development.

Conclusion

Thus, the great German composer J.S. Bach, with his "Well-Tempered Clavier" (WTC), laid the magnificent foundation for the polyphonic cycle genre, which continues to successfully evolve in the 21st century. By creating such a cycle, he proved that it is possible to compose and perform music on all the white and black keys of the piano. This work has not only become a musical masterpiece but has also inspired other composers, creating an important turning point in the evolution of polyphonic form. Bach's "Well-Tempered Clavier" brilliantly structures the musical framework of the polyphonic cycle and has become a model to be followed both theoretically and practically. Therefore, after Bach, composers such as Hindemith, Shchedrin, Shostakovich, Gara Garayev, and others wrote works in this genre. This tradition, established in the 17th century, has laid the foundation for the extremely rich and diverse creativity of both European and Russian composers, as well as Azerbaijani composers in the field of polyphonic cycles. These magnificent artistic examples continue to inspire composers and performers, and although some changes have occurred, they still maintain their relevance as a form today, allowing musicians to express deep thought and emotion. In the polyphonic cycles written in the modern era, each composer reflects their own unique individual approach, and most importantly, the cycles composed by Azerbaijani composers are presented with Azerbaijani mugham elements, and Azerbaijani modes are showcased in a completely different style.

Like the works of J.S. Bach and D. Shostakovich, this suite composed for keyboard instrument encompasses all tonalities and is constructed upon the alternation of homophonic and polyphonic sections.

Unlike Shostakovich's preludes and fugues, which are composed according to the circle of fifths, Y. Sufi's suite follows a chromatic sequence in the arrangement of preludes and fugues, similar to Bach's Well-Tempered Clavier. Differing from Bach, Y. Sufi incorporates not only major and minor scales but also Azerbaijani national modes into the suite, presenting them in a synthesized form. In Hindemith's Ludus Tonalis, which begins with a prelude and ends with a postlude, the arrangement of fugues and interludes is organized based on closely related tonalities. As noted, Y. Sufi's

suite consists of 24 preludes and fugues. In contrast, Q. Garayev's suite comprises a total of 12 fugues and is based on a synthesis of Azerbaijani modes with serial technique, relying exclusively on the sequencing of polyphonic sections. The same structural approach applies to E. Dadashova's suite, which consists of 21 fugues.

Azerbaijani composer Yashar Sufi has not only mastered Bach's legacy but also infused it with elements of Azerbaijan's traditional music, thereby giving it a new dimension. This work reflects not only Western music techniques but also Azerbaijan's rich musical heritage. In Sufi's preludes and fugues, the Azerbaijani mugham, synthesized with Bach's major-minor tonality system, plays an important role in merging the universal language of music with local identity.

The works included in the "Mizan" cycle, consisting of 24 preludes and fugues, have been analyzed in terms of their formal structure, thematic and textural qualities, modal-intonation, rhythmic and melodic features, which has helped reveal the distinctive characteristics of the musical language of the piece.

In his work, Yashar Sufi remains faithful to Bach's tradition, maintaining the chromatic arrangement features of the preludes and fugues in the same manner. The composer has created a diverse range of genres in his preludes and fugues. For example, in the 20th prelude, he incorporates the characteristics of the passacaglia dance, in the 5th and 18th preludes, he integrates mugham, and in the 12th, 16th, and 19th preludes, he employs complex counterpoint. He has achieved the synthesis of the two accepted modes in world music: major and minor, with mugham.

In this cycle, the fugues stand out with their varied character qualities: among the themes, there are serious, melancholic, sorrowful, as well as joyful, song-like, lyrical, dance-like, soft, calm, thoughtful, triumphant, and exciting characters. Sufi's polyphonic works reveal the potential and significance of presenting local elements through polyphony, a universal language, in modern music.

Lastly, the "Mizan" cycle demonstrates how traditional polyphonic music forms can be synthesized with local melodic elements, and how this offers a valuable contribution both in terms of education and art. We believe that this work will continue to inspire future generations, maintaining the vitality of the polyphonic genre in the 21st century.

Recommendations

Analyses of the performance of the "Mizan" cycle could examine the challenges in stage performance, technical requirements, and the impact on interpretation. Technical differences in the orchestration of the work or the way pianists approach it could create an interesting area to explore how the musical meaning is shaped. In addition to the musical analysis of the Mizan cycle, a philosophical or aesthetic examination could be conducted. The modular structures within the work may convey an intrinsic meaning or cultural narrative, thus offering a deeper level of interpretation. In this context, an analysis could be undertaken through the lens of philosophical thought and aesthetic theories.

Moreover, a sociological approach could also be adopted. In-depth studies could be carried out on the place of Mizan in Azerbaijani culture and its societal impact, exploring the social and cultural norms associated with music. A research study could also focus on the psychology of the audience. How does the Mizan cycle influence different audience groups, and how does it shape musical perception? Such a study could provide insights into the psychological and emotional effects of music on the listener. Furthermore, psychological themes within the Mizan cycle could be explored in greater depth. Research could investigate how music reflects psychological processes such as human emotions, inner conflicts, and interactions with the external world, and how these reflections are interconnected with the structural features of the work.

References

Abbasova, N. (2023). Investigation of the modal-tonal features of mugham in the short-form piano works of Azerbaijani composers. *World of Music, (2)*, 9138–9146.

Akhundov, A. (2005). *Explanatory dictionary of the Azerbaijani language* (451 pages). Baku: Elm.

Asadova, Y. (2015). *Yashar Khalilov*. (30 p.). Baku: Sharg-Garb Publishing House.

Chernyavska, M., & Mengzhe, Z. (2021). Preludes and fugues for piano in the polyphonic works of Chinese composers. *Rast Muzikoloji Dergisi, 9*(3, Special Issue), 2943–2960.

Dadashova, E. (1991). *A short course of lectures on polyphony* (111 p.). Baku: Elm.

Dadashova, E. (2010). *21 prelude and fugues* (68 p.). Baku: Elm.

Dolzhansky, A. (1970). *24 preludes and fugues by D. Shostakovich* (258 p.). Leningrad.

Eminova, N. (2023). Polyphonic cycle "12 Fugues" for piano by Gara Garaev. *Erciyes Akademi, 7*(2), 806–831. https://doi.org/10.48070/erciyesakademi.1301579

Garayev, G. (1982). *12 fugues* (40 p.). Moscow: Sovetskiy Kompozitor.

Gadimova, N. (2000). The intonational features of piano fugues in Asaf Zeynally's compositions. *World of Music*, Baku.

Hajibeyli, U. (2019). *Fundamentals of Azerbaijani folk music* (360 p.). Baku: Sharg-Garb.

Huseynova, R. (2024). The historical development path of polyphonic series and its implementation in the creativity of Azerbaijan. *Scientific Reports of Bukhara State University, (6)*, 221–233.

Huseynova, R. (2017). *Polyphony: The history of polyphony in Western European music from the 9th to the 17th century* (263 p.). Nakhchivan: Ajami.

Ivanova, N. A. (2015). *Short lectures for a course in polyphony* (56 p.). Saratov. [Publisher not specified]

Makarova, N. (2024). Vsevolod Zaderatsky's "24 preludes and fugues": Return from oblivion. *Aspects of Historical Musicology, 36*(36), 62–80. https://doi.org/10.34064/khnum2-36.04

Mazullo, M. (2010). *Shostakovich's preludes and fugues: Contexts, style, performance*. Yale University Press. https://doi.org/978-0-300-14943-2

Mushel, G. (1978). *Twenty-four preludes and fugues for piano* (116 pages). Moscow: Soviet Composer.

Lowrance, R. A. (2013). Instruction, devotion, and affection: Three roles of Bach's Well-Tempered Clavier. *Musical Offerings, 4*(1), Article 2, 15–30.

Skrebkov, S. (2020). *Analysis of musical works* (302 p.). Moscow: Urayt.

Sufi, Y. (2023). *Mizan: 24 preludes and fugues* (193 p.). Nakhchivan: Ajami.

Ursova, T. (2009). *Interpreting cycles of preludes and fugues by Soviet composers: Problems of performance and perception*. Doctoral dissertation. Goldsmiths College, University of London.

Vlahopol, G. (2010). Baroque reflections in *Ludus Tonalis* by Paul Hindemith. *Recent Advances in Acoustics & Music*.

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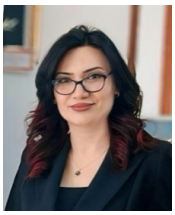

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Research Article

Musical narratives in *The Last Emperor*: The power of leitmotifs and traditional Chinese instruments in storytelling

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Abstract

This study explores music's narrative and emotional functions in *The Last Emperor* (1987), focusing on the strategic use of leitmotifs and traditional Chinese instruments. Rather than serving as a mere atmospheric accompaniment, music in the film functions as an active narrative force that shapes character development, emotional resonance, and cultural perception. Through a qualitative, interpretive framework, the research examines how recurring musical themes—leitmotifs—are dynamically altered in instrumentation, tempo, and harmony to reflect the protagonist Puyi's psychological evolution. These motifs serve as structural and emotional anchors, guiding the audience through the film's shifting narrative and thematic contours. Moreover, the study investigates the role of traditional Chinese instruments, particularly the *erhu* and *konghou*, in reinforcing cultural identity and emotional nuance. Their expressive timbres and integration into the Western orchestral fabric provide historical authenticity and a cross-cultural soundscape that bridges Eastern and Western musical traditions. Drawing on music semiotics and film music theory, the study employs thematic analysis, timbral examination, and audiovisual synchronization to understand how these musical elements contribute to a multisensory cinematic experience. The findings suggest that leitmotifs in *The Last Emperor* are not static musical tags but dynamic narrative agents that evolve alongside the characters' emotional and cultural transformations. Traditional Chinese instruments, when merged with Western orchestration, act as cultural bridges and emotional amplifiers that heighten both historical context and viewer empathy. Together, these musical strategies construct a layered narrative experience that deepens the audience's engagement intellectually, culturally, and emotionally. This study contributes to the discourse on cross-cultural film scoring, demonstrating music's capacity to construct meaning, evoke emotion, and convey cultural identity in visually rich and sonically immersive narratives.

Keywords

cross-cultural scoring, emotional resonance, film music narrative, leitmotif, traditional Chinese instruments

Introduction

In cinematic storytelling, music is crucial in setting the emotional tone and reinforcing narrative structure and cultural identity. From sweeping orchestral scores to subtle instrumental cues, film music can evoke memory, guide audience interpretation, and deepen character development. As Lipscomb and Tolchinsky (2012) observe, music also plays a vital communicative role in cinema by shaping narrative understanding through expressive nuance and stylistic convention. While much scholarly attention has been given to the general functions of film music, fewer studies have examined the intricate interplay between leitmotifs and traditional instrumentation, particularly in films situated at the intersection of Eastern and Western cultural narratives.

The Last Emperor (1987), directed by Bernardo Bertolucci, offers a rich canvas for such exploration. As a historical epic recounting the life of Puyi, the last Emperor of China, the film navigates themes of imperial legacy, personal transformation, and political upheaval. What distinguishes its musical approach is the integration

of Western leitmotif techniques with traditional Chinese instruments, such as the erhu and konghou (Figure 1). The erhu is a two-stringed bowed instrument with a cylindrical resonator covered in snakeskin, often referred to as the "Chinese violin" for its expressive, voice-like tone and wide vibrato capabilities. The konghou is a plucked string instrument resembling a vertical harp, historically used in imperial court music and revived in modern times for its bell-like clarity and ornamental glissandi. These instruments are not merely ornamental but play a central role in shaping the film's emotional and cultural soundscape. Composed by Ryuichi Sakamoto, David Byrne, and Cong Su, the score merges emotional sensitivity with cultural specificity, rendering music as background ambiance and a vital narrative force.

Figure 1. *Erhu* and *konghou*

This study explores how leitmotifs and traditional Chinese instrumentation work together to shape emotional perception and narrative meaning in The Last Emperor. Using a dual framework of leitmotif theory and music semiotics, the research investigates how recurring musical themes and culturally coded timbres communicate psychological states, cultural transitions, and evolving identities. Through this lens, the study demonstrates how music functions as a cross-cultural storytelling device, transcending language, geography, and genre.

Theoretical Framework: Leitmotif Theory and Music Semiotics

This study is grounded in two interrelated theoretical perspectives—leitmotif theory and music semiotics.

Leitmotif theory, rooted in 19th-century Wagnerian opera, explores the structural and narrative functions of recurring musical themes assigned to characters, ideas, or settings. These motifs establish thematic coherence and psychological depth within a work (Bribitzer-Stull, 2015; Meyer, 2013). In cinema, leitmotifs function as identifiers and evolving narrative agents. Lehman (2018) conceptualized them as "musical architecture"—flexible in tempo, orchestration, and harmony—adapting to character development and emotional shifts, thus enhancing narrative cohesion and audience engagement.

Complementing this theory, music semiotics approaches music as a symbolic system in which sound operates as a signifier within a multilayered cultural and emotional context. According to Charles S. Peirce and Roman Jakobson, musical signs can be classified as:

- Icons, which resemble the emotions or actions they represent (e.g., rising melodic lines suggesting aspiration);
- Indexes, which point to emotional or physical causes (e.g., dissonance indicating tension); and
- Symbols, which rely on shared cultural codes and associations (e.g., rhythmic military patterns evoking nationalism) (Tarasti, 2002).

Mammadova (2025) expands on this foundation by emphasizing the three dimensions of semiotic analysis: syntax (the structural rules and patterns of musical signs), semantics (the conveyed meanings and emotional associations), and pragmatics (the interaction between the sign and the interpreter within a sociocultural context). From this perspective, each musical element—tone, rhythm, texture, or form—can serve not only expressive but also communicative and structural functions. Musical meaning, then, is not fixed but emerges through cultural experience, performer interpretation, and audience perception.

Related Literature

While film music's narrative and emotional role has been widely researched, few studies have explored how leitmotifs and traditional Chinese instrumentation function together within a cross-cultural cinematic framework. This study builds on previous works by combining semiotic theory, psychological research, and film music analysis to show how music actively supports narrative development, emotional resonance, and cultural identity in *The Last Emperor*.

Gorbman's (1987) foundational work conceptualized film music as an "unheard" semiotic system that influenced narrative perception even when not noticed consciously. Bribitzer-Stull (2015) and Meyer (2013) extended this work by tracing the evolution of leitmotifs from Wagnerian opera to Hollywood cinema, demonstrating how changes in motif harmony, rhythm, and orchestration mirror shifts in character psychology. Lehman (2018) emphasized how networks of leitmotifs, particularly in the *Star Wars* franchise, formed complex emotional architectures that enhanced narrative cohesion. Similarly, Leinberger (2021) explores thematic reuse in classical Hollywood, noting Max Steiner's self-referential use of love themes across films like *Now,* Voyager and *Mildred Pierce*. These studies affirmed that leitmotifs were flexible narrative devices that grew in complexity and significance alongside the characters and plot.

Simultaneously, Chattah (2006) and Chanan (2019) applied music semiotics to film, illustrating how musical gestures – modality, timbre, and articulation – act as emotional and cultural signs. Kendall (2010) revisited semiotic theory in multimedia contexts, underscoring how sound constructs meaning in combination with visual media. Mera (2002) adds a complementary perspective by analyzing how musical humor and irony shift audience interpretations contextually, reinforcing the idea that musical meaning is highly contingent on narrative framing. Tagg (2012) underscored music's communicative role across cultural boundaries, describing how audiovisual congruence can heighten viewer interpretation and facilitate cross-cultural understanding.

Empirical studies have added to this theoretical base. Pallesen et al. (2005) demonstrated how different chord types elicited varying emotional responses – major chords are rated as happy, minor as sad, and dissonant as tense – especially among musicians. Figure 2 illustrates these findings, affirming the psychological basis for associating musical harmony with emotional valence. Parke et al. (2007) demonstrated that articulation and timbre significantly influenced emotional interpretation when matched with ambiguous visuals.

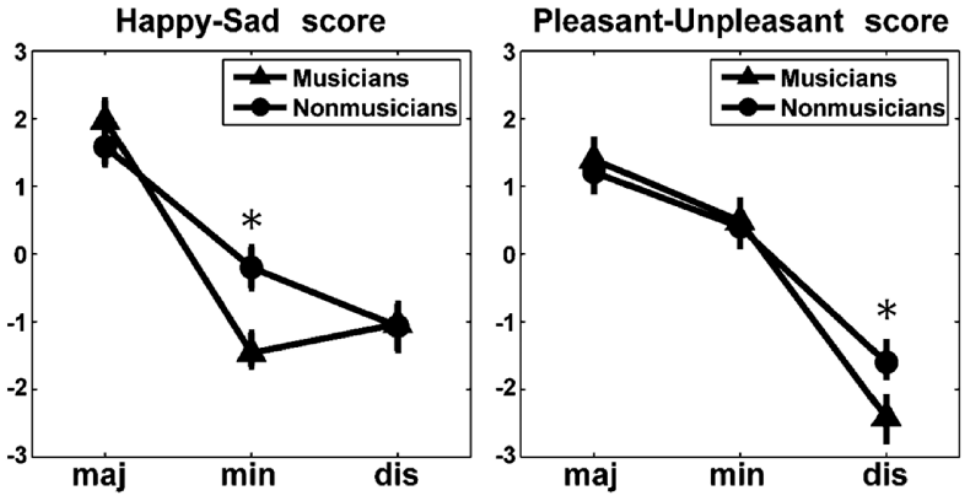

Figure 2. Emotional ratings (Mean ± SE) of major, minor, and dissonant chords. Musicians rated dissonant chords as significantly more unpleasant and minor chords as significantly sadder than nonmusicians (extracted from Pallesen et al., 2005)

Cohen's (2005) experiments on audiovisual congruence built on these findings by showing how pitch and tempo influenced emotional interpretation. Figure 3 illustrates how auditory stimuli were created using varying pitch heights (C3, C4, and C5) and rhythmic values (quarter, eighth, and sixteenth notes). Figure 4 shows visual stimuli of a bouncing ball at corresponding heights and speeds. When music and visuals matched in tempo or register, participants reported higher happiness (Figure 5). This suggests that the emotional impact is amplified when audiovisual components are synchronized.

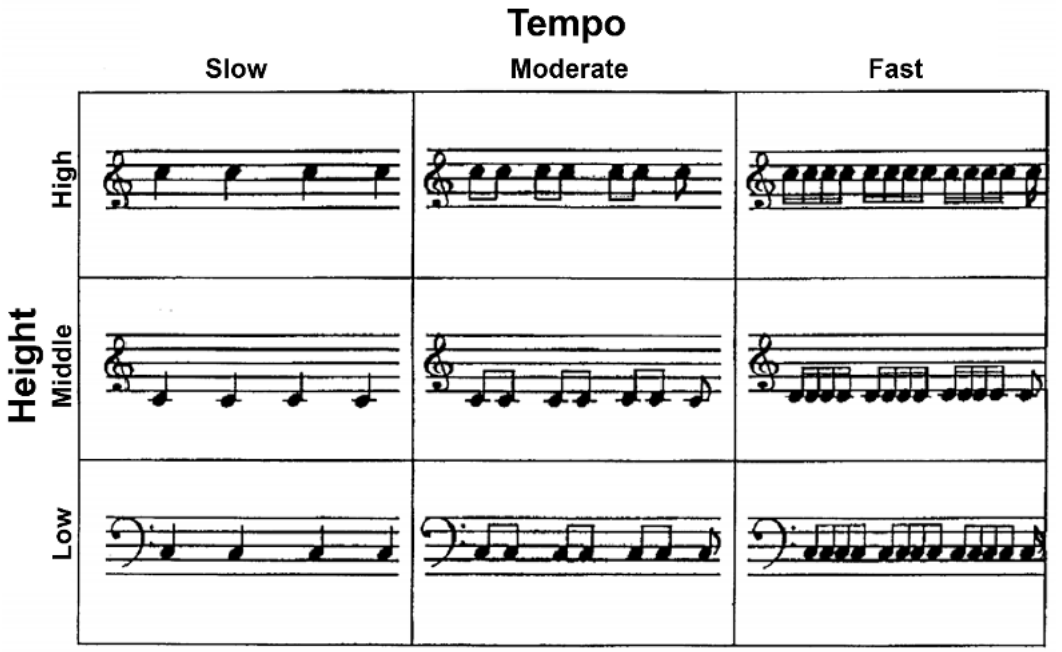

Figure 3. Representation of different musical soundtracks created from three tempos and three pitch heights of a repeating tone (extracted from Cohen, 2005)

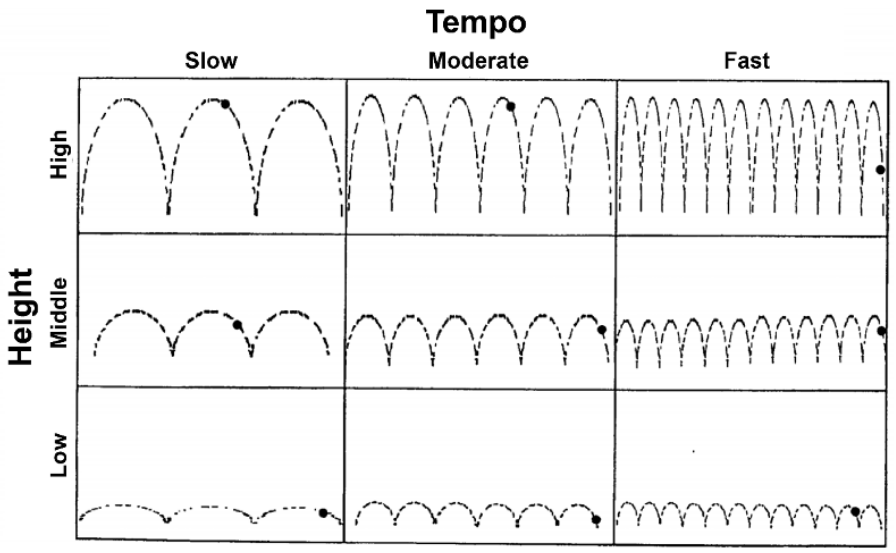

Figure 4. Representation of different video patterns created from three tempos and three heights of a bouncing ball (extracted from Cohen, 2005)

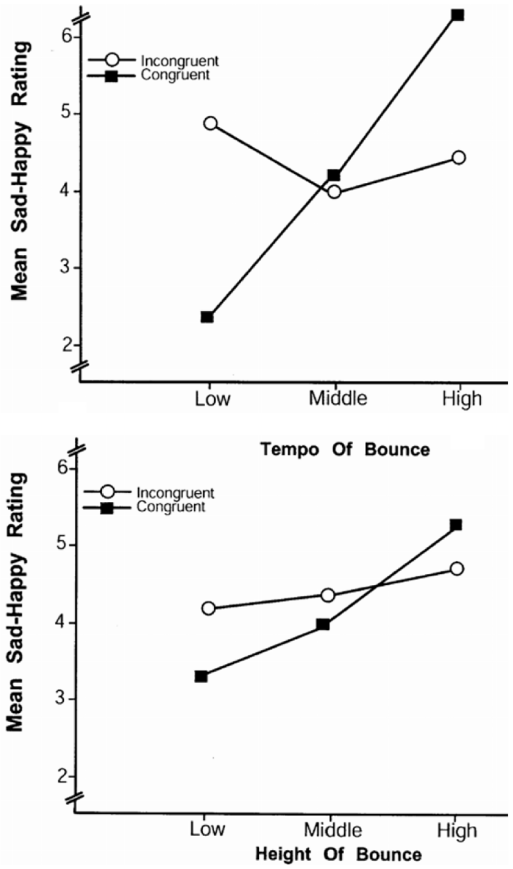

Figure 5. Mean rated happiness represented by the bouncing ball under congruent and incongruent audiovisual tempo and height combinations (data from Cohen, 2005)

Moving to traditional instrumentation, Cooke (2008) noted how instruments, such as the *erhu* and *konghou*, functioned as emotional amplifiers and cultural markers. Hou (2024) found that these instruments evoked nostalgia and longing, especially when blended with Western orchestration. Tian and Ng (2024) analyzed the *erhu*'s frequency profile, showing a peak around 1600 Hz, which contributed to its piercing and mournful tone (Figure 6). The *konghou*, in contrast, resonated around 1000 Hz, producing a bell-like clarity that evoked serenity and elegance. These unique timbral qualities were deployed in *The Last Emperor* to signify emotional transformation and cultural memory.

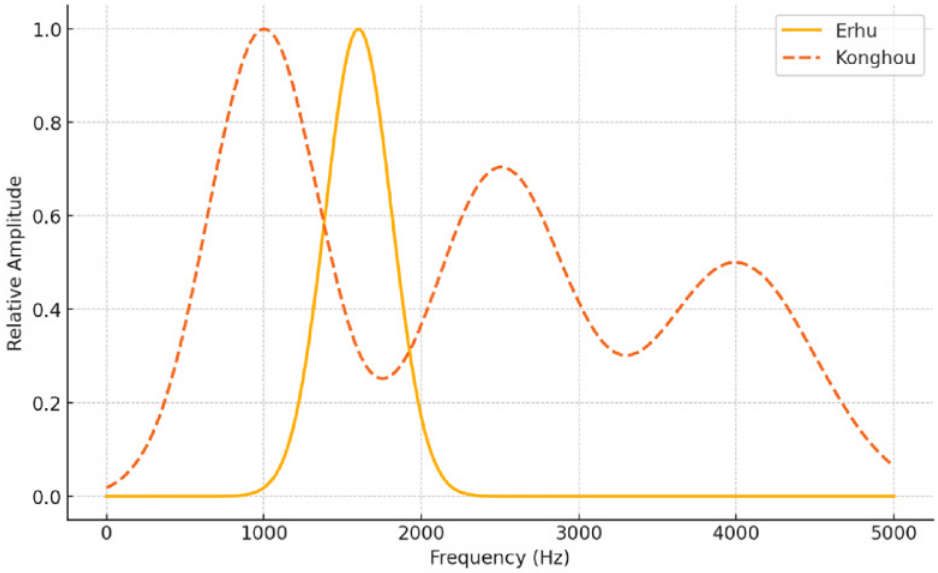

Figure 6. Frequency characteristics of the *erhu* and *konghou*

Qiu et al. (2021) profiled the *qudi*, also known as the *dizi*, a traditional Chinese transverse bamboo flute that is widely used in various genres of Chinese folk and classical music (Figure 7). The instrument is known for its bright and penetrating tone and features a unique buzzing membrane (*dimo*) that adds a distinctive timbral quality. Their study demonstrated how the *qudi*'s tonal dynamics effectively enriched dramatic tension in audiovisual contexts.

Wang and Shpagina (2024) examined the synthesis of traditional Chinese string instruments with Western compositional techniques, suggesting that such integration not only preserved cultural heritage but also enhanced emotional complexity in modern film scores. This cross-cultural dialogue is further illustrated in the works of Tan Dun, in which traditional Chinese and Western instruments interact to build multicultural sonic narratives (Litvikh & Lyu, 2024)[1].

Figure 7. Qudi, traditional Chinese bamboo flute

Despite these advances, few studies have systematically analyzed how leitmotifs and traditional Chinese instruments interact to convey character development and cultural tension. One such study was conducted by He (2024), examining the use of traditional Chinese music elements in the film *Full River Red* to show how they contribute to emotional intensity and national symbolism within contemporary Chinese cinema. This gap is addressed through a case analysis of *The Last Emperor*, which applied the above frameworks to show how music enhanced

[1] Give information about this instrument and show their pictures. It will provide illustrative information and will help readers to be more imaginative.

the film's emotional arc and cross-cultural resonance. By analyzing musical motifs and instrumental timbres in conjunction with narrative shifts, this study revealed how music transcends its supportive role to become a central force in cinematic storytelling.

Research Aim and Problem

The central aim of this study is to investigate how music functions as an active narrative force in The Last Emperor (1987) by analyzing the interplay between "leitmotifs" and "traditional Chinese instruments." Rather than treating film music as an atmospheric accompaniment, this study positions it as a "semiotic and narrative agent" that contributes to character development, emotional engagement, and cultural representation.

Specifically, this research addresses two questions:

- **How do leitmotifs function as narrative and emotional tools in *The Last Emperor*?** This question explores the use of recurring thematic material to represent character identity, psychological transformation, and thematic cohesion. It investigates how variations in instrumentation, tempo, and harmony reflect the evolving emotional landscape of the protagonist, Puyi, and contribute to the overall narrative structure.

- **How does the integration of traditional Chinese musical instruments contribute to the film's cultural and emotional depth?**

This question examines the role of instruments, such as the *erhu* and *konghou*, in reinforcing the film's historical authenticity and cross-cultural resonance. It investigates how these instruments function as cultural signifiers and emotional amplifiers within the score.

This research is significant for two reasons. First, it contributes to the expanding field of music semiotics by illustrating how musical motifs and instrumental timbres operate as meaningful signs within a cinematic context. Second, it provides a cross-cultural perspective on film scoring, highlighting how the fusion of Eastern and Western musical idioms enhances narrative complexity and emotional depth. Focusing on The Last Emperor, a film that epitomizes cultural hybridity, this study demonstrates the "transformative power of music" in global cinema and its capacity to bridge cultural, historical, and emotional divides through sonic storytelling.

Methods

Research Design

This study employs a qualitative, interpretive research design grounded in musicological and semiotic analysis. Rather than relying on statistical generalizations, it uncovers the nuanced narrative and emotional functions of film music through close reading and detailed score analysis. The research approach is interdisciplinary, integrating music theory, semiotics, psychology, and cultural studies to explore how sound shapes meaning within audiovisual media.

Data Sources

The primary data for this study consisted of the original score and soundtrack recordings from The Last Emperor (1987), composed by Ryuichi Sakamoto, David Byrne, and Cong Su. Selected film scenes were transcribed and analyzed for their melodic, harmonic, rhythmic, and orchestration features. The study focused on sequences that prominently featured leitmotifs and traditional Chinese instruments, including scenes from Puyi's childhood, exile, and moments of personal transformation.

Supplementary materials included:

- Interviews and commentaries from the composers (when available)

- Published analyses and orchestration notes

- Visual materials (film scenes) synchronized with music for audiovisual correlation
- Scholarly literature on leitmotif theory, music semiotics, and traditional Chinese instruments

Analytical Framework

The analysis was conducted in three stages:

- **Thematic analysis:** Identifying recurring leitmotifs and cataloging their variations across narrative contexts.
- **Timbre and instrumentation analysis:** Examining how the *erhu*, *konghou*, and other traditional instruments interacted with Western orchestration to support emotional and cultural cues.
- **Semiotic interpretation:** Applying music semiotic theory to interpret how musical gestures function metaphorically, indexically, and symbolically within the narrative.

Moreover, spectrogram and frequency analysis were conducted on selected scenes to visualize the acoustic characteristics of traditional instruments and their interaction with orchestral textures. These visualizations substantiated the claims about timbral contrast and narrative function.

Procedure

The film was viewed multiple times to identify musically significant scenes. These were analyzed frame-by-frame to synchronize musical gestures with cinematic elements, such as editing, lighting, and dialogue. Transcriptions were made manually, using notation software, to preserve musical fidelity, and scene timings were logged to ensure accurate cross-referencing between visuals and sound.

Ethics

This study did not involve any human participants, animals, or personally identifiable data, and, therefore, did not require formal ethical approval according to institutional and journal guidelines. Nevertheless, the authors maintained high ethical standards by ensuring proper attribution of all cited materials, securing appropriate permissions for audiovisual content used for academic purposes, and presenting the methodology and interpretations transparently. All musical examples and visual stills were selected with scholarly intent and used within the bounds of educational fair use. This ethical stance was taken to uphold academic integrity and ensure the responsible treatment of creative and cultural content throughout the study.

Leitmotif as a Narrative Tool for *The Last Emperor*

This analysis explores the intricate use of leitmotifs in *The Last Emperor*, a cinematic masterpiece that interweaves music with narratives to enhance emotional depth and storytelling. The film, set against the backdrop of the life of Puyi, the last Emperor of China, uses music as a background element and a narrative force that parallels and intensifies the onscreen drama. Through a detailed examination of specific scenes, this study delves into how the film's score, with its unique motifs and traditional Chinese instrumentation, echoes the characters' emotional arcs and historical context. Each section of this analysis focuses on key moments in the film, dissecting how leitmotifs and their development reflect Puyi's journey from innocence to the complexities of later life (Figures 8 and 9).

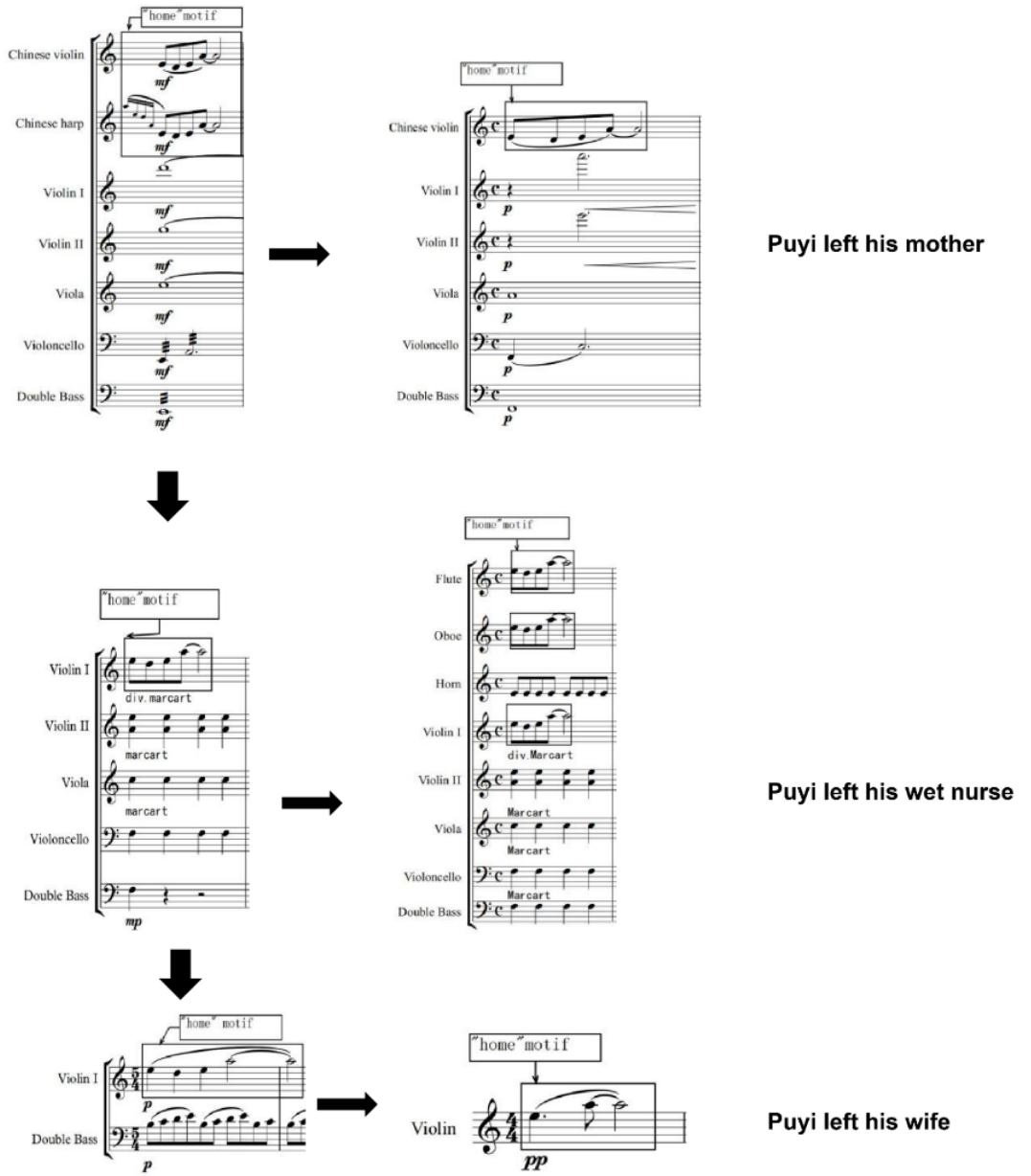

Figure 8. Variations of the "home" motif

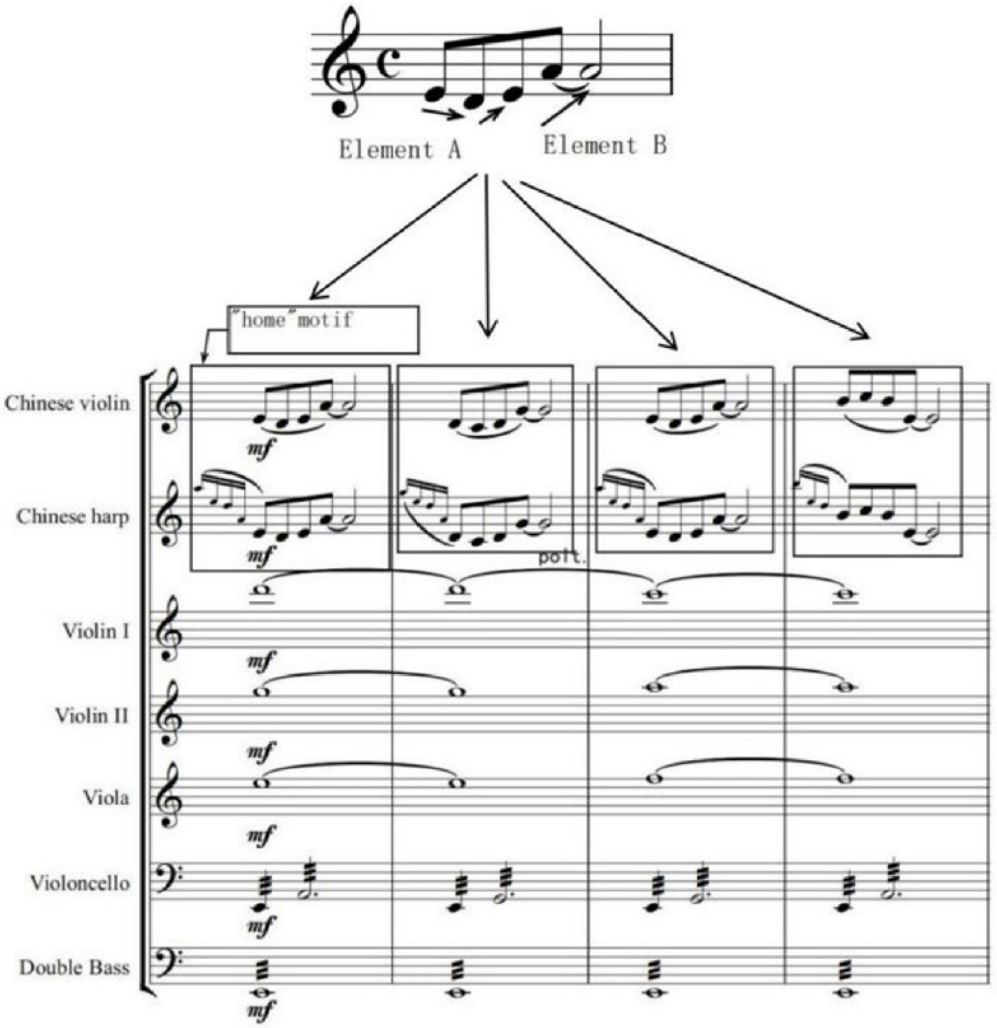

Figure 9. Thematic persistence: Ostinato-based presentation of the "home" motif

Puyi Taken from His Mother by Soldiers

In the scene that shows Puyi being brought to the palace, he is very young, facing separation from his mother, and only cries. The motif consists of two national instruments (Chinese violin and Chinese harp) playing in unison, and nationalism becomes an important part of the theme. At this time, the music depicts the image of the mother, who embraces Puyi, and the accompaniment of the string section is uncomplicated. The slow melody is presented in the bass area, which highlights the emotions of the mother who, although living within the feudal family system, is reluctant to lose her child.

Exposition

The most prominent musical motif is built around a perfect fourth leap, ornamented with descending auxiliary tones and characterized by a distinct pentatonic style. This motif recurs throughout the movie and frequently accompanies key scenes involving Puyi and his family.

The motif employs relatively straightforward developmental techniques, such as repetition, sequence, inversion, and transpositional progression, preserving the motif's essence, making it easily memorable for the audience, and connecting it with the

film's narrative. Its application often follows a ternary structure, serving as the primary musical material for the exposition and recapitulation sections, with a contrasting "climax" theme often inserted in between. The "home" theme is initially presented as Puyi's mother carries young Puyi out of the room when he is taken to the palace for the first time.

The music is tranquil, presented in harmony using two traditional Chinese instruments – the Chinese harp (*guzheng*) and violin (*ehru*). The *guzheng* is a horizontal plucked zither with expressive pitch bending, while the *konghou* is a vertical harp-like instrument known for its lyrical and delicate tone. Embellishments performed on the Chinese harp are particularly characteristic of this ethnic style. The melody follows the E-flat major hexatonic scale, which consists of four motif repetitions (Figure 10).

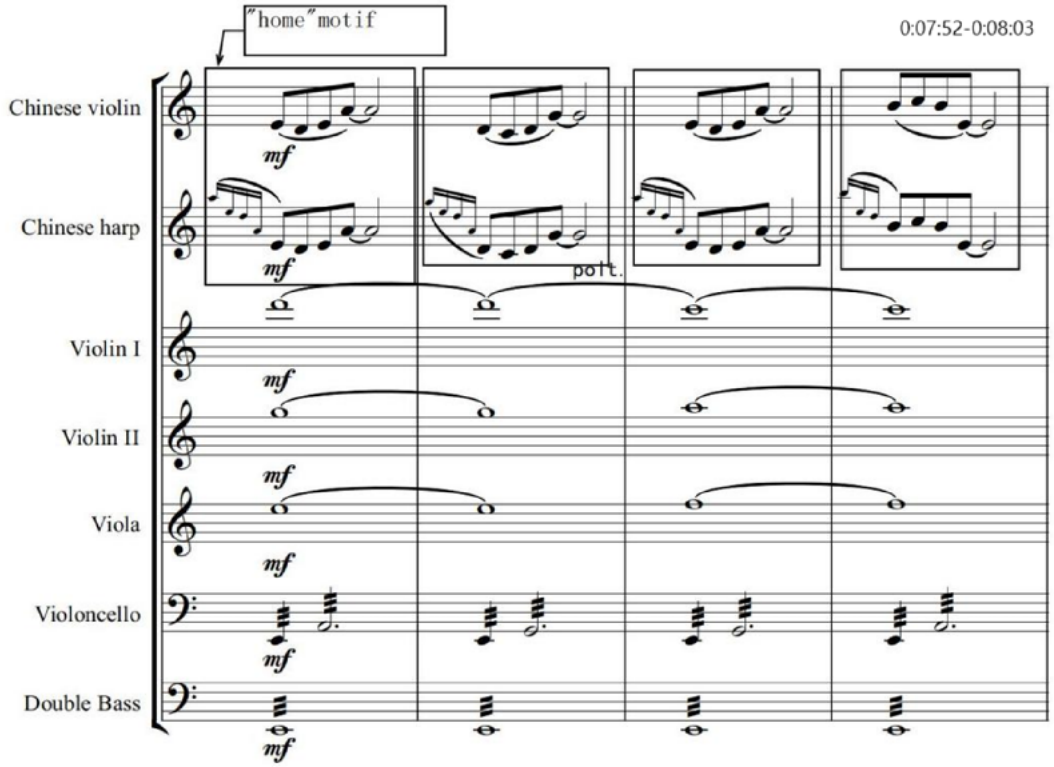

Figure 10. Visualization reflected through instrumentation with the "home" motif

Regarding harmony, the composer draws inspiration primarily from the melody and continually emphasizes it, using the motif's core intervals (perfect fourth and fifth) in the development process. This maintains an overall pentatonic musical style. Through this tranquil, slow-paced, and ethnically rich music, the composer contrasts preceding musical elements, setting the scene for women in a feudal family, slowly walking toward the crowd and cradling their children.

As the mother carries Puyi and approaches the crowd, the background harmony gradually builds tension by altering rhythms and shifting to higher registers until Puyi reaches the sedan chair, at which point the music reaches its climax (Figure 11).

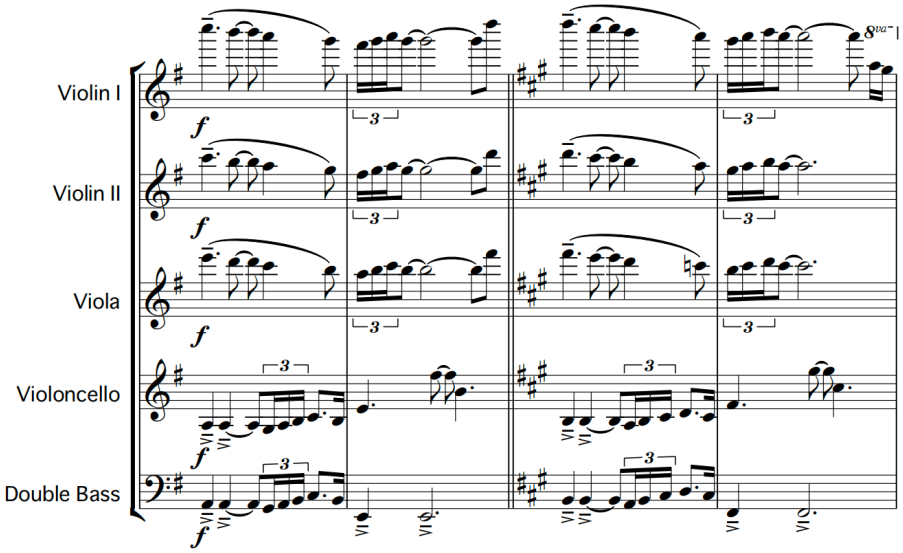

Figure 11. Notation example from the climax of the "home" motif in *The Last Emperor*

Recapitulation

At the end of the scene in which Puyi enters the palace, Puyi's mother walks out to bid him farewell as he is taken away (Figure 12), and the music reintroduces the "home" motif as its recurring segment. However, the melody is no longer played in unison with the Chinese harp (*guzheng*) and violin (*erhu*). Instead, it is performed using a Chinese violin solo with a string section. The Chinese violin's performance in the lower register displays its unique timbre, which carries a distinct sad tone. The solo theme's melody implies Puyi's loneliness and sorrow when he enters the palace with a nurse. The collaboration with the string section, while retaining the ethnic style, adds a tonal unity, suggesting this segment's conclusion, where Puyi leaves his home (Figure 13).

Background harmony initially maintains the musical tension by utilizing a higher register. However, toward the end, it lowers the register, and the rhythm becomes steadier, creating a conclusive atmosphere. As the audience anticipates the music's ending, the composer skips the motif's reappearance, and the music abruptly concludes with a modulatory cadence. As Puyi's mother sadly turns away, without looking back at the departure procession, the music suddenly ends, leaving the sound of receding hoofs. The music's incomplete quality indicates that the movie has not concluded, leaving room for further development.

Figure 12. Puyi's wet nurse watches as he is taken away by the guards (09:08)

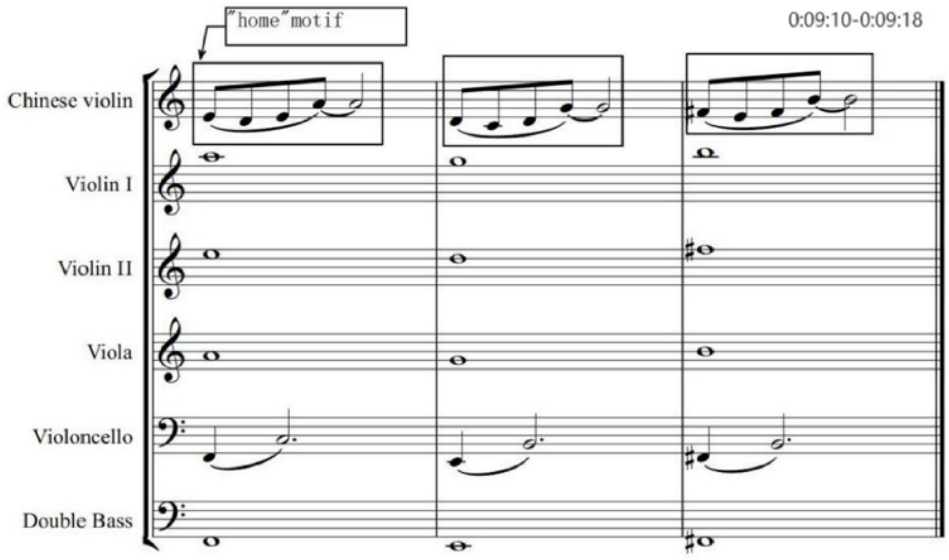

Figure 13. Utilization of the "home" motif

Wet Nurse Taken Away by Minister and Soldiers

In the image of losing the wet nurse, Puyi has grown up a bit and has some thoughts of his own, such as wanting to rebel against the ministers who have controlled him for a long time. Here, the music transitions back to a traditional orchestral style, emphasizing Puyi's struggle against the entrenched feudal forces that have controlled him since childhood. The composition becomes more grandiose, incorporating a fuller orchestration with prominent brass and woodwinds. The melody rises to a high register, reinforced by multiple instruments playing in unison, heightening the tension between the opposing forces.

The core motif representing the "home" theme is repeatedly employed throughout the movie's score, however, each appearance is adjusted according to the scene's needs. For example, Puyi realizes he can only be the Emperor within the Forbidden City. However, the rest of the world has become a republic; his sorrowful moment recalls his only family member, his wet nurse. At this moment, he utters, "Where is Armo? Armo?" and the music begins to play.

Exposition

In this section, the composer introduces two bars of the string tremolo as an introductory element. As the characters cautiously remain in their positions, the tremolo effect in the high register of the violins, with sixth intervals, indirectly emphasizes their helplessness in the face of the downfall of the Imperial authority. When the theme invoking Puyi's brother's crying is officially reintroduced, it differs from the previous version, as it incorporates an upbeat rhythm, adding a musical pulse and leading to the upcoming dynamic music (Figure 14).

This film segment primarily depicts Puyi searching for his wet nurse and involves several running scenes (Figure 15). The background musical accompaniment frequently employs a steady rhythm composed of quarter notes, creating a march-like musical style that harmonizes with the film's content. As Puyi first runs off to find his wet nurse, the musical theme changes, and the film's focus shifts. The thematic melody no longer uses traditional ethnic instruments and is played at a higher pitch, with music carried entirely by the string section. The accompanying voices feature a rhythmic pattern composed of quarter notes that echo Puyi's footsteps as he searches for his wet nurse.

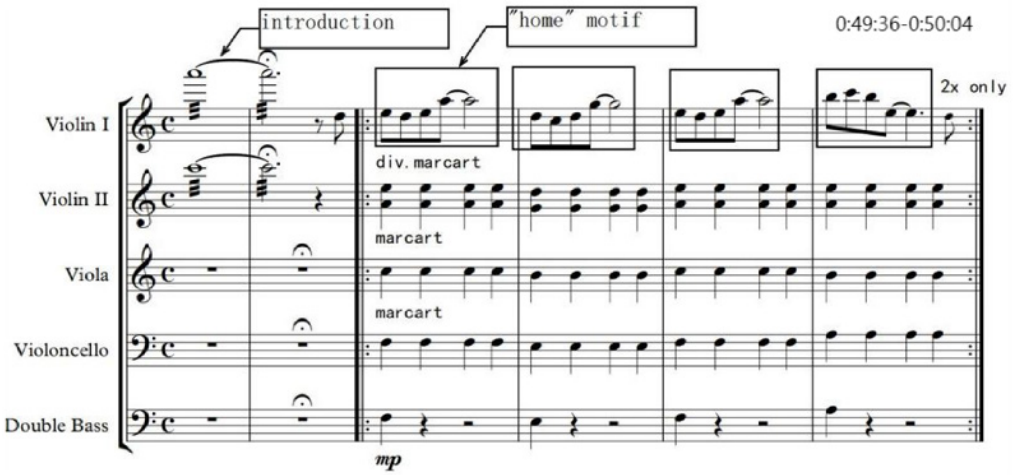

Figure 14. Utilization of the "home" motif to explain Puyi's emotion

Figure 15. After realizing the establishment of the Republic, Puyi sadly goes to look for his mother (49:54)

As numerous attendants rush toward Puyi, the music transitions into sustained tremolos with longer durations, emphasizing the chaotic footsteps of the characters. Action movies frequently employ the concept where physical movement equals musical events' speed "to intensify visual action."[2] Meanwhile, the composer skillfully shortens the duration of the thematic motif, subtly signaling that the characters are closing in on Puyi. The sudden introduction of the brass French horn sections evokes the image of adult males and amplifies the musical tension, mirroring the plot's progression toward an intense phase (Figure 16).

[2] See Juan R. Chattah's dissertation, *Semiotics, pragmatics, and metaphor in film music analysis*, p. 33.

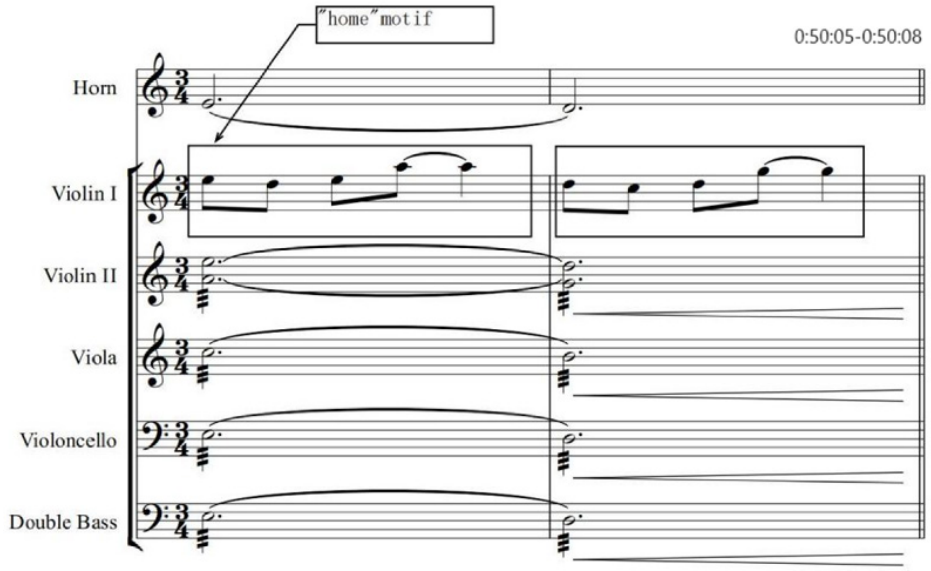

Figure 16. "Home" motif with horn and tremolo

Recapitulation

In the concluding segment of Puyi's pursuit of his wet nurse, a new development emerges in the recurring "home" theme. In contrast to the music accompanying Puyi's initial search, the soundtrack incorporates three additional instruments – a French horn, flute, and oboe. These instruments create a fuller sonic effect, subtly suggesting Puyi's final separation from his wet nurse (Figure 17).

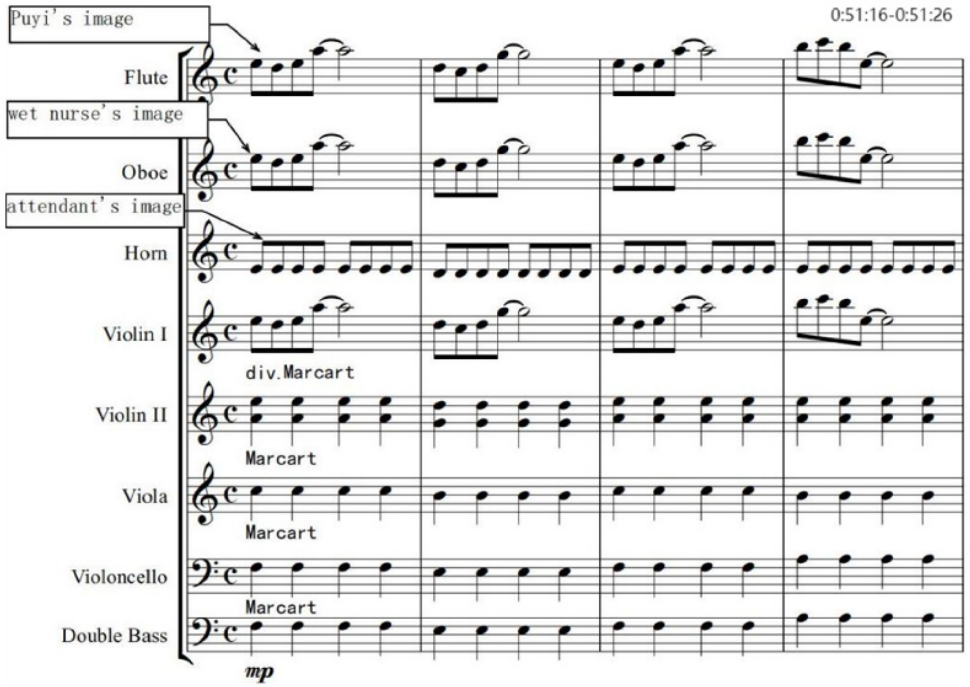

Figure 17. Utilization of the "home" motif for the "open the door" scene

The scene involves three distinct characters – the attendees leading Puyi's wet nurse away, the wet nurse, and Puyi chasing after her (Figure 18). The composer parallels this by introducing three instruments. The flute, with its transparent and melancholic tone in the mid-range, symbolizes young Puyi's vulnerability and helplessness. The oboe, playing in the midrange, carries a sense of sorrow and features pronounced reed sounds, signifying mournful weeping as Puyi's wet nurse departs. With its repetitive harmonies, the French horn section represents the attendees accompanying Puyi's wet nurse. Brass instruments are employed to allude to male characters, and the rapid staccato notes in this section convey the attendants' anxious demeanors as they constantly glance back and fear Puyi's pursuit. Overall, this composition underscores the poignant moment of Puyi's final pursuit of his wet nurse, with the instruments enhancing the scene's emotional depth and complexity.

Figure 18. The guards take the wet nurse away, and Puyi runs after her (51:32–51:34)

In another scene, the combination of flute, clarinet, and first violin playing the thematic motif at the same pitch level creates a blended tonality that enhances the musical tension, implying that Puyi's eager pursuit of his wet nurse has reached its zenith. The music concludes with a modulation of the motif, and as the music ends, Puyi's calls echo throughout the vast Forbidden City.

Puyi's Wife Is Taken Away by a Japanese Doctor and Soldiers

The primary conflict shifts in the scene where the Japanese take away Puyi's wife, the Empress. The conflict is no longer between Puyi and the feudal forces but between Puyi and Japanese fascists. This is the most intense part of the film, and the music evolves into a "horror" style to depict the cruelty of the Japanese. Thematic motifs are no longer played in unison with a large ensemble of instruments, and the blending of different timbres is eliminated, leaving only string instruments. The music is reduced to two melodic lines with high tension. The extended motif conveys Puyi's oppressed state under Japanese control, and the tense sound of chromatic progression in the accompanying voices hints at the fear of the fascist rule.

Exposition

To exert greater control over Puyi, the Japanese forcibly took his wife hostage (Figure 19). Puyi attempts to stop them by running after them, but he is too late. The music is derived from this exposition section's "family" motif. However, this creates a heightened and terrifying sonic effect along with the accompanying voices (Figure 20). The accompaniment emphasizes the core motif's perfect fourth intervals while accentuating the half-step progressions, portraying the aggressors' terrifying actions toward Puyi and his family. Simultaneously, the "home" motif is played relatively slowly by employing rhythmic augmentation, creating a musical backdrop that underscores Puyi's helplessness in the face of the Japanese.

Figure 19. Upon learning that the Japanese have taken the Empress, Puyi runs after her (03:09:04~03:09:44)

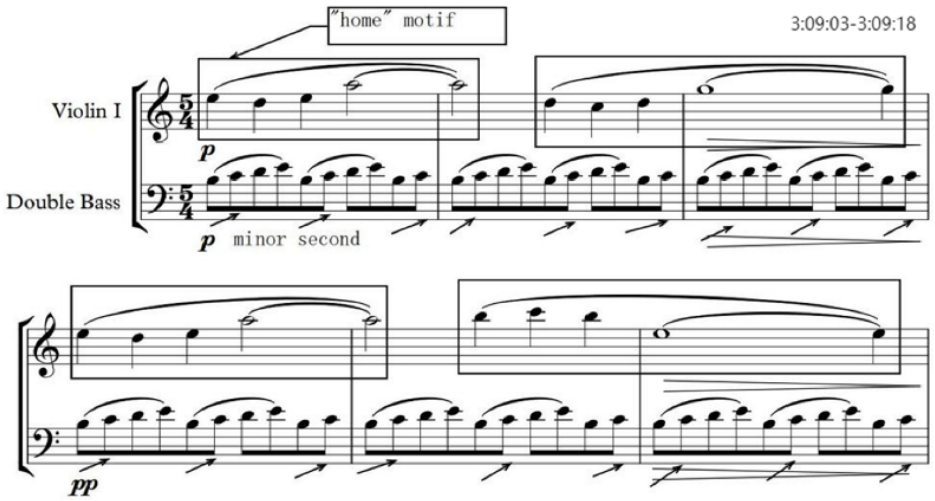

Figure 20. Extended "home" motif

At the film's end, following Japan's surrender and the return of Puyi's wife, she is driven to madness by the torment inflicted by the Japanese. When Puyi is reunited with his wife, the music used when the Japanese forcibly removed her is employed again. Its tense sonic effects underscore the cruel control exerted by the Japanese on Puyi and his family.

Recapitulation

In the scene where the Japanese forcibly take away Puyi's wife, Puyi looks helpless (Figure 21). At this moment, the "home" motif's reprise omits the auxiliary tones' embellishments and is composed of a perfect fourth interval (Figure 22). This simplified reprise meets the audience's expectations. It conveys Puyi's sense of helplessness and unspoken frustration in a concise and subdued musical style.

Figure 21. Puyi is watching his wife being forcibly taken away by the Japanese

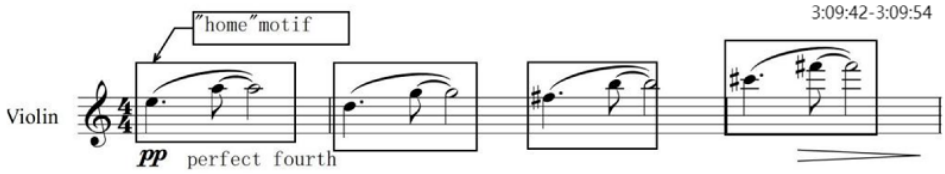

Figure 22. Melodic simplification of the "home" motif

Conclusion

This study examined how *The Last Emperor* employed leitmotifs and traditional Chinese instruments as narrative and emotional tools. It investigated how leitmotifs contributed to character development and thematic cohesion, and how traditional instrumentation enhanced the film's emotional and cultural depth. The findings demonstrated that music actively shaped the storytelling process. Through the evolution of leitmotifs and the integration of traditional Chinese musical elements, the film achieved a harmonious fusion of auditory and visual storytelling, resonating with audiences across cultural and emotional contexts.

Leitmotifs in *The Last Emperor* were more than recurring themes. They were dynamic narrative devices that evolved alongside the story, reflecting the complexities of Puyi's psychological and emotional journeys. From the poignant transformations of the "home" motif to the intricate interplay of cultural and emotional symbolism, these motifs functioned as emotional signifiers and structural anchors. They guided the audience through Puyi's shifting identity, struggles with loss, and search for redemption, providing a rich subtext that complemented the visual narrative.

The film's integration of traditional Chinese instruments, such as the *erhu* and *konghou*, further enriched its soundscape. These instruments did not exist in isolation; instead, they were woven into the orchestral fabric, blending with Western harmonic structures and instrumental timbres. This cross-cultural synthesis bridged the gap between the East and West through the inclusion of Western brass instruments and the harmonization of Eastern melodic structures (pentatonic scales) with Western orchestral techniques. The orchestration allowed Chinese instruments to interact with Western strings, woodwinds, and brass, creating a unique hybrid sound that enhanced cultural authenticity and cinematic universality. By carefully layering these elements, the score transcended cultural divisions, making the film's historical and emotional dimensions more accessible to diverse audiences.

By demonstrating the transformative power of music in cinema, this study highlighted how leitmotifs and traditional instrumentation

did more than enhance atmosphere; they functioned as narrative collaborators that deepened audience engagement. As film scoring evolved, *The Last Emperor* served as a benchmark for composers and filmmakers seeking to harness music's potential as a storytelling device. By combining cultural specificity with universal emotional appeal, the film illustrated music's boundless capacity to enhance storytelling, making it a critical case study for future explorations in film musicology. In summary, this study finds that leitmotifs and traditional Chinese instruments in *The Last Emperor* function as dynamic semiotic tools that shape cultural meaning, emotional depth, and narrative continuity.

Recommendations

Future research should explore the cultural interactions between Eastern and Western film music. Comparative studies on the use of traditional Asian instruments in Hollywood films and Western orchestration in Chinese cinema could provide deeper insights into cross-cultural musical storytelling. Additionally, examining audience perception of film music would be valuable. While this study focused on the structural and narrative functions of leitmotifs and traditional instruments, future research could analyze how audiences from different cultural backgrounds interpret pentatonic melodies, leitmotifs, and traditional instruments, offering a broader understanding of the universality and cultural specificity of film music.

With advancements in AI-driven composition, digital orchestration, and immersive sound technology, it is necessary to investigate how modern technology can integrate traditional instruments while maintaining cultural authenticity. Research on virtual instrument modeling of the *erhu* and *konghou* or adaptive film scoring techniques would provide valuable insights into the evolving role of technology in film music composition.

Furthermore, a comparative analysis of leitmotif usage across different film traditions could enhance the understanding of narrative musical techniques in various cultural contexts, such as Wagnerian leitmotifs in Hollywood and recurring musical themes in Asian cinema. Research should examine how composers balance the preservation and innovation of traditional music, particularly in historical films where music serves as a cultural identifier and a modern storytelling tool. Investigating how composers maintain cultural authenticity while ensuring accessibility to global audiences would contribute to discussions on the sustainability of cultural heritage in film music. Addressing these research areas will expand academic discourse on film music, bridge cultural narratives, and advance interdisciplinary approaches to storytelling through sound.

In addition to its academic contribution, this study may also offer practical implications for composers, arrangers, and educators involved in cross-cultural film music. For example, those working in applied settings such as film scoring, music production, or music pedagogy may find value in understanding how traditional instruments can be adapted into contemporary audiovisual contexts without compromising cultural integrity. The findings may support the development of culturally sensitive approaches to orchestration and inspire new models of creative collaboration across musical traditions.

Limitations of the study

While this study provides insights into the leitmotifs and traditional Chinese instruments utilized in *The Last Emperor*, several limitations should be acknowledged. The analysis primarily focused on musical structure and narrative function without empirical validation through audience perception studies. Future research could incorporate listener response analysis or eye-tracking and emotional response studies to assess how different audiences interpret these musical elements. This study relied on qualitative musicological analysis,

which lacks quantitative support through computational music analysis. Employing spectrogram analysis, pitch-tracking algorithms, and statistical methods could provide a comprehensive understanding of how leitmotifs evolve throughout the film.

Additionally, this study focused on *The Last Emperor*, limiting the generalizability of the findings. Comparative studies examining leitmotif usage and traditional instrumentation across multiple films, particularly within other cross-cultural film scores, would offer broader insights into global film music trends. This research does not extensively address production aspects, such as composer intent, director influence, and industry constraints that shape film music composition. Interviews with composers, music supervisors, and film editors could provide context regarding the decision-making processes behind integrating traditional and Western musical elements.

Despite these limitations, this study contributes to the understanding of film music as a narrative force, highlighting the cultural and emotional power of leitmotifs and traditional instrumentation. Future research will enhance the multidisciplinary discourse on film music, cultural representation, and audience perception in cinema.

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References

Bribitzer-Stull, M. (2015). *Understanding the leitmotif: From Wagner to Hollywood film music*. Cambridge University Press.

Chanan, M. (2019). Concerning the iconic signification of music in cinema. In M. Grimshaw-Aagaard, M. Walther-Hansen, & M. Knakkergaard (Eds.), *The Oxford handbook of sound and imagination* (Vol. 1, pp. 585-607). Oxford University Press.

Chattah, J. R. (2006). *Semiotics, pragmatics, and metaphor in film music analysis* [Doctoral dissertation] Florida State University. https://www.proquest.com/openview/2be44ec0b262b13568407cb5d5d77a64/1?pq-origsite=gscholar&cbl=18750&diss=y

Cohen, A. J. (2005). How music influences the interpretation of film and video: Approaches from experimental psychology. *Selected Reports in Ethnomusicology*, *12*(1), 15–36. https://musicog.discoveryspace.ca/sites/default/files/how-music-influences-film-and-video.pdf

Cooke, M. (2008). *A history of film music*. Cambridge University Press.

Gorbman, C. (1987). *Unheard melodies: Narrative film music*. Indiana University Press.

He, Z. (2024). The traditional Chinese music elements in the soundtracks of the film Full River Red. *Journal of Education, Humanities and Social Sciences*, *35*, 640–646. https://doi.org/10.54097/kabdng45

Hou, N. (2024). Application of Chinese folk music elements in the film from the perspective of music diversification. *Journal of Education, Humanities and Social Sciences*, *26*, 161–166. https://doi.org/10.54097/jx5ppt20

Kendall, R. A. (2010). Music in film and animation: Experimental semiotics applied to visual, sound and musical structures. *Proceedings of SPIE - The International Society for Optical Engineering, 7527*, 752703. https://doi.org/10.1117/12.849097

Lehman, F. (2018). *Hollywood harmony: Musical wonder and the sound of cinema*. Oxford University Press. https://global.oup.com/us/companion.websites/9780190606404/

Leinberger, C. F. (2021). An Austrian in Hollywood: Self-plagiarism and the "Love Theme" in Max Steiner's music for *Now, Voyager* and *Mildred Pierce*. *Journal of Film Music*, *9*(1–2), 128–131. https://doi.org/10.1558/jfm.19071

Lipscomb, S. D., & Tolchinsky, D. E. (2012). The role of music communication in cinema. In D. Miell, R. MacDonald, & D. J. Hargreaves (Eds.), *Music communication* (pp. 383–404). Oxford University Press.

Litvikh, E. V., & Lyu, I. (2024). The interaction of traditional Chinese and western musical instruments in Tan Dun's work as a multicultural dialogue. *Культура и Искусство (Culture and Art)*, (9), 41–56. https://doi.org/10.7256/2454-0625.2024.9.71670

Mammadova, G. (2025). Scientific researches in the musical semiotics. *Ancient Land International Scientific Journal*, *7*(3), 25–30. https://doi.org/10.36719/2706-6185/45/25-30

Mera, M. (2002). Is funny music funny? Contexts and case studies of film music humor. *Journal of Popular Music Studies*, *14*(2), 91–113. https://doi.org/10.1111/j.1533-1598.2002.tb00039.x

Meyer, S. C. (2013). 'Leitmotif': On the application of a word to film music. *Journal of Film Music*, *5*(1–2), 101–108. https://doi.org/10.1558/jfm.v5i1-2.101

Pallesen, K. J., Brattico, E., Bailey, C., Korvenoja, A., Koivisto, J., Gjedde, A., & Carlson, S. (2005). Emotion processing of major, minor, and dissonant chords: A functional magnetic resonance imaging study. *Annals of the New York Academy of Sciences*, *1060*(1), 450–453. https://doi.org/10.1196/annals.1360.047

Parke, R., Chew, E., & Kyriakakis, C. (2007). Quantitative and visual analysis of the impact of music on perceived emotion of film. *Computers in Entertainment*, *5*(3), Article 5. https://doi.org/10.1145/1316511.1316516

Qiu, J., Wu, S., Zhao, Y., Huang, H., & Wu, L. (2021). Sound power characteristics of Chinese traditional wind instrument Qudi. *International Journal of Architecture, Arts and Applications*, *7*(1), 8–15. https://doi.org/10.11648/j.ijaaa.20210701.12

Tagg, P. (2012). Music's meanings: A modern musicology for non-musos. Mass Media Music Scholars' Press. https://quaderna.org/wp-content/uploads/2014/04/philip-tagg-musics-meanings-a-modern-musicology-for-non-musos-new-york-huddersfield-mass-media-music-scholars-press-2012.pdf

Tarasti, E. (2002). *Signs of music: A guide to musical semiotics*. Walter de Gruyter.

Tian, J., & Ng, M. L. (2024). Acoustic profiling of Guqin music: Exploring the unique sound quality associated with an ancient Chinese musical instrument. *The Journal of the Acoustical Society of America*, *156*(4_Supplement), A15. https://doi.org/10.1121/10.0034942

Wang, N., & Shpagina, A. Y. (2024). Contemporary compositions for Chinese national string instruments: Synthesis of tradition and innovation. *Университетский Научный Журнал*, *(University Scientific Journal)* (81), 32-37. https://doi.org/10.25807/22225064_2024_81_32

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Research Article

The evolution of music and musician students' views on ethical dilemmas related to transhumanistic music

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Abstract

The article examines the relationship between the new 21st-century composing paradigm and human evolution, as well as the attitude of young musicians towards the future of music, with the participation of students from the Tbilisi State Conservatoire. The importance of the research lies in its ability to address how AI, new genres and digital paradigms, and renewed compositional methods and tools change compositional principles and determine the interconnection of these novelties with the ideas of Advanced Humanism. The research problem is to investigate how scientific and technological advancements, especially those related to AI, are transforming creative tendencies, aesthetic values, and ethical perceptions in contemporary art music, and how these changes impact the future of musical expression, spiritual discourse, and human identity. As the research model, this study adopts a qualitative approach grounded in interpretivism, employing document analysis as the primary method. Fifty music students from the Tbilisi State Conservatoire participated in the study, providing the necessary data. Selected scores and audiovisual recordings of contemporary compositions that contribute to transhumanistic art music were also analysed. For data collection, a custom-developed questionnaire titled *Opinions on Ethical Dilemmas in Transhumanist Music* (OEDTM) was used. It included ten ethical dilemmas and applied a 5-point Likert scale to collect students' opinions on transhumanistic music ethics. The analysis demonstrates how scientific advancements have influenced creative tendencies in contemporary music. Art music—through new directions such as eco-music, multimedia, algorithmic composition, generative art music, and AI music—breaks compositional stereotypes and transforms traditional music-making. Creative imagination is increasingly realised in digital spaces, reshaping sonic realities and giving rise to a new techno-aesthetic agenda. All of this contributes to the transformation of consciousness, preparing humanity for further evolution—an era framed in terms of transhumanism, posthumanism, metahumanism, or Euro-Transhumanism. Art music, most closely associated with conveying humanity's spiritual origins, will continue to embrace religious and spiritual discourse. The new techno-aesthetic platform does not contradict spiritual principles. The study concludes that the future processes of humankind's evolution, leading to techno-humans, will not change the mission of art. Technological advancements, including AI, new genres, compositional paradigms, and modes of expression aligned with transhumanistic ideals, will not diminish the spiritual and ethical significance of human-composed music. Participants responded significantly to most ethical dilemmas regarding transhumanistic music ($p<.001$). They strongly disagreed with statements such as "It can be regarded as human-produced" ($\overline{X}=1.82$) and "Competition is fair" ($\overline{X}=1.60$). They also mostly disagreed with "AI-generated music qualifies as emotional art" ($\overline{X}=2.12$), "enhanced performance is authentic" ($\overline{X}=2.28$), and "the musician's role diminishes" ($\overline{X}=2.32$). Views were neutral on ownership ($\overline{X}=3.10$) and cultural homogenization ($\overline{X}=3.32$). The highest agreement was with "humans are responsible for harm caused by AI" ($\overline{X}=4.08$). No statistically significant gender differences were found ($p>.05$). Specifically, findings from students reveal a strong commitment to human-centred creativity and ethical accountability, highlighting a cautious yet thoughtful engagement with transhumanist innovations in music.

Keywords

AI-generated music, compositional principles, contemporary music, eco music, electronic music, ethical dilemmas, transhumanism, transhumanistic music

Introduction

This article delves into how the evolving paradigm of 21st-century music composition mirrors and interacts with the broader trajectory of human evolution. The evolution of musical thinking, alongside the rapid development of artificial intelligence, has fundamentally

transformed the musical landscape. The dynamics of civilization's progress—and its cultural products, including music—have become increasingly intense. While these changes have opened up boundless creative opportunities, they have also introduced new challenges, many of which are closely tied to the rise of artificial intelligence.

This article explores these transformative processes, focusing particularly on how they are perceived by Generation Z musicians—specifically, students of the Tbilisi State Conservatoire (TSC) in Georgia. Their reflections provide valuable insight into both the achievements and the difficulties facing music in the modern era. It is assumed from the outset that this generation, Therefore, their perception of these evolutionary processes is particularly valuable. Having grown up in a technological and digital environment, this generation demonstrates a remarkable ability to adapt to change, swiftly master emerging technologies, and integrate them into musical practice. This positions them uniquely to analyze how artificial intelligence is transforming traditional modes of creativity. Furthermore, it is through the contributions and interactions of this generation—as composers, performers, musicologists, and music industry professionals—that the music of the future will be shaped. Notably, their heightened sensitivity to and critical awareness of ethical issues adds an essential dimension to discussions surrounding the responsible use of artificial intelligence in the arts.

First and foremost, it should be emphasized that the development of music is an integral part of the evolutionary processes of both civilization and human nature; however, this relationship is reciprocal. In particular, while the concept of human nature may be challenged or even dismissed from various perspectives, such as cultural anthropology, evolutionary biology, and moral relativism, music stands as a powerful reflection of humanity's history and the evolution of human nature. Why is music very important field of human activity and why it also influences the human evolutionary process? As Music directly reflects humanity's fears, pains, social changes, tastes, aesthetics, since ancient times, music was an integral part of the transformative processes in its way shaping humankind's evolution. The following scholars Jean Maruani, Ronald Lefebvre, and Marja Rantanen discussing the role of music, suggest that music used in magic rituals, as well as in modern collective events stimulate manifest a power that can overcome that of speech:

> Great founders of religion obviously preferred speech to music, but great kings of Israel composed music and poetry. It is significant that real totalitarian rulers had somehow an official composer (Wagner, Prokofiev, but also Lully for the absolute monarch Louis XIV) while all western music was banned by the Talibans. In the 5th century BC Confucius had written: *"If one wished to know if a kingdom is well governed and if its habits are good or bad, the quality of its music will tell the answer"*. About the same period, in another part of the world, Plato wrote: *"Let I make the songs of a nation, and I will not care about whom makes its laws.* (Maruani et al., 2003).

Music was always a powerful means of cultural, social, and political expression that evolves in close connection with the socio-cultural structures of society and plays a crucial role in shaping both individual and collective identities. As musicologist Alper Şakalar states, "Music has played a significant role as a form of cultural expression throughout human history, serving as an effective tool in the construction of both social and individual identities. Musical practices have intertwined with the socio-cultural structures of societies, evolving in interaction with these structures. In this context, music has gained importance not only as an aesthetic phenomenon but also as a form of social, political, and cultural

expression." (Şakalar, 2024, 91). Sometimes, wars add a new dimension to the mission of music. Ukrainian musicologist Iryna Tukova believes that, despite the often challenging musical language of art music—which is not widely known or easily understood by the general public—"art music is also a powerful tool for transmitting messages of resistance." (Tukova, 2024:6).

Even today, music not only reflects social issues and scientific-technological progress, but also actively influences shifts in human consciousness

What is the reality we face today, where is civilization heading, and what role will music play in these transformative processes? This article seeks to explore these fundamental questions.

Powerful computer and biomedical technologies will extend the human lifespan, and increase mental and physical abilities. According to scholars Sonia Baelo-Allué, and Mónica Calvo-Pascual, "the combination of the digital, physical, and biological dimension is leading to great advances in science and technology contributing to human enhancement, both of our bodies and our minds." (Baelo-Allué et al., 2021:5). The rapid technological progress will add a new dimension to the discourse on human nature.

It is obvious that enhanced humans will develop new forms of art, creativity, communication, and cultural expression, and these changes that are already being observed in art music started from the beginning of 20th century intensively.

In 20th-century art music, composers began to conceptualizing broader, more universal issues—focusing on global problems and the existential challenges of humanity, rather than the personal or individual dramas of characters or personages of musical works. This shift also brought novel soundscapes and groundbreaking innovations, such as electronic musical instruments, which gave rise to electro-acoustic music. The new era saw the growth of the music recording industry and the widespread adoption of electronic instruments, ultimately paving the way for the computer age. In this context, calculation and algorithmic processes became central to musical creation, a development closely linked to internet software. As Peter Manning writes, "This concerns the development of the Internet, and how this communications revolution has influenced the development of computer music during the current century." (Manning, 2013:468).

In the future, it is evident that enhanced humans will develop new forms of art and cultural expression and music is not exception; In response to present rapidly changing reality, along with new genres in other art forms (Such as science fiction (sci-fi), dystopian and utopian fiction, cyberpunk, post-apocalyptic fiction, speculative fiction, philosophical fiction, hard science fiction, transhumanist fiction, etc.) art music, embraces a wide spectrum of innovative composing methods, approaches and new genres, including eco-music, multimedia works, algorithmic and electronic compositions, generative art music, bio-music, and creations powered by artificial intelligence (AI music). As for the latter, the emergence of AI has brought about an unprecedented revolution across various fields, including the art music. All these new innovative methods of artistic thinking, relatively new directions or genres in art music, a great amount of algorithmic and electronic compositions challenge traditional (from today's perspective stereotypical) approaches to composition, sometimes breaks traditional compositional stereotypes, reshape sonic realities and open up unprecedented avenues for experimentation. All these processes in art music are evidence that contemporary art music is relevant to scientific-technological progress and reflects the upcoming changes. Indeed, art music in its turn, will prepare humanity for a new stage of evolution—an era increasingly framed in

terms of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism[1] [2].

From the perspective of the aesthetic platforms of contemporary processes, a group of Ukrainian musicologists discusses 21st-century art music in connection with Metamodernism—a new approach to evaluating the aesthetics of contemporary music developments: Metamodernism is an idea that tries to capture the spirit of the time by talking about cultural and artistic practices and events that were made possible by the rise of the Internet, the information explosion, and the total technologicalization of life (Severynova et al., 2025).

The novelty of the research is connected to the following points:

- Instead of viewing music merely as a cultural artifact, this study argues that music itself shapes and prepares humanity for evolutionary leaps.
- The research proposes a new techno-aesthetic framework to interpret the evolution of art music in parallel with human and technological development.
- By analyzing how new musical genres, directions (multimedia, eco music, AI-generated music) reflects and influences humanity's potential post-biological future (transhumanism, posthumanism, metahumanism, Euro-Transhumanism), the study attempts to build a rare interdisciplinary bridge between philosophical anthropology and contemporary compositional practices.
- The novelty of this article lies in the use of a custom-developed questionnaire based on a 5-point Likert-type scale, which was completed by students of the Tbilisi State Conservatoire. This approach was employed to explore the reflections of the new generation on key ethical dilemmas related to the future of music.

Theoretical Framework

As the article touches on a broad range of themes—including the development of art music in the digital era, AI-generated music, and human evolution—the following multidisciplinary theoretical frameworks are applied: transhumanism, posthumanism, metahumanism and Euro-Transhumanism theories that are used to examine how technological integration (AI, algorithmic composition, bio-music, etc.) impacts human evolution and music composing process. These theories are grounded in the works of Donna Haraway, N. Katherine Hayles, James Hughes, Ray Kurzweil, Natasha Vita-More, Nick Bostrom, Stefan Lorenz Sorgner. They link developments in human evolution and art to the transformation of humankind as a species into advanced forms of humanity. The study employs the theoretical framework of French philosopher Jean Baudrillard's theory of simulation, simulacra, and hyperreality, to analyze the distinctive characteristics and implications of AI-generated music (Baudrillard, 1994).

[1] **Transhumanism** is a future-oriented movement that seeks to reshape human experience through advanced technologies that enhance cognition, physical abilities, and human potential; **Posthumanism** is a philosophical paradigm that challenges human-centered thinking, promoting a decentered view of human identity shaped by technology, ecology, and non-human agents. It redefines the human in the context of biotechnological convergence, AI, and global interdependence; **Metahumanism** moves beyond classical humanism and transhumanism by uniting technological advancement with moral, intellectual, and aesthetic growth. It envisions a post-anthropocentric future shaped by innovation, ethical awareness, and collective purpose; **Euro-Transhumanism** is a regionally grounded form of transhumanist thought, aligned with European philosophical traditions, democratic values, and bioethical principles. It supports human enhancement while upholding values like human dignity, social responsibility, and cultural pluralism, aiming to balance innovation with ethical reflection;

[2] To avoid confusion, it is important to distinguish between two terms: **transhumanism**—the philosophical and intellectual movement—and **transhumanist**, which refers to an individual who supports or promotes the movement's values, goals, and vision. In this context, I use transhumanism to denote the broader ideological framework, and the term transhumanist to describe philosophers, scientists, engineers, or artists who align themselves with transhumanist thinking and ethical principles.

Musicological Environment

The rapid growth of artificial intelligence (AI) is opening up new avenues in music composition. Composers are now viewing AI not just as a tool, but also as a creative partner in the music-making process. This shift raises important questions about authorship, the nature of creativity, and how we evaluate artistic value. As a result, musicology that explores these processes is becoming increasingly interdisciplinary, engaging with fields such as computer science, psychology, and media studies.

Music Researchers are studying AI-generated music to understand how it imitates styles, blends diverse genres, and changes music sounds. At the same time, there are ongoing discussions about the ethics of AI in music, how it affects human musicians, and how it changes the way the music composition process. As AI tools like AIVA, MuseNet, and Magenta continue to grow, musicologists must find new ways to study and think about music in this changing landscape. AI is changing the way composers think about the creative process, even when it is not directly used in contemporary music compositions. Music researchers are also studying new genres of art music, such as multimedia and eco-music, that are relevant to the digital era.

Literature Review

Considering the subject and focus of the scientific paper, the article offers cross-disciplinary research, grounded in a thorough review of relevant theoretical frameworks and literature.

I will highlight the most important sources used in article, that helped to create the methodological apparatus. The research was conducted through the classification of scientific sources into three main fields, according to the following principles:

Group 1: Scientific works on trends in contemporary music genres, compositional methods, AI music, emerging directions in modern music, and specific music compositions;

The most important guideline that should serve as one of the main sources on AI music was The *Handbook of Artificial Intelligence for Music: Foundations, Advanced Approaches, and Developments for Creativity*, edited by Eduardo Reck Miranda, is a comprehensive reference that explores the intersection of artificial intelligence (AI) and music. It delves into how machines can be enabled to listen to and compose music by simulating aspects of human musical intelligence. The book covers a wide range of topics, including human musical intelligence and AI simulation, AI applications in the music industry, interactive musical robots, and AI-based creativity. As Borodovskaya et al state, "This book contains all the most relevant and recent world research in the field of artificial intelligence for musicians: a wide range of scientific topics affecting sociological, philosophical and musicological issues; music cognition and perception; improvisation and composition; orchestration and studio production; sound synthesis and signal processing; music transcription. This guide shows how artificial intelligence technologies have entered the music field by modern scholars, programmers, biologists and engineers, which reveals interdisciplinary perspectives in this digital sphere" (Borodovskaya et al., 2022:149). The most thought-provoking ideas about AI music can be found in Seyhan Canyakan's (2024) articles. He investigates how listeners perceive compositions by AI compared to those by human composers. Utilizing a mixed-method approach, the research reveals that human-composed pieces are generally rated higher in emotional depth and memorability. Among the few researchers of posthuman tendencies in art music, Georgian composer and musicologist based in Ukraine, Asmati Chibalashvili (2021), stands out as one of the most significant contributors. She highlights AI's potential to expand artistic creativity and explores the incorporation of AI in various artistic domains, including music.

Chibalashvili emphasizes the potential of AI to expand creative boundaries. Interesting insights can be found in the following author's articles: Buket Yenidogan (2021) presents a philosophical analysis contrasting transhumanistic and posthumanistic views on AI-generated art. Gianet, Di Caro, and Rapp (2024) study human-AI collaboration in composition, promoting AI as a creative partner. The paper discusses whether AI should be considered a creative agent or merely a tool. Yenidogan underscores the ongoing debate about the authenticity and value of AI-created art.

Group 2: Scientific works on exploring the movements and philosophies of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism;

The selected works explore the complex relationship between religion, spirituality, and transhumanism. Bruce Ellis Benson (2020) questions the very definition of "religion," tracing the roots of spirituality beyond traditional frameworks. Alex Gillham (2020) investigates how religious experiences influence justified belief in God, incorporating epistemological perspectives such as pragmatic encroachment. James J. Hughes (2011) analyzes the compatibility between religious and transhumanistic views on metaphysics, suffering, virtue, and transcendence, arguing that enhanced futures can align with spiritual values. Manitza Kotzé (2020) discusses Christian doctrines of sin in the context of transhumanism, particularly regarding its role and perception within the public sphere. Together, these works contribute to a nuanced understanding of how emerging technological philosophies intersect with longstanding religious ideas and ethical concerns. Natasha Vita-More (2008) explores the concept of "regenerative existence" as a foundation for Human 2.0, or the transhuman. It discusses how emerging biotechnologies (like stem cell therapy) and digital technologies (such as immersive environments) will play critical roles in extending human life and enhancing human experience. The author argues that the design of an amended, extended, and suspended human body is not only possible but will be in high demand by 2025, emphasizing a transdisciplinary approach to human evolution. Though the provocative idea belongs to Anne Foerst (2008), she concludes that we ought not to improve *Homo sapiens*, but rather focus on creating an intelligent partner species—such as humanoid robots—that can help teach us to become more tolerant.

Group 3: Scientific works exploring the intersection of religion and transhumanism, as well as the spiritual processes occurring in the contemporary world.

This collection of works addresses various philosophical, ethical, and societal dimensions of trans/post/meta/Euro-Transhumanism within the context of the Fourth Industrial Revolution and the Anthropocene. Sonia Baelo-Allué and Mónica Calvo-Pascual (2021) discuss how trans and post-human identities are represented amid technological and ecological transformations. Nick Bostrom (2013) emphasizes the urgency of preventing existential risks to humanity's future, highlighting AI and bioengineering threats. Michael Hauskeller (2013) and Stefan Lorenz Sorgner (2017) explore transhumanism's reinterpretation of human nature and Nietzschean concepts of the overhuman. Sorgner's ideas are foundational in many areas and offer a wealth of entirely new concepts. His interests also extend to art music, as he thoroughly explores Wagner's connection to transhumanism. Tom Koch (2020) along with Vojko Strahovnik and Mateja Centa Strahovnik (2024) analyze moral perfection and virtue ethics as goals of human enhancement. Susan B. Levin (2020) offers a critical view of the unfulfilled promises of transhumanism, while Franc Mali (2024) focuses on its role in unifying creative human thought. Another scholar, Lílian Santos (2023), examines the bioethical challenges associated with the governance of genome editing. Very

interesting ideas can be found in following author's papers. For example: Yunus Tuncel (2023) presents alternative artistic reflections on human identity, while Eliezer Yudkowsky (2008) evaluates AI's dual role in global risk. The above-mentioned works contribute a multifaceted understanding of transhumanism's philosophical foundations, ethical dilemmas and cultural implications.

Thus, this particular research was based on three types of sources, which provided the theoretical framework with a strong methodological foundation for analysis. All of these sources, which can be considered as past knowledge, examine specific aspects directly related to the core topic of my research.

The study is expected to identify selected musical works that can be meaningfully analyzed in the context of the future tendencies of music, particularly in relation to transhumanism, posthumanism, metahumanism, and Euro-Transhumanism—concepts that are collectively framed in this study under the umbrella term *Advanced Humanism*. The research expectations involve investigating how and why eco-music and AI-assisted compositions may serve as artistic reflections of, or contributions to, the ongoing evolution of humankind.

Transhumanistic Music and Ethical Dilemmas

In recent years, the concepts of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism have increasingly intersected with the field of art, including art music, resulting in the development of a new subfield provisionally titled *transhumanistic music*. This development has encouraged researchers to investigate its technological, philosophical, and what is most important, ethical dimensions. Existing studies have primarily focused on the use of artificial intelligence in composition (e.g., Cope, 2001; Ariza, 2009), the enhancement of human capabilities through technology in performance contexts, and the redefinition of the process of creativity in posthuman environments (Eldridge & Bown, 2018). Furthermore, scholars have begun to address the ethical concerns emerging from these integrations, particularly issues of authorship, authenticity, and the emotional impact of technology-driven musical experiences. Building on these discussions, the present research aims—among other objectives—to examine how students at the Tbilisi State Conservatoire, as emerging musicians, future creators, critics, or simply listeners, perceive and evaluate these ethical dilemmas within the framework of transhumanistic music.

Research Importance

The relevance of the article is determined by several key factors, which can be outlined as follows: it explores the future trajectories of music in the context of rapid technological advancement, particularly the rise of artificial intelligence and the integration of music into digital modes of thinking.

The article examines prevailing genres, forms, and specific compositions in 20th- and 21st-century music that can, in various ways, be linked to the philosophy of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism.

These musical developments are seen concerning to a broader transformation of human consciousness that is gradually breaking down the traditional hierarchy of musical genres. While the narrative or dramatic development of traditional classical musical forms such as opera and instrumental genres has long focused on themes of dualism and conflict, contemporary art music guides listeners to replace anthropocentric (ego-based) thinking with biocentric or ecocentric modes of perception.

The research is based on the results of a survey conducted among student musicians, focusing on the involvement of artificial intelligence in composition, recent

compositional innovations, new genres and the relationship between contemporary music and transhumanism, posthumanism, metahumanism and Euro-Transhumanism.

This research is significant because it examines the profound transformation of art music in the 21st century under the influence of artificial intelligence, digital technologies, and transhumanistic thought. The new compositional approaches, the emergence of new directions and genres in art music, and the active involvement of artificial intelligence in the creative process all reflect and resonate with the ongoing transformation of human evolution. By integrating the concept of Advanced Humanism and ethical considerations into the analysis of new directions in art music such as AI-generated music, eco-music, and multimedia compositions, this study contributes to a deeper understanding of how music may evolve alongside humanity.

Another aspect that highlights the importance of the research is: The paper addresses a pressing cultural and artistic issue: how technological and scientific advancements are not only altering the way art music is composed and experienced but also redefining spiritual expression and human identity.

No less important is its exploration of ethical dilemmas, which are becoming increasingly prominent as artificial intelligence takes on a greater role in the compositional process. Furthermore, the study fills a critical gap in contemporary musicology by investigating the ethical dilemmas that arise from blending human creativity with machine intelligence. Its findings show that even in an increasingly digitized environment, the core spiritual and ethical functions of music remain relevant, and that the younger generation is both open to innovation and mindful of its consequences.

This study is significant as it is the first to attempt drawing a parallel between two phenomena: Just as human-composed music differs from AI-generated music, our reality likewise differs from hyperreality, where simulacra emerge following simulations. From a future perspective, there is a strong possibility that AI-generated music will have a greater impact on people and manipulate their emotions more effectively than human-composed music. A strong emotional attachment to AI-generated music may lead to emotional distancing from the music of previous eras. In such a scenario, we may face a phenomenon in which simulation is experienced as a more compelling reality than reality itself. This once again confirms the correctness of French theorist Jean Baudrillard's theory (Crawley, 2024) that simulation or an imitation that no longer maintains any connection to the original—often has a stronger effect on human consciousness than reality. Sinoj Antony and Ishfaq Ahmad Tramboo provide examples from the movie industry:

> The films like The Matrix (1999), Solaris (1972), The Truman Show (1998), Pulp Fiction (1994), Wag the Dog (1997), Inception (2010), Her (2013), etc. are depicting the elements of hyperreality. These films take the people to an imaginative world and the viewers think that these illusions are better than the real world, hence they neglect reality instead they prefer certain simulacra and simulation. The graphics and other visual treats in the films give a lot of pleasurable and enjoyable sense to the spectators" (Antony & Tramboo, 2020, 3316).

Indonesian scholars Teuku Ryan Firmansyah, Khoirul Muttaqin, Layli Hidayah, and Itznaniyah Umie Murniatie similarly develop this idea in relation to the societal implications of the social media platform TikTok: "Baudrillard further elaborates in his work Simulacra and Simulation that in the age of hyperreality, reproductions, such as holographic images, are no longer real but rather hyperreal—creating a version of reality that feels more genuine than the reality itself." (Firmansyah et al.,

2024:31). Thus, this study draws a novel parallel between two pairs: human music and digitally modeled music, and reality and hyperreality.

The importance of this research is further underscored by its reflection on a particularly sensitive issue: the potential danger of emotional exhaustion in the creative process of AI-generated music or music produced through other digital tools. While AI can assist in creating compositions, there is growing concern that such music may lack authenticity and emotional depth, as AI operates without human experience or cultural context. This could lead to the loss of the unpredictability and expressiveness that define music as a true art form. As Samyra Gera states:

> While AI offers the possibility of generating fresh sounds and compositions, there is an underlying concern that its use may diminish the authenticity of music. Musicians and critics argue that AI-generated music, although harmonically consistent and rhythmically sound, lacks the cultural and emotional depth that comes from human experience and intuition. AI systems, though capable of producing technically proficient music, are not yet able to replicate the personal stories, emotional expression, and cultural context that often form the foundation of human creativity. This limitation of AI raises concerns that music, as an art form, could become formulaic, driven by algorithms designed primarily for commercial success, rather than emotional or artistic expression. As AI technologies become more advanced, the risk arises that music may lose its organic, unpredictable nature, with the creation of highly structured and algorithm-driven pieces designed to appeal to the masses rather than to convey the complex emotional truths that human artists strive to communicate" (Gera, 2025)

The importance of the article also lies in its exploration of the relevance and future role of the composer's profession in the age of artificial intelligence. Will the composer's increasing dependence on digital tools lead to a decline in their creative role? This question is part of a broader global context marked by changes in the labor market resulting from the growing integration of artificial intelligence.

As Sarah Bankins and Paul Formosa state:

> The idea is that AI will change human work: some believe it will make work more meaningful by taking over simple tasks, while others fear it might take away jobs and reduce the value of human work. "AI use will likely extend such changes, but its unique features and uses also generate new and conflicting implications for meaningful work. Optimistic accounts suggest that AI will expand the range of meaningful higher-order human work tasks (WEF, 2018), whereas more pessimistic accounts suggest that AI will degrade and even eliminate human work (Frey & Osborne, 2017)." (Bankins & Formosa, 2023:725).

The significance of this study lies in addressing the surrounding the future development of AI, particularly the concern that human-created music may lose its value. This research specifically aims to analyze whether current changes, such as the emergence of new genres and shifts in compositional approaches, have undermined the fundamental purpose of music. Based on the main ideas reflected in the selected musical samples, as well as the survey results gathered from the younger generation—specifically students of the Tbilisi State Conservatoire—it can be concluded that music will remain oriented toward the presentation of aesthetic values and will continue to serve as a vehicle for cultural continuity, ethical reflection, and spiritual depth in the context of humanity's evolution toward a transhuman or posthuman future.

In light of the above, it becomes clear that the transformations in music composing process—driven by AI, digitalization, and Philosophies of human enhancement—have profound implications not only for the future of art music but also for human creativity and cultural identity. Given that these changes are shaping the musical landscape of the coming decades, it is crucial to examine how the emerging generation of musicians perceives these transformations. Young composers, performers, and musicologists are not only the future custodians of musical traditions but also key innovators in this transitional era. Therefore, a survey of young musicians was conducted, highlighting the significance of this research. By focusing on the perspectives of student musicians—specifically those at the Tbilisi State Conservatoire—the study offers valuable generational insights into how future-oriented innovations are transforming compositional principles, creative tools, aesthetic values, and ethical considerations. Their responses illuminate the evolving role and purpose of music, the ethical dimensions of collaboration with AI, and the sustainability of the composer's profession. This targeted survey captures how new technologies are perceived, interpreted, and reimagined by those poised to shape the future of music, making their input essential to understanding the trajectory of contemporary musical evolution. Their opinions are instrumental in revealing how new technologies are received, internalized, and reimagined by those who will define the next chapters in music history—chapters that will also form part of humanity's evolution toward advanced humanism.

Research Aim and Problem

This study aims to explore the future trajectories of music in the context of rapid technological advancement, with particular attention to the role of artificial intelligence and the integration of music into digital modes of thinking. It also seeks to examine prevailing genres, forms, and specific compositions of 20th- and 21st-century music through the lens of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism. As the research approach is interdisciplinary, integrating music history and philosophy of transhumanism, posthumanism, metahumanism and Euro-Transhumanism, the goal is to explore how art music is shaping the future of humankind in its way and how new compositional methods or genres are linked with transhumanism.

The goal is related to solving the following subtasks:

- Study selected examples of contemporary music that integrate digital technologies and artificial intelligence, explore innovative compositional approaches, and analyze the emergence of new musical genres and directions.

- Examine the interconnectedness between selected contemporary art music samples and genres and the concepts of transhumanism, posthumanism, metahumanism, and Euro-Transhumanism.

- Survey students of Tbilisi State Conservatoire to explore their views on the role of artificial intelligence in music composition, new compositional techniques, the development of new musical genres, and the relationship between contemporary music and concepts such as transhumanism, posthumanism, metahumanism, and Euro-Transhumanism.

- The study aims to identify the views of Tbilisi State Conservatoire students on ethical dilemmas related to transhumanistic music. It also seeks to examine whether these views vary according to students' characteristics, such as gender and musical specialisation branch (The study considers the perspectives of students specializing in composition, musicology, and performing arts).

Method

In research, quantitative, qualitative and interpretive methods were used to gain a comprehensive understanding of the topic.

As part of the quantitative approach, a survey consisting of multiple-choice questions was designed, and responses were collected from 50 students of Tbilisi State Conservatoire. The data gathered was used to create the chart, calculate percentages, and identify statistical trends related to their experiences and perceptions.

Complementing this, a qualitative method is used to explore the meanings, experiences, and creative perspectives of composers working in the digital domain, particularly those who use artificial intelligence in the music-making process and contribute to the development of new genres within art music. I aimed to understand their motivations, aesthetic choices, how emerging technologies influence their artistic processes and how all this matters toward the future of art music.

This mixed-method approach allowed me to combine measurable insights with rich, narrative-based understanding, offering a fuller picture of the evolving relationship between music, technology, and contemporary artistic innovation.

Participants

Table 1. Structure of participants

Variables		**f**	**%**
Gender	Female	33	66
	Male	17	34
Class Level	Bachelor 1	4	8
	Bachelor 2	31	62
	Bachelor 3	8	16
	Bachelor 4	7	14
Branch	Performing Art	42	84
	Composing	4	8
	Musicology	4	8
Total		100	100

Table 1 presents the demographic characteristics of the study participants. As shown, the majority are female (66%), with male participants comprising 34% of the sample. This gender distribution reflects a predominance of female students within the context of this vocational education study.

In terms of class level, most students are in ***Bachelor 2*** (62%), followed by ***Bachelor 3*** (16%) and ***Bachelor 4*** (14%). The relatively small proportion of first-year students (8%) indicates that the data is predominantly drawn from the middle years of study. This distribution may reflect the greater academic engagement of students in their second and third years with activities relevant to the study.

Regarding the participants' academic disciplines, majority (84%) are from the department of Performing Arts, while the Composing and Musicology departments are equally represented, each comprising 8% of the sample. The predominance of Performing Arts students may influence the interpretation of the study's findings, especially when considering discipline-specific factors.

Data Collection Tools

Documents/Works

The primary data for this study consisted of the original score and audiovisual recordings of selected compositions of contemporary artists: Brian Eno, David Cope, Neil Harbisson, Björk, Arca, Grace Leslie, Sven Helbig, Ellen Pearlman, Keiichiro Shibuya, etc., electronic composer AIVA. This discussion also focuses on relatively new directions in art music—such as multimedia and eco-music—which, due to their radically innovative compositional approaches, can be most clearly associated with transhumanism, etc. Selected samples are analyzed for their ideas and contribution to contemporary art music.

Opinions on Ethical Dilemmas in Transhumanistic Music (OEDTM)

The OEDTM was developed by the music researcher to assess individuals' opinions on ethical dilemmas linked to transhumanistic music. The development process began with a thorough review of relevant literature, which led to the identification of twelve ethical dilemmas in an initial draft, grounded in discussions surrounding ethical issues in transhumanistic music. Core questions were formulated for each dilemma, and a descriptive title was assigned. Each ethical dilemma was then transformed into a proposition. To ensure validity, the draft was reviewed by two musicology academics. Based on their expert feedback, two ethical dilemmas were removed, and the remaining propositions were revised for clarity, conciseness, and comprehensibility. Participants' levels of agreement or disagreement with each proposition were measured using a 5-point Likert scale: Strongly Disagree – 1 point; Disagree – 2 points, Neutral – 3 points; Agree – 4 points; Strongly Agree – 5 points.

A section presenting the demographic information of the participants was also incorporated into the developed scale. Additionally, to ensure face validity, an introductory section explaining the purpose of the scale and the concept of transhumanistic music was included. Furthermore, a statement regarding the use of personal information exclusively for research purposes, along with a consent declaration, was added. Following requiered revisions, the final version of the opinions scale—comprising 10 ethical dilemmas and corresponding propositions—was completed (see Appendix 1).

Procedure

First, the key trends in contemporary art music were outlined, with a focus on: (1) new genres, (2) compositional methods, (3) emerging directions (eco music, AI music), and (4) specific musical works that are closely interconnected with digital technologies and artificial intelligence. The study then summarized how these innovations are preparing us for new stages of artistic and human development, and how they relate to the broader evolution of humanity. The features of several contemporary art music genres reflecting scientific and technological advancements were highlighted. Finally, there were identified tendencies in contemporary music that align with the philosophical frameworks of transhumanism, posthumanism, metahumanism and Eruo-Transhumanism.

Prior to implementing the OEDTM with students at the Tbilisi State Conservatoire, ethical approval was obtained from the Conservatoire's administration (Document No. 02/410). Volunteers were informed during designated time slots, and paper-based consent forms were distributed. The application process took approximately 20 minutes. Data collection was conducted during the spring semester of 2025. Afterward, the collected data were transferred to Excel and prepared for statistical analysis. Descriptive statistics, including percentage and frequency analyses, were applied to participants' responses for each ethical dilemma. Nonparametric tests were used to examine differences in participation levels. Furthermore, for each ethical dilemma, differences based on demographic

factors such as gender, class level, and field of specialization were analyzed using nonparametric tests.

Findings

Exploring New Compositional Methods, Genres and Particular Musical Works Shaped by AI and Digital Technologies

The specific examples presented in this section will illustrate how the evolution of humanity is reflected in art music. They will serve as real-life manifestations of the techno-human evolution—an increasing integration of technology into art, much like in ancient times. As Franc Mali reminds us:

If in ancient Greek the notion of techne stood for both art and technology, the humanistic tradition from the Renaissance onwards separated art and technology. Art became a sensual representation of the non-empirical (poiesis), whereas technology was merely a means for realising immanent goals (praxis). Yet, with the rise of modern posthuman art the realms of art and technology were reunited (Mali, 2024: 260).

One of the most prominent new genres in music is generative art, created using autonomous systems, algorithms, or processes that operate with some degree of independence from the artist. These systems may include computer programs and mathematical models. Among the most notable examples of generative art in music are the works of Brian Eno. His pioneering ambient music and innovative approach to sound revolutionized music production, influencing countless artists across genres.

Another significant figure is David Cope, known for his experiments with music algorithms. Cope developed software such as *Experiments in Musical Intelligence* (EMI), which analyzes existing musical compositions and generates new works in similar styles.

Iannis Xenakis, using stochastic processes and mathematical models, created intricate and dynamic musical structures. As Ghvinjilia writes:

> Xenakis has created UPIC (1977), a digital tool that enabled him to transfer the images to a tablet by means of electromagnetic pen, and the images were further transformed into sounds by means of the computer. This tool served to write stochastic music based on mathematical procedures (e.g., Mycènes Alpha (1978)) (Ghvinjilia, 2021:76).

A fascinating example is Cyborg Art in Music, also known as cyborgism, a contemporary art music direction closely connected with AI and digital technologies. It involves the enhancement of the human body through cybernetic implants, adding new senses that enable the creation of artworks based on these altered perceptions. Neil Harbisson, the world's first officially recognized cyborg artist, hears colors through an antenna implanted in his skull, allowing him to experience and create music based on his synesthetic experiences, blurring the boundaries between visual art, technology, and sound. As Asmati Chibalashvili states: "In 2010, together with Moon Ribas, he founded the Cyborg Foundation–a platform dedicated to exploring, developing, and promoting the creation of new organs and senses through body-integrated technologies. The foundation has an ambitious mission: to help people become cyborgs, defend their rights, and support the growth of cyborg art." (Chibalashvili, 2025:167).

Icelandic singer-songwriter Björk has integrated interactive apps and digital instruments into her music, creating an immersive multimedia experience. Her acclaimed album *Biophilia* (2011) is focused around the concept of bridging the gap between the organic and the digital. The album explores themes of nature, ecology, and the interconnectedness of life, drawing deeply from Björk's interest in biophilia—the belief in humans' innate connection to nature. She draws inspiration from natural systems and organisms of nature, incorporating these ideas into her performances. Her project embraces technologies like virtual reality,

augmented reality, biomimicry, and AI, allowing listeners to engage with the music in an immersive way. Venezuelan artist and singer Arca, known for her shape-shifting sound, delves into themes of transformation and augmented identity through heavily processed vocals and experimental sounds. Her 2015 performance cycle *Mutant* focuses on human-machine hybridity and the fluidity of identity.

A fascinating case in contemporary music is Brain-Body Music, with electronic composer Grace Leslie as a prominent representative. She explores the connection between the brain, body, and music by using biosignals—electrical signals generated by the body, such as brainwaves (EEG). Leslie's work focuses on developing brain-music interfaces and physiological sensor systems that translate internal cognitive and emotional states into sound.

A very interesting genre of art music is multimedia music, one popular example of which is the multimedia performance *Convergence* (2020) by German composer Alexander Schubert. This piece blends music, electronic music, instrumental theatre, and interactive technology.

Georgian-Ukrainian multimedia composer Asmati Chibalashvili is well known for her engagement of acoustic music with digital technology and innovative approach to integrating it into her compositions, the clear examples of which are: *Virtual Realities, Binary Echoes, Synthesized Reflections, Algorithmic Dreams, and Ritual Dances*.

Georgian composer Revaz Kiknadze's electronic composition *GridShapes and Oscillations* is a clear example of the convergence between music and visual art, showcasing the seamless integration of sound and dynamic visuals to create an immersive, multidimensional experience. The work is an experimental audiovisual installation with no clear start or end, combining dynamic visuals of spinning and shifting grid shapes with abstract sounds. The visuals generate audio signals transformed into unpredictable, textured frequencies, creating a constantly evolving, immersive experience.

Interesting innovations can be seen in the ideas of German composer Sven Helbig, who is known for blending classical and electronic music. His works are rooted in the tradition of the *Gesamtkunstwerk*. One of his most recognized creations is *Pocket Symphonies*, an album that fuses orchestral elements with electronic soundscapes, offering a unique blend of modern and classical styles. Mali indicates that for metahumanist philosopher and Nietzsche scholar, Stefan Lorenz Sorgner, Helbig is representative of future-oriented art, where art and technology are dissolved (Mali, 2024:259).

I will also examine notable stage musical compositions: The groundbreaking "Artificial Intelligence Brainwave Opera (AIBO)" by Ellen Pearlman (2019), represents a unique synthesis of neuroscience, AI, and opera. It explores the intersection of human brainwaves and AI algorithms, focusing on the love story between Eva and the AI, AIBO.

Another original opera is Keiichiro Shibuya's large-scale theatrical work—Android Opera *MIRROR*. This features the singing voice of the android "Alter 4," an orchestra, Buddhist monks chanting, Shibuya himself on piano, electronic music, visuals, and lighting. Shibuya explores a world rapidly heading toward its end, with a prediction of the endless existence of androids and AI. The plot centers around existential questions, with the robot's cold, mechanical presence contrasting sharply with raw human expression, creating tension between the organic and the artificial. The narrative is nonlinear, focusing on the emotional resonance between human and machine, blurring the boundaries between reality and artifice. It represents a convergence of human frailty and technological transcendence, pushing the limits of traditional opera while exploring the intersection of AI and the human experience.

Eco-music: A Contemporary Trend as a Pathway to the Future of Art Music

The latest mainstream in art music, which contributes to sustainable development and is closely tied to the upcoming realities of humankind, is eco-music based on the idea of harmonious coexistence with nature. It is rooted in the synthesis of sounds from both human and non-human sources, including natural sounds like birdsong, water, and plants. The key aspect of eco-music is its focus on transforming consciousness and changing the listener's cognition. To understand the fundamental changes that eco-music can contribute to humanity's consciousness, we must first address the shifts in the issues and themes that have dominated the history of art music. For example, in the music of previous centuries, especially in operas with a verbal foundation, we encounter characters driven to murder by their thirst for wealth and power. The opera repertoire features a gallery of oppressed, insulted, and murdered women, alongside characters displaying suicidal tendencies, elements of sadistic pathology, and manifestations of necrophilia. As Gvantsa Ghvinjilia noted:

> Musical compositions, even operas, are saturated with calls for mass rebellion, revolution, battle (even produced as a sign of struggle for identity), scenes of fights or duels between characters (even if held with the motive of protecting personal dignity), which has an anti-pacifist hue. Unfortunately, this type of humanity is presented and a great deal of attention to the negatives of society is reflected in art music (Ghvinjilia, 2023:149).

Eco-music has the potential to challenge listeners to rethink their relationship with nature. The arguments highlighting the necessity of reconnecting with nature and the profound importance of eco-awareness are:

- The Bible also emphasizes in several passages that humans and animals are creatures of equal significance (Genesis 1:26-28; Genesis 9:9-10; Psalm 104; Matthew 6:26; Job 12:7-10);

- All the knowledge humanity has accumulated in the pursuit of progress originates from observing nature—the primordial source of all things. According to Sara J. Wolcott, "the separation between human beings and the natural environment is a false dichotomy. We are nature. Nature is us. However, we keep acting as if culture and biology are separate" (Wolcott, 2016:2).

- We created art, including art music, by imitating nature from ancient times. As Ghvinjilia states, "We imitate the birds singing, lions roaring, and the sound of mountings Echo, and created musical instruments, so imitating nature humankind created instruments" (Ghvinjilia, 2022:4).

- Human nature is as spontaneous as nature itself, and our disconnection from nature can be seen as a disconnection from our inherent essence.

What has brought eco-awareness to the forefront? Officially, we are in the Holocene epoch, but in reality, we have entered a human-dominated geological stage—the Anthropocene. The mental superiority of humankind has proportionally inflated the ego, leading to the perception of humanity as being at the top of the species pyramid within an 'Ego-System.' Moreover, humans have begun to compete with nature and artificially alter the Earth's ecosystem. The freedom of choice, when driven by constant selfish gratification, has led to large-scale destructive actions. If anthropocentric consciousness is replaced by a new paradigm of ecological awareness, this Ego-civilization can transform into an Eco-civilization. Unlike the Ego-System, the Eco-System envisions humankind in a harmonious relationship with the rest of nature. John White, M.A.T., educator and lecturer in the fields of consciousness research, emphasizes the need to change egocentric consciousness,

confirming his opinion, by Canadian psychiatrist Richard M. Bucke stated in his seminal 1901 book *Cosmic Consciousness*, "when we are in tune with a consciousness of the cosmos, we become members of a new species." (White, 2021). Otto Scharmer and Katrin Kaufer write about the need for new ecological awareness and transform thinking which will replace from ego-centric thinking into eco-centric thinking: "What keeps us locked into old tracks of operating? And what can we do to transform these patterns that keep us firmly in the grip of the past." (Scharmer, et al., 2013:2). Human beings, with their advanced mental capacities, bear the responsibility for the well-being of other species, which challenges Darwin's concept of evolution, according to which the strongest species will survive. However, ecological awareness introduces a new perspective: the strongest are not those who merely survive, but those who preserve others. Eco-music plays a crucial role in inspiring collective action to protect the planet, raising ecological awareness, and promoting cultural exchange. It encourages a shift from anthropocentric to ecological consciousness, emphasizing that humans and all life forms are equally essential for achieving sustainable development. It fosters a shared planetary identity that transcends religions, ethnicities, and political ideologies. In this sense, eco-music goes beyond art, prompting a reevaluation of art music's mission, not just as entertainment, but as a renewable socio-cultural phenomenon and biocultural resource, becoming integral to broader cultural contexts. According to Titon, "music is a biocultural resource, a sound-producing activity natural to humans that comes into being as music through sociocultural processes." (Titon, 2009:6). The mission of eco-music is to foster ecological self-awareness and promote a non-anthropocentric view. By shifting from an egocentric to an eco-centric perspective on nature, eco-music contributes to transformative changes in human consciousness, offering a progressive path for future advancement. This is why eco-music is a key tool in achieving a renewed state of mind. According to Wolcott, music is "the life-blood of culture and individual and collective identity and strengthens our bio-culture. Participatory music, in particular, may play a critical role in enabling human survival to climate change." (Wolcott, 2016:1).

Despite the large number of prominent composers whose names are directly linked with, or associated with, eco-music worldwide—such as John Luther Adams (USA), R. Murray Schafer (Canada), Hildegard Westerkamp (Germany/Canada), Tan Dun (China), Matthew Burtner (USA), Annea Lockwood (New Zealand/USA), and Meredith Monk (USA)—the newly emerging Georgian school of eco-music (Eka Chabashvili, Maka (Maia) Virsaladze, Joni Asitashvili, Alexander Chokhonelidze) presents a particularly compelling and original perspective. Eka Chabashvili, a leading figure in Georgian eco-music, shapes future trends in art music through innovative ideas. In her composition *Silkworm Butterfly's Wisdom*, ecocriticism toward humankind is based on the Christian idea of tolerance toward other species. The main idea of the composition emphasizes the following paradox: *Homo sapiens*, regarded as the pinnacle of anthropogenesis—superior in intelligence, a working species (*Homo faber*), and a symbol-thinking species (*Homo symbolicus*)—must care for nature. However, we are the only species that destroys "sinless" nature. This composition serves as a warning that we are human, but not humane. Her *Experimental Interactive Sound Performance: Let's Listen to the Caves* (2024), aimed to immerse listeners in the natural soundscapes of Georgian caves. According to Ghvinjilia, in another example of eco-music, the symphony-exhibition *Khma,* she breaks compositional stereotypes by transforming the audience into co-composers and co-performers, turning the entire exhibition space into a unified creative stage that also breaks the traditional division between the performers' space and the spectators' space. (Ghvinjilia, 2022:67).

Eco-music, encompassing subgenres such as soundscape compositions, bio-music, and eco-acoustic installations, promotes the concept of eco tolerance and the equality of all forms of life through the fusion of human music and natural sounds. It is paving the way to reconstruct the traditional hierarchy of musical genres and in its way prepares us for a new stage of human consciousness. What evidence underpins this claim? If we compare traditional music composition to eco music samples, difference between compositional approaches is fundamental. This can be compared with transition from a present four-dimensional universe (length, width, height, and time) toward 5D — a more immersive reality, a state of expanded awareness beyond our physical limitations. Previous art music (especially from 16 to 19th century, after the foundation of *Dramma per musica*) reflected Material world dilemmas caused by duality, the everlasting struggle between good and evil, that is clear evidence of anthropocentric ego-consciousness. Eco music aims to help listeners shift from anthropocentric (ego-based) thinking to biocentric or ecocentric modes of perception.

Thus, eco-music is one of the most important directions in art music, as it is relevant to humankind's evolution toward renewed consciousness and Advanced Humanism.

AI and Music Composition: Challenges, the Advantages of Human Composer Collaboration with AI and Risks

Next, I will focus on works composed entirely by AI. Human-AI collaboration will mark a new stage in human evolution and artistic creativity. AI has reshaped traditional music creation, with many programs integrating AI to compose music. As Turkish composer, pianist, musicologist, and academic specializing in music technology, Seyhan Canyakan—states: "Recent developments in artificial intelligence have opened up new possibilities for music composition and production. AI composition engines have been developed with the aim of creating new music by means of neural networks, each aiming for different approaches and outputs. The ways in which AI can support music compositions are varied." (Canyakan, 2024:147).

One of the most interesting cases was Holly Herndon's integration of the AI program "Spawn, AI Baby" into her music. As AI lacks context, she has encoded her values into it. Her work *Proto* (2019), exemplifies this.

Finally, I will focus on compositional activities resulting from human-AI collaboration. One of the latest innovations in this field, AIVA (Artificial Intelligence Virtual Artist, 2016). This AI-driven virtual composer creates diverse musical pieces by selecting style, instrumentation, tempo, meter, and duration. Its unique methodology is based on the analysis of a vast collection of classical and vernacular works, identifying epochal, stylistic, and genre-specific patterns. The debut album *Genesis* (2016) features collaborations with conductor Olivier Hecho, pianist Eric Breton, and producer Pierre Barreau. Since January 2019, AIVA has also launched Music Engine, a commercial product capable of creating shorter musical compositions in various genres such as pop, jazz, rock, tango, traditional folk songs like shanties, and cinematic music. Human composers can achieve the desired output from AI by providing clear and appropriate instructions. In this context, the composer's creativity lies in formulating original ideas and guiding the algorithmic composer effectively. AIVA is a unique tool that enhances human abilities through technology and AI.

While collaboration with AI represents the future of composition, AI is not yet able to compete with human composers for several reasons:

- It lacks personal experiences and emotional depth. Instead, it relies on analyzed music templates and databases to generate compositions, meaning it can only produce imitations—variations

of existing music within the scope of its database. It cannot create true novelty, as it is limited to what has been integrated into it. Seyhan Canyakan concludes that the works composed by the human composer are more memorable and emotionally powerful, while AI compositions are more superficial (Canyakan, 2024:477).

- To write music, one must understand compositional techniques and rules. However, music is not written according to rules; rather, rules are used to write it. Composing also requires intuition, which AI does not yet possess, preventing AI from transcending pre-existing models and moving beyond a compositional matrix.

- Creating musical compositions is not dictated by any social mechanism, but rather by a spiritual need that completely consumes the mind and does not allow a person to rest until it manifests in the material world. AI lacks self-awareness, which means it lacks the creative will and spiritual drive—a kind of mental obsession that compels human composers to be consumed by their ideas. As Gianmaria Ajani writes, "Imagination, creativity, and therefore, the making of art are abilities peculiar to human intelligence, and vibrant marks of humankind." (Ajani, 2022:254).

Despite this, the collaboration between AI and composers is inevitable, and it represents the future of music. According to Eric Tron Gianet, Luigi Di Caro and Amon Rapp:

Music composition and production are already an often collaborative process. From bandmates to collaborators, clients, and sound engineers, various stakeholders contribute to and have an interest in the final product. This raises the question of whether AI systems should be designed to enhance these existing human-human interactions, or whether they themselves should become an additional collaborator within a system in which creative control is already dynamically distributed and negotiated (Gianet et al., 2024:5).

It should be emphasized that the composer's collaboration with AI marks the beginning of transcendence beyond human bodily limits. Yunus Tuncel discusses the issue of disembodiment and impoverishment as an attempt to separate intelligence and thought from organic life, using Jaime del Val, a Spanish artist, philosopher, and scholar, as a case example (Tuncel, 2023:197). As it is commonly known, Del Val is recognized for his exploration of posthumanism, digital art, and the relationship between the body, technology, and identity, addressing how technology transforms human experiences and the body's new possibilities in the digital age.

In the near future, composers will actively utilize technologies to shape new techno-aesthetic platforms. The music composition process will be inspired by enhancing or augmenting human abilities through technology and AI, and acoustic instruments may be replaced by AI-generated or computer-generated music. transcending beyond human bodily limits: using AI, *create hybrid reality with digital and physical elements*, experimenting with brain-computer interfaces, and employing augmented instruments that extend human capabilities (e.g.,motion-sensing gloves, neural-controlled synthesizers). It also involves AI-generated hybrid voices, hypercomplex rhythms, and structures that are impossible for traditional human performers. Furthermore, it includes designing music encoded in DNA or quantum storage, making it permanently accessible across future generations. It is a collaboration between human and machine, in other words, between biology and algorithms. I cannot disagree with Asmati Chibalashvili, who states that AI enables the analysis and processing of information that was previously impossible. According to her,

AI facilitates the development of methods for modifying and reinterpreting this data into innovative artistic projects. This underscores a transformation in traditional notions of the creative process and the mechanisms through which works of art are perceived (Chibalashvili, 2021:47).

As discussed in the section on the importance of the research, AI-generated music can be analyzed through the lens of Jean Baudrillard's *theory of simulation, simulacra, and hyperreality*. It offers a compelling framework for examining contemporary phenomena shaped by digital technologies and can be effectively applied to the study of AI-generated music as it sheds light on how AI-generated content challenges traditional notions of authenticity, authorship, and emotional resonance. The following chart outlines the parallels between Baudrillard's key ideas and the development of AI-generated music, illustrating how simulations of human creativity may evolve into simulacra—and ultimately contribute to a condition of hyperreality in AI music:

Table 2. Simulation, simulacra, and hyperreality in AI-generated music and virtual reality

Simulation, Simulacra & Hyperreality: Key Concepts from Jean Baudrillard's Theory	**AI-generated music or virtual reality: Key Concepts**
Simulation is the act or process of imitating or replicating original. It's a copy or representation that mimics reality but may not have the full substance of the original.	The process of creation of AI music can be compared to a **simulation** of the creation of human-created music. It is a digital creation that mimics the style, structure, or emotions of original music but may lack the full depth and authenticity of human experience behind it.
Simulacra (plural of simulacrum) are the copies or images produced by simulation, often disconnected from any original reality or meaning. In other words, Simulacra are often seen as copies without an original.	AI-generated music imitates stylistic features of aby genres and epochs, melody, rhythmic patterns, sonic datas, as well as emotional expressions of human-composed music, yet lack a direct connection to lived human experience or original artistic intent. When AI music becomes detached from any genuine human emotion, this can be compared to a **simulacrum**.
Hyperreality is a stage or condition in which the distinction between reality and simulation blurs, and simulacra (the plural of simulacrum) become more real than reality itself. In this state, people live in a world of signs and images that can have a stronger emotional impact than the real world.	If, in the future, people begin to perceive AI-generated music as more "real" or emotionally powerful than music composed by humans, this could be seen as a manifestation of **hyperreality** within the realm of art music.

Concerning AI-generated music, it is also important to consider emerging technological innovations that are likely to impact the music industry. The process of music composition with AI can be further enhanced by the innovative Orion AR glasses—a new technological development currently in limited prototype production by Meta Platforms Inc.[3] Integrating with Meta's Orion AR glasses, they have potential to transform the music making process by offering an immersive environment for creativity as they could allow composers to see and use virtual instruments, musical scores, and sound tools directly within their physical space. Instead of writing traditional screens, composers could visualize a 3D music instruments in front of them, control audio effects with virtual sliders, and arrange music by moving their hands—all within an augmented environment. The AI could even incorporate ambient environmental sounds into the composition if desired. The neural wristband that comes with Orion would change the traditional performance of music as it could conduct a virtual ensemble or even orchestra. In summary, Meta's Orion glasses, paired with AI, could redefine music composition and performing blurring the line between digital and physical creation and enabling musicians to interact with music in entirely new ways.

Thus, In the distant future, composers will actively collaborate with AI. After integrating into cyber-reality, humans, including musicians, will become part of the techno-sphere, with all innovations rooted in a new techno-aesthetic platform. While progress is irreversible, AI's scale may pose existential risks to human nature. These developments raise concerns and predictions about potential threats from AI; In his research about AI in music industry, Seyhan Canyakan, a Turkish composer, pianist, sound engineer, states that "dual role AI plays in transforming musical creativity: both as a catalyst expanding creative potential and as a potential threat to the authenticity of human artistry" (Canyakan, 2024:158).

One serious risk is the issue of human rights: who will be the primary author of a collaborative artwork – the artist or AI? This raises questions about the emergence of a new identity. Lílian Santos discusses the issue of human identity, which is crucial for twenty-first-century bioethics (Santos, 2023:1146). Eliezer Yudkowsky explores both the positive and negative aspects of global risks related to AI. His central thesis is that AI development is a double-edged sword: it offers the potential for unprecedented advancements but also carries catastrophic risks, such as changes in anthropology, the human genome, and a reduction in the biological body through nanotechnology. Nano computers will soon be more energy-efficient, and in the distant future, there will be far more AI than human intelligence. For humanists who view humans as the crown of nature, the integration into cyber-reality will transform humanity into part of the techno-sphere. Yudkowsky stresses that to ensure long-term survival, risks, including rogue AI, must be minimized, which is challenging given humanity's imperfect history. He suggests that if human minds remain a mix of wisdom and foolishness, survival beyond a few centuries is unlikely. However, he

[3] Meta's AR (Augmented Reality) glasses, known as Orion, represent the company's most advanced venture into immersive wearable technology. Unveiled in September 2024, Orion is a prototype designed to overlay digital content onto the real world, with the long-term goal of replacing smartphones as the primary computing device. The glasses use Micro LED projectors embedded in silicon carbide lenses to display holographic images with a wide 70-degree field of view. They are controlled by a neural wristband that detects subtle hand gestures, while a pocket-sized compute puck handles processing and provides all-day battery life. AI integration enables context-aware functions such as object recognition and real-time assistance. More than just a technological innovation, Orion reflects a broader shift toward human-computer integration, augmented perception, and post-smartphone life—key aspects of the next evolutionary stage in human interaction with digital systems. By merging physical and digital realities, AR technologies like Orion could reshape how people think, communicate, and function in daily life. In this vision of the future, where the boundaries between body and machine begin to blur, Orion signals the dawn of a seamlessly connected world (Meta, 2024).

also suggests that humanity's potential may not be limited to its current form, implying the possibility of transcendence or transformation. As he writes:

> *Homo sapiens* represent the first general intelligence. We were born into the uttermost beginning of things, the dawn of mind. With luck, future historians will look back and describe the present world as an awkward in-between stage of adolescence, when humankind was smart enough to create tremendous problems for itself, but not quite smart enough to solve them (Yudkowsky, 2008:342).

Bostrom also analyzes existential catastrophes that could lead to the extinction of Earth-originating intelligent life and humankind (Bostrom, 2013:15). Despite the risks, these processes continue. I cannot disagree with Buket Yenidogan, who states: "We are going through times that require us to move away from a space where we control, use or spoil other beings, to where we collaborate, co-create and co-exist by accepting our interdependency to nonhumans." (Yenidogan, 2021:9).

Thus, if we generalize the fears associated with artificial intelligence, we can consider that, AI will bring about major mental shifts, much like the invention of fire, the wheel, writing, the clock, and electricity did in their time. By accumulating a vast knowledge base and holding the potential to create a new reality, AI may ultimately become a *simulacrum*[4] that replaces reality itself. While we use AI across all areas, including music, we do not know whether it will eventually use humanity's accumulated knowledge for its own purposes. If we paraphrase Thomas Robert Malthus's theory in the context of art and education, we might consider the following danger: AI could acquire self-awareness and escape human control. This would mark a confrontation between human intelligence—the product of evolution—and a more powerful mega intelligence, thereby shaking the foundations of anthropocentrism and posing an existential threat.

Despite the risks discussed above, the fact is that, closer collaboration with AI—in other words, a synergy between human ingenuity and computational creativity—enables artists, including composers to expand the boundaries of art music, realize ideas in digital space, and discover new sonic realities within immersive digital environments. As a result, this 'fusion' has fundamentally transformed traditional music-making, redefined the creative process itself, and ushered in a new techno-aesthetic era. Most importantly, these innovations have led to the emergence of a new paradigm in 21st-century musical composition, one that is closely linked to changes in humankind's evolutionary processes.

Thus, the fact is that we are witnessing a closer collaboration with AI—in other words, a synergy between human ingenuity and computational creativity—that enables artists, including composers, to realize ideas in digital space and discover new sonic realities within immersive digital environments. As a result, this *fusion* has already transformed traditional music-making, redefined the creative process itself. Most importantly, these innovations have led to the emergence of a new paradigm in 21st-century musical composition, one that is closely linked to changes in humankind's evolutionary processes. Natasha Vita-More places the utmost importance on technology in the evolution of the human species, viewing it as a pathway to a new ontological condition—one in which *Homo sapiens* is not replaced, but rather refined. As she states, "Affecting the historical Human 1.0 is a symbiosis of

[4] Simulacra (singular: simulacrum) is a concept from philosophy, critical theory, and media studies that refers to representations or imitations of people, objects, or systems that have lost any clear connection to an original reality, or may never have had one at all. The French philosopher Jean Baudrillard used the term to describe how such copies or representations can become more real than reality itself, a phenomenon he termed hyperreality. Baudrillard, J. (1994). Simulacra and simulation (S. F. Glaser, Trans.). University of Michigan Press. (Original work published 1981)

events in the spheres of technology, science and medicine. Such events are accelerating change at varied speeds and in multiple directions. As a result, the human future may not be as biologists and paleontologists once thought, or as geneticists and experts in evolutionary theory have suggested. Our future may be the result of the very tools which brought computers, the Internet and artificial life to the forefront and which now are designing artificial intelligence, nanorobotics, synthetic environments and biosynthetic life." (Vita-More, 2008:145).

At the Dawn of Transition: Transhumanism, Posthumanism, Metahumanism, Euro-Transhumanism

What new realities does art, in turn, prepare us for? Ultimately, it prepares us for an era of advanced humanity, associated with various forms of anti or neo-humanism, such as Transhumanism, Posthumanism, Metahumanism and Euro-Transhumanism. Some preconditions for these processes emerged earlier (late 19th to early 20th century), emphasizing the transcendence of human limitations through personal will and self-overcoming. Important examples in art include:

In European literature, science fiction writer Herbert Wells envisioned humans transforming into alien creatures in his 1883 essay *The Man of the Year Million*; Friedrich Nietzsche's concept of the "Übermensch" (translated as "Overman" or "Superman") represents humanity's transcendence to something greater—beyond human—yet elusive and undefined. Is the Übermensch an enhanced version of humanity, or something entirely distinct? Nietzsche alluded to the ideas of posthumanism and transhumanism, particularly through his concept of the "Übermensch". Stefan Lorenz Sorgner writes:

> When I first became familiar with the transhumanist movement, I immediately thought that there were many fundamental similarities between transhumanism and Nietzsche's philosophy, especially concerning the concept of the posthuman and that of Nietzsche's overhuman. This is what I wish to show in this article. I am employing the term 'overhuman' instead of 'overman,' because in German the term *Übermensch* can apply to both sexes, which the notion *overhuman* can, but *overman* cannot. I discovered, however, that Bostrom, a leading transhumanist, rejects Nietzsche as an ancestor of the transhumanist movement, as he claims that there are merely some "surface-level similarities with the Nietzschean vision" (Bostrom 2005a:4). In contrast to Bostrom, I think that significant similarities between the posthuman and the overhuman can be found on a fundamental level (Sorgner, 2017:14).

In further discussion, Sorgner suggests that higher Humans have the ability and, most importantly, the desire to multifacetedly develop, and only then will overhuman be born. He notes that, "in transhumanist thought, Nietzsche's overhuman is being referred to as "posthuman." (Sorgner, 2017:20).

In European art music, the "Übermensch" often represents characters who transcend human limitations and ordinary human experience. Don Giovanni's rejection of societal and conventional morality and the pursuit of desire highlight the complexities of transcending human limits, presenting a distorted version of the Übermensch. Other examples include the hypothetical hero, a revolutionary fighting for the future of humanity in some of Beethoven's symphonies and overtures, Leonore from Fidelio, and Wagner's characters: Tristan, Siegfried, and Parsifal.

All of these examples in art, along with many others, have contributed to the transformation of consciousness, preparing humankind for change and finally bringing us closer to a new stage of evolution—an era

often discussed in terms of transhumanism, posthumanism, metahumanism and Euro-Transhumanism. While these movements or ideologies differ in their focus and scope, they are capable of coexisting and tend to change the agenda of humankind:

Transhumanism seeks to enhance human physical and cognitive abilities beyond biological limits through science and technology, moving toward a post-biological state. As Alexander Thomas notes:

> Transhumanism can most simply be understood as an ideological stance in favour of utilizing technology to enhance or upgrade the human condition even if it is not issue of debate-it must be considered considered a "natural" part of human evolution or not. There are various versions of what such enhancement should entail and thus there are numerous schisms within transhumanist discourse (Thomas, 2024:31)

Posthumanism is a philosophical framework that challenges the idea of humans as the pinnacle of evolution, envisioning a future where they may no longer be the dominant form of life. Seems that posthumanism questions human exceptionalism, embraces the integration of technology and biology, and recognizes the agency of non-human entities and artificial intelligence. It goes beyond humanism by questioning human-centred thinking and embracing the possibility that humanity could evolve into something entirely different or even be replaced by non-human entities such as AI or advanced life forms.

Metahumanism is more of a moral ideology that critiques both transhumanism and posthumanism by merging human potential with technological advancements while retaining human values. It emphasizes ethical and spiritual evolution, as well as the philosophical redefinition of humanity, linking metahumanism to the values rooted in religion. It focuses on becoming better rather than simply more advanced. Without spirituality, technological progress does not equate to civilization. It is generally known that Civilization has both a technological and a spiritual dimension, and the real next step in human evolution requires the transformation of human consciousness. Without this shift, it is important because, For example, if we transfer our sins into the techno world — such as the Metaverse, where digital immortality is possible — we will still remain criminals.

Euro-Transhumanism is deeply rooted in Renaissance humanism and the Enlightenment but adapted to contemporary challenges such as globalization, technological advancements, and transhumanism. According to Stefan Lorenz Sorgner, Euro-Transhumanism represents a European perspective on transhumanism, emphasizing a balance between technological progress and ethical responsibility. Euro-Transhumanism is a philosophy emphasizing human values, dignity, and reason, rooted in European intellectual traditions.

The fact is that all these new directions, ideologies, and movements guide us toward new realities. As Aura Elena Schussler notes:

> The paradigm shifts that transhumanism, posthumanism and metahumanism are bringing into current cultural, philosophical, political, and biomedical challenges represent more than a simple theoretical or ideological approach regarding human existence. This is because the three aforementioned movements try to go beyond (and in between) the humanistic legacy by bringing to light the true human potential—the one in which we are entities constantly subjected to the process of becoming in a bio-techno/nature–culture symbiotic web (Schussler, 2024:33).

Thus, changes are coming as humanity enters a new era where technology redefines human nature, revolutionizing artistic practices and transforming compositional stereotypes. Throughout art's development,

artists, including composers, have explored human psychology, behavior, feelings, and emotions. With technological progress and AI, the question of human identity will become even more relevant. As Hauskelle suggests:

> Evolution has, as it were, still got plans for us. The general assumption is that what we really are is not what we are now. What we really are is what we can turn ourselves into. We are still growing up. The true human is still to be created. And it is to be created by us. We can, should, and will shape ourselves into what we have always meant to be, but never were (Hauskeller, 2013:64).

After addressing these issues, a critical question arises: Do changes in human nature signify the decadence of Homo sapiens? No, they just improve homo sapiens in bio-techno/nature-culture symbiotic web. Besides, Homo sapiens may come to an end, but this does not mark the end of evolution or life on Earth. Are all these the end of the civilization of homo sapiens, no they just improve homo sapiens in bio-techno/nature-culture symbiotic web We are faced with the challenge of naming the next stage of human development to conceptualize advanced forms of human existence. When writing about the future perspectives of humanity, it is natural to adopt a futuristic viewpoint. I provide a list of speculative human archetypes. To name transformed humans from the perspective of technological enhancement, advanced morality, or overloaded consciousness, some hypothetical names could be used. While some of these terms might gain prominence and be used more actively in academic and cultural discourse, others may fall out of favor or be replaced by new concepts as our understanding and reality develop. As a scholar, I argue that these categories represent plausible trajectories for human evolution—biological, technological, ethical, and spiritual—and therefore deserve attention and study. Although the terminology and its usage will likely evolve, the underlying themes reflected in these archetypes indicate emerging patterns of human transformation. These terms are: Homo hybridus, Homo sapiens, Homo technologicus, Homo cyberneticus, Homo superior, Homo evolutis,[5] Homo benevolentus, Homo virtus, Homo justitia, Homo ethicus, Homo moralis, Homo Transcendens, Homo Luminosus, Homo Radiantus, Homo conscientia, Homo Noeticus,[6] ect. If the term Homo becomes disputed concerning to a new evolutionary stage, we could use these hypothetical names to indicate a superior or advanced form: Ultra sapiens or Meta sapiens, Novus moralis or Novus ethicus, Meta moralis, ect.

The journey itself holds more significance than the outcome, as it is through this ongoing process that the mission of humankind—and its essence as a species driven to explore and understand the world—is fully revealed.

Faith and the Future of Humans: Rethinking Spirituality in the Age of Enhancement

The question arises about the compatibility of religion with transhumanism or posthumanism—do they contradict religious beliefs? Will religions lose their relevance in their current form? Could these ideologies lead to the desacralization of humanity, a rejection of creationism, or the belief that God is a delusion? Will transhumanism, posthumanism, and metahumanism form a new religion? James J. Hughes discusses the compatibility of religious and transhumanist Views, which he defines as "religious-transhumanist syncretism." (Hughes, 2011:1).

The fact that these ideologies don't necessarily conflict with religious beliefs is

[5] The term was coined by Juan Enriquez—a seasoned business leader, author, and academic widely recognized as one of the world's foremost experts on the economic and political implications of the life sciences.

[6] The term was coined by John White in 1973, to designate advanced form of humanity, characterized by a higher state of consciousness, a state beyond egocentric consciousness.

supported by several compelling arguments:

- Ethical and moral discussions surrounding biotechnological development often reference Christian ethical terms.

Transhumanists often talk in religious categories, invoking concepts like God and hubris, as explored in Manitza Kotzé's research (Kotzé, 2020:4). Kotzé suggests that transhumanism, which aims to enhance human abilities, is often criticized as "playing God" and linked to pride, a concept viewed as sinful from a Christian perspective. Therefore, she proposes that the term "vulnerability," which acknowledges human limits, should replace "humility" as a counter to pride and is crucial for human evolution. This view, according to Kotzé, does not conflict with religious beliefs. According to Kotzé, "Vulnerability also brings about the acknowledgement that we are beholden to God; that life itself is a gift." (Kotzé, 2020:10).

- We are limited by our mortal bodies. The fear of ageing and death highlights our desire to transcend our finitude and become like gods. Jesus' defeat of death is the subject of great admiration for Christians. The desire to overcome the finitude of death, which Jesus achieved, is a clear example of our continuing religious consciousness.

- All religions guide us toward mental illumination, self-improvement, and the perfection of human essence—an ideal that shapes humanity's future vision. Spiritual concepts continue to guide civilization.

- Technological progress existed before, yet mysticism and religion remained central. Religion is rooted in enduring humanistic principles, relevant across all eras.

Thus, in this transitional period, religion remains relevant because civilization has both technological and spiritual dimensions. Technological advancements alone aren't enough for humanity's next step, which also requires a transformation of consciousness while preserving ethics and values. The deaths caused by religious wars stemmed not from religion itself, but from people's failure to elevate their spirituality. We are referring not only to specific religions but to spirituality in general, which forms the foundation of religions. As Bruce Ellis Benson writes, "Perhaps we can awaken that sense of being a beginner all over again so that we may return to the phenomenon of spirituality afresh and describe primordial spirituality apart from the interpretive lens of "religion." (Benson, 2020:704). The best human values have historically been shaped by mystical thinking, beliefs, and religion. Alex Gillham suggests that experiencing God is profoundly important. "Perhaps experiencing God confers unique spiritual or moral benefits that change our lives significantly." (Gillham, 2020:302). For me, as a Christian citizen, the concept of transforming one's thinking is embodied in the symbolic act of St. Peter's repentance, which calls for thinking differently and transforming consciousness from that moment onward.

Results of Tbilisi State Conservatoire Musician Students' Views About Ethical Dilemmas on Transhumanistic Music

In this research, responses of participant were collected using a 5-point Likert-type (named after psychologist Rensis Likert) scale, where 1 represented "Strongly Disagree" and 5 represented "Strongly Agree." To interpret the mean scores, standard interval ranges were applied to classify the levels of agreement. Using the interval width calculation method proposed by Joshi et al. (2025), the total scale range (5 – 1 = 4) was divided by the number of response categories (5), yielding an interval width of 0.80. Based on this, the interpretation ranges were defined as follows: 1.00–1.79 = "Strongly Disagree," 1.80–2.59 = "Disagree," 2.60–3.39 = "Neutral," 3.40–4.19 = "Agree," and

4.20–5.00 = "Strongly Agree." These ranges are commonly used in educational and social science research to provide a standardized framework for analyzing Likert-scale data.

Interpretation of Participants' Views on Ethical Dilemmas

Table 3. Assessment of participants' attitudes toward ethical dilemmas concerning transhumanistic music (AI-generated music)

Ethical Dilemmas concerning transhumanistic music (AI-generated music)	$\bar{\bar{x}}$	X^2	p	Sig.	Int.	Meaning (patterns of agreement and disagreement)
ED1. Music created by a transhumanist entity can be regarded as human-produced	1.82	40.20	<.001	Sig.	D	Strong disagreement; Responses were predominantly clustered around "Disagree."
ED2. Competition between music produced by a transhumanist entity and that produced by a human is fair.	1.6	58.40	<.001	Sig.	SD	Strong rejection of fairness in this competition between transhumanist and human-produced music
ED3. Even when AI-generated music aims to mimic and refine human emotions, it remains open to evaluation as art.	2.12	30.40	<.001	Sig.	D	Divergence in views on the emotional authenticity of AI-generatedart
ED4. Music created via transhumanist processes remains the property of humans	3.10	12.40	.014	Sig.	N	Diverse but inconsistent views on ownership of AI-produced works
ED5. As music produced by transhumanist entities continues to evolve, music created through natural human talent may gradually lose its value.	2.54	14.00	.007	Sig.	D	A clear tendency to disagree with the idea that AI works surpasses humans
ED6. Using transhumanistic music to influence or manipulate people raises ethical concerns.	3.42	8.20	.084	Not Sig.	A	The significant differences observed; opinions are relatively evenly distributed
ED7. Musical performances incorporating transhumanist enhancements may still be considered authentic.	2.28	20.40	<.001	Sig.	D	Strong disagreement regarding the authenticity of the performance
ED8. As transhumanistic music becomes more prevalent, it could overshadow other forms and drive cultural homogenization.	3.32	9.80	.044	Sig.	N	Moderate concern regarding cultural homogenization
ED9. Transhumanistic music may diminish the musician's role in emotional communication	2.32	13.60	.009	Sig.	D	Notable disagreement with the idea of the musician's diminishing role
ED10. If transhumanistic music causes harm, the responsibility lies with the human users and developers, not with the AI.	4.08	41.00	<.001	Sig.	A	Strong consensus on human accountability for harm caused by AI

Sig: Significance **Int**: Interpretation **SD**: Strongly disagree **D**: Disagree **N**: Neutral **A**: Agree **SA**: Strongly Agree

The results indicate that students' responses to most ethical dilemmas were neither random nor evenly distributed. Rather, there were statistically significant trends toward agreement or disagreement, especially concerning artistic authenticity, human responsibility, and fairness in AI-musician interactions. The only exception was ED6, which showed no significant divergence, suggesting more varied or uncertain opinions regarding manipulation.

ED1. The human status of the musician and the creativity of the work

Mean: 1.82 → Disagree

Students disagreed with the statement, that music created by a transhumanist entity could be considered human-produced, reflecting a strong belief in the distinctiveness of human creativity in musical expression.

ED2. Fairness in the competition between natural musical talent and transhumanist musical talent

Mean: 1.60 → Strongly Disagree

Participants strongly disagreed with the notion that contest between transhumanist and human musicians could be fair, highlighting a perceived imbalance and a clear preference for human gift.

ED3. The meaning of artworks

Mean: 2.12 → Disagree

Students did not support the notion that AI-generated music, even when simulating human emotions, qualifies as art. Artistic value is still perceived as inherently tied to human experience.

ED4. Ownership of works in transhumanistic music

Mean: 3.10 → Neutral

Participants expressed uncertainty regarding music ownership in the context of transhumanistic production, reflecting the ethical and legal ambiguities regarding intellectual property in AI-generated music.

ED5. Continuous development in music composing

Mean: 2.54 → Disagree

Students disagreed with the notion that music continuously evolving through AI mechanisms could surpass the value of human-created (Without the intervention of any technology) music, indicating that traditional concepts of authorship and artistic intent remain significant.

ED6. Manipulation of people through transhumanistic music

Mean: 3.42 → Agree

Participants agreed that transhumanistic music holds the potential to manipulate audiences, raising ethical concerns about its influence and possible misuse.

ED7. Authenticity in music performance

Mean: 2.28 → Disagree

Students did not regard performances enhanced by transhumanist systems as authentic, reflecting the continued association of authenticity with human emotion and presence in musical performance

ED8. Cultural homogenization through algorithmic music

Mean: 3.32 → Neutral

Participants expressed neutral views on whether algorithmic music poses a threat to cultural diversity, indicating uncertainty about the long-term cultural implications of such technologies

ED9. Transhumanistic music and the musician's role

Mean: 2.32 → Disagree

Students disagreed with the notion that transhumanistic music would diminish the

role of musicians. Human involvement in music creation remains essential and irreplaceable

ED10. Responsibility for harmful outputs

Mean: 4.08 → Agree

Participants agreed that human developers should be held responsible if transhumanist systems produce harmful outcomes, reflecting a strong emphasis on ethical accountability.

A Gender-based Examination of Ethical Dilemmas in Transhumanistic Music

To investigate whether students' perceptions of ethical dilemmas in transhumanistic music differ by gender, a series of Mann–Whitney U tests were conducted for each item (ED1–ED10) of the scale. The analysis included responses from female and male students enrolled at the Tbilisi State Conservatoire in Georgia.

The results showed no statistically significant differences between male and female participants across any of the ten items ($p>0.05$ for all). This suggests a key insight: gender does not significantly influence students' perceptions of the ethical aspects of transhumanistic music performance, production, or responsibility.

This finding may reflect a shared educational and cultural context in which both female and male students engage with similar discourses on musical authenticity, intellectual ownership, and the influence of artificial intelligence on artistic identity

It also suggests a level of consensus in ethical reasoning, especially in contexts where traditional views of human-centered creativity are emphasized.

Given the balanced distribution of views across genders, future studies might explore other demographic or contextual factors (e.g., year of study, field of specialization) to identify more nuanced patterns in attitudes toward emerging technologies in music.

Conclusion

Concluding the findings, scientific advancements shape worldviews, the research found that civilization is an ongoing process of improvement, and human nature is revealed only in evolution. Music is a powerful tool and one of the main 'actors' in these processes. The findings indicate that contemporary music gave rise to new genres, innovative directions, novel compositional methods, algorithmic compositions, AI-generated music. All of these novelties relevant to the digital era contribute to the progress of humankind in its own way.

One of the key findings relates to the analysis of AI-generated music through the lens of Jean Baudrillard's theory of simulation, simulacra, and hyperreality.

It was concluded that the processes in contemporary art music led to the breaking of traditional compositional boundaries and the emergence of a completely different composing paradigm. This transformation aligns with the principles of transhumanism, posthumanism, and metahumanism, contributing to a shift in human consciousness. One final question that arises in the discussion of these issues is: What role does art—and art music in particular, the most abstract and mystical of all the arts—play in these transformative processes? It was determined that, as music directly impacts human emotions, it has always been primarily used for socio-political indoctrination during politically turbulent periods. However, the most important aspect is that music, unlike other art forms, has developed in close connection with spiritual traditions, through which spirituality has been most vividly revealed in music, from pagan rituals to church hymns. It was no coincidence that when Richard Wagner proposed the idea of reuniting the arts (*Gesamtkunstwerk*), he considered music to be the unifying factor of the arts, thereby equating the function of music with that of religion. In this way, he emphasized the significance of music. As is commonly known, the various branches of

art in the church did not serve each other individually, but all glorify the Lord together, with religion as their unifier. In this sense, Wagner elevated music to the function of religion.

It was determined that evolutionary processes in art music neither contradict religious beliefs nor technological advancements. After integrating technological advancements and AI in music composing, composers reimagined human potential.

Music, as it has always played a major role in transforming humanity into a better version of itself, in its way will continue to support the development of humankind. It will generate entirely new content, but since it has been rooted in spirituality since archaic times, it will not contradict the rapid evolution of creativity, nor will it hinder the emergence of renewed forms of artistic practice; Let's remember that for a long time, musical instruments were forbidden in Catholic churches, on the one hand as a relic of ancient culture, and on the other hand as a reference to man's ambition to be a demiurge who, like God, also creates musical instruments; According to Christian teaching, God gave us a kind of musical instrument in the form of a throat, which is assigned two functions: to praise the Lord with prayer and singing. Although, composers are interested in spiritual content within instrumental works in general. Let us recall Johann Sebastian Bach's, Richard Wagner's and Gustav Mahler's music, which used an unprecedentedly large orchestra for their era. Thus, art music neither contradicts religious beliefs nor technological advancements. After integrating technological advancements in art, composers will reimagine human potential. As music offers the clearest insight into the nature and destiny of humanity, it can contribute to the further enchantment of civilization because humankind stands on the values of morality, spirituality, and goodness, of which music has always been the clearest mirror.

The research concludes that the process toward the perfection of humankind is more important than the result: to be perfect. In other words, the value lies not in being perfect, but in moving ever closer to perfection. In light of the fact that the evolution of our civilization is both ongoing and irreversible, and that we humans live on a time-traveling planet—what Carl Sagan calls 'wanderers' in Pale Blue Dot: A Vision of the Human Future in Space (Sagan, 1994).

Nowadays, William Shakespeare's famous question—'To be or not to be?' (Hamlet, Act3, Scene1)—holds an entirely new meaning for me. Shakespeare recognized that our real world, as a kind of matrix or system, is flawed, and through Hamlet, he voiced the dilemma: Is death a better alternative to a life that defines human significance through constant suffering? And the answers can be found precisely in these trends and movements—transhumanism, posthumanism, metahumanism, and Euro-Transhumanism—discussed as the theoretical framework for artistic processes in this article, as they aim to address this dilemma by shielding humanity from suffering through biological and technological enhancement.

Thus, the evolutionary trajectory of humankind toward techno-human existence will not alter the fundamental purpose of art music, but it will transform the methods and forms of artistic expression through which the mission of art music is fulfilled. The perspective gained further support through the insights shared by Tbilisi State Conservatoire students on the future of music. The study revealed that music students at Tbilisi State Conservatoire hold clear and ethically grounded views on transhumanistic music, particularly valuing human creativity, authenticity, responsibility and regarding the integration of artificial intelligence. The findings reveal that student responses were neither arbitrary nor indifferent; rather, clear trends emerged that reflect strong ethical convictions about the role of human creativity, authenticity, and accountability

in music. Students generally rejected the notion that AI-generated music could possess the same artistic value or human essence as traditionally composed music. They also expressed a firm belief in the uniqueness of human talent and voiced concern over issues of fairness in AI–human competition. Notably, students strongly supported the idea that human developers must bear responsibility for any harmful outputs from transhumanist systems, underlining the importance of ethical accountability in technological innovation. While responses regarding ownership rights and cultural homogenization were more neutral, these areas suggest unresolved questions requiring further exploration in the music ethics discourse. Interestingly, the gender-based analysis demonstrated no significant differences in ethical perceptions between male and female students, indicating a shared cultural and educational perspective rooted in traditional human-centered musical values. This uniformity may reflect common curricular exposure or prevailing societal beliefs about the sanctity of human artistry in music. Overall, the study suggests that while music students are aware of and open to technological advances in music, they maintain a cautious and ethically grounded stance toward transhumanist innovation. These findings highlight the need to further integrate ethical training into music education and suggest that future studies should investigate other influencing variables, such as academic year or area of specialization, to uncover deeper nuances in students' views on AI-driven creativity and responsibility in the arts.

Recommendations

Recommendations for Future Scientific Research

Given the interdisciplinary nature of the relationship between contemporary music and human evolution in the age of scientific-technological progress, the following recommendations are offered for scholars and researchers exploring similar topics. These recommendations given by the author in several directions are as follows:

Regarding the expansion of the research area

Future research should include examples from other artistic disciplines, such as literature, theatre, painting and sculpture, as similar transformative processes are occurring across all fields of art, collectively shaping the foundations of future artistic expression. By addressing these additional areas, future research can contribute meaningfully to the discourse surrounding art, technology, and human development, offering critical insights into how artistic creation participates in broader civilizational shifts.

Regarding the expansion of survey participants

To ensure a more comprehensive perspective, future research should involve not only music students but also students from a broad range of artistic disciplines.

Recommendations for Music Teachers

Music teachers should integrate digital and AI tools into history and theory classes, encouraging student experimentation and ethical reflection. Including discussions on transhumanism deepens understanding, while emphasizing human creativity and ethics remains essential. Collaboration with other departments broadens students' perspectives on music's future.

Recommendations for Composers

Composers should blend new genres like AI and generative music with traditional aesthetic principles. They need to address ethical themes such as authorship and the role of AI in their works, thoughtfully exploring transhumanist concepts. Additionally, sharing new methods for responsible digital composition helps promote ethical innovation.

Recommendations for Music Technology develope

Music technology developers should design tools that support human creativity and promote ethical use. They are encouraged to develop clear guidelines regarding ownership and responsibility in AI-generated music. Collaborating with musicians and educators ensures that these tools align with real artistic needs, while offering training on both technical and ethical aspects enhances responsible and informed usage.

Limitations of Study

To demonstrate academic significance, contextualize the findings, and suggest directions for future research, this study was focused on selected examples of contemporary music—namely digital music, multimedia music, ecomusic, and AI music. The limitations refer to methodological and demographic constraints, as the study employed only quantitative, qualitative and interpretive methods and included only musician students from Tbilisi State Conservatoire (Georgia).

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References

Ajani, G. (2022). Human authorship and art created by artificial intelligence – Where do we stand? In T. Dreier & T. Andina (Eds.), Digital ethics: The issue of images (pp. 253–269). Nomos Verlagsgesellschaft.

Alan, M. (2024). Children's popular music culture in Turkiye: Reflections and critiques in music education. *Journal of Music Theory and Transcultural Music Studies, 2*(2), 105–116. https://doi.org/10.5281/zenodo.15031821

Antony, S., & Tramboo, I. A. (2020). Hyperreality in media and literature: An overview of Jean Baudrillard's Simulacra and Simulation. *European Journal of Molecular & Clinical Medicine, 7*(10), 3314–3318. https://www.ejmcm.com/archives/volume-7/issue-10/9757

Ariza, C. (2009). The Interrogator as Critic: The Turing Test and the Evaluation of Generative Music Systems. *Computer Music Journal, 33*(2), 48–70. https://doi.org/10.1162/comj.2009.33.2.48

Baelo-Allué, S., & Calvo-Pascual, M. (2021). *(Trans/Post) humanity and representation in the Fourth Industrial Revolution and the Anthropocene*. In S. Baelo-Allué & M. Calvo-Pascual (Eds.), Transhumanism and posthumanism in twenty-first century narrative: Perspectives on the non-human in literature and culture (pp. 1–19). Routledge.

Bankins, S., & Formosa, P. (2023). The ethical implications of artificial intelligence (AI) for meaningful work. *Journal of Business Ethics, 185*(4), 725–740. . https://doi.org/10.1007/s10551-023-05339-7

Baudrillard, J. (1994). *Simulacra and simulation* (S. F. Glaser, Trans.). University of Michigan Press.

Benson, B.E. (2020). Is there such a thing as "religion"? In search of the roots of spirituality. *Open Theology, 6*(1), 693–705. https://doi.org/10.1515/opth-2020-0053

Bostrom, N. (2013). Existential risk prevention as a global priority. *Global Policy, 4*(1), 15–31. https://doi.org/10.1111/1758-5899.12002

Borodovskaya, L., Yavgildina, Z., Dyganova, E., Maykovskaya, L., et al. (2022). The possibilities of artificial intelligence in automatic musical transcription of the Tatar folk song. *Rast Muzikoloji Dergisi, 10*(1), 147-161. https://doi.org/10.12975/rastmd.20221018

Canyakan, S. (2024). Perceptual differences between AI and human compositions: The impact of musical factors and cultural background. *Rast Muzikoloji Dergisi, 12*(4), 463–490. https://doi.org/10.12975/rastmd.20241245

Canyakan, S. (2024). The role of AI in creative processes: ethical and legal perspectives in the music industry. *Journal of Music Theory and Transcultural Music Studies, 2*(2), 143-158. https://doi.org/10.5281/zenodo.15031855

Chibalashvili, A. (2025). *Manifestos of the 20th and early 21st centuries as markers of sociocultural and artistic transformations*. Humanities Science Current Issues, 84(3), 162–169. In M. Pantyuk, A. Dushnyi, V. Ilnytskyi, & I. Zymomrya (Eds.), Humanities Science Current Issues. Drohobych: Publishing House "Helvetica".

Chibalashvili, A. (2021). Artificial intelligence in artistic practices. *Collection of Research Paper Contemporary Art, 17*, 41–50.

Cope, D. (2001). Virtual music: Computer synthesis of musical style. MIT Press. https://doi.org/10.7551/mitpress/7106.001.0001

Crawley, J. (2024). *Subjectivity in circulation: Jean Baudrillard and the image as objective reality*. Undergraduate honors thesis. University of Central Florida. STARS Repository. https://stars.library.ucf.edu/hut2024/22

Eldridge, A., & Bown, O. (2018). *Biologically inspired and agent-based algorithms for music*. In R. T. Dean & A. McLean (Eds.), The Oxford handbook of algorithmic music (online ed.). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190226992.013.18

Firmansyah, T. R., Muttaqin, K., Hidayah, L., & Murniatie, I. U. (2024). The hyperreality and simulacra theory of Jean Baudrillard: On fashion trends in TikTok. ELite Journal: International *Journal of Education, Language and Literature, 4*(2), 27–34. https://doi.org/10.26740/elitejournal.v4n2.p27-34

Foerst, A. (2008). Keeping Homo Sapiens 1.0. *Technoetic Arts: A Journal of Speculative Research, 6*(3–4), 140–144. https://doi.org/10.1080/17493460802028542

Gera, S. (2025, March 20). *The impact of artificial intelligence on music production: Creative potential, ethical dilemmas, and the future of the industry*. The National High School Journal of Science. Retrieved from https://nhsjs.com/2025/the-impact-of-artificial-intelligence-on-music-production-creative-potential-ethical-dilemmas-and-the-future-of-the-industry/

Ghvinjilia, G. (2021). Musical art, cultural memory and posthuman (raising point). *GESJ: Musicology and Cultural Science, 1*(23), 72–81.

Ghvinjilia, G. (2022). *Eka Chabashvili's Symphony-exhibition Khma—the new compositional paradigm*. In Principles of Music Composing XXII: Principles of Communication (pp. 65–71).

Ghvinjilia, G. (2022). The necessity of updating the content of the study programs at Tbilisi State Conservatoire. *Journal for the Interdisciplinary Art and Education, 4*(1), 1-9. https://dergipark.org.tr/en/pub/jiae/issue/75782/1233601

Ghvinjilia, G. (2023). Transhumanism, renewed awareness, and new compositional approaches in multimedia music: A case of Georgian music. *Journal for the Interdisciplinary Art and Education, 4*(3), 147–162. https://dergipark.org.tr/en/pub/jiae/issue/79815/1352237

Gianet, E.T., Di Caro, L., & Rapp, A. (2024). *Music composition as a lens for understanding human-AI collaboration*. In Proceedings of the 1st International Workshop on Designing and Building Hybrid Human-AI Systems, Genoa, Italy (CEUR Workshop Proceedings, Vol. 3701, pp. 1–7).

Gillham, A.R. (2020). Religious experience, pragmatic encroachment, and justified belief in God. *Open Theology, 6*(1), 296–305. https://doi.org/10.1515/opth-2020-0025

Hauskeller, M. (2013). Human nature from a transhumanist perspective. An International *Journal for Philosophy, Religion, Politics and the Arts, 8*(2), 64–69. https://existenz.us/volumes/Vol.8-2Hauskeller.pdf

Hughes, J. (2011, September 1). The compatibility of religious and transhumanist views of metaphysics, suffering, virtue and transcendence in an enhanced future. Metanexus. https://metanexus.net/compatibility-religious-and-transhumanist-views-metaphysics-suffering-virtue-and-transcendence/

Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert Scale: Explored and Explained. British Journal of Applied Science & Technology, 7(4), 396–403. https://doi.org/10.9734/BJAST/2015/14975

Koch, T. (2020). Transhumanism, moral perfection, and those 76 trombones. *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine, 45*(2), 179–192. https://doi.org/10.1093/jmp/jhz040

Kotzé, M. (2020). A Christian doctrine of sin and transhumanism in the public sphere: The Promethean concern of pride. *Scriptura: Journal for Biblical, Theological and Contextual Hermeneutics, 119*(2), 1–13. https://doi.org/10.7833/119-2-1922

Levin, S. B. (2020). *Posthuman bliss? The failed promise of transhumanism*. Oxford University Press.

Mali, F. (2024). *The way transhumanism is leading to the convergence of all spheres of creative human thought*. In A. E. Schussler & M. Balistreri (Eds.), Metahumanism, Euro-Transhumanism, and Sorgner's Philosophy: Technology, ethics, art (pp. 258–269). Trivent Publishing.

Manning, P. (2013). *Electronic and computer music* (4th ed.). Oxford University Press.

Maruani, J., Lefebvre, R., & Rantanen, M. (2003). *Science and music: From the music of the depths to the music of the spheres*. In J. Maruani, R. Lefebvre, & E. J. Brändas (Eds.), Advanced topics in theoretical chemical physics. Progress in theoretical chemistry and physics (pp. 479–514). Kluwer Academic Publishers.

Meta. (2024, September). *Orion AR glasses: Augmented reality for the post-smartphone era*. Meta Reality Labs. https://www.meta.com/blog/orion-ar-glasses-augmented-reality/

Miranda, E.R. (Ed.). (2021). *Handbook of artificial intelligence for music: Foundations, advanced approaches, and developments for creativity*. Springer Nature. https://doi.org/10.1007/978-3-030-72116-9

Şakalar, A. (2024). The role of musical practices in the formation of transnational identities among migrant communities. *Journal of Music Theory and Transcultural Music Studies, 2*(2), 91–104. https://doi.org/10.5281/zenodo.15031815

Sagan, C. (1994). *Pale blue dot: A vision of the human future in space*. Random House.

Santos, L. (2023). Transhumanism and global governance of human genome editing: Common themes and implications for bioethics. *Medicine and Ethics, 34*(4), 1127–1163.

Scharmer, O., & Kaufer, K. (2013). *Leading from the emerging future: From ego-system to eco-system economies*. Berrett-Koehler Publishers.

Schussler, A.E. (2024). *An incursion into 'weak transhumanism*.' In A. E. Schussler & M. Balistreri (Eds.), Metahumanism, Euro-Transhumanism, and Sorgner's Philosophy: Technology, ethics, art (pp. 21–35). Trivent Publishing.

Severynova, M., Kharchenko, P., Chibalashvili, A., Bezuhla, R. & Putiatytska, O. (2025). Transformations of the Contemporary Art Practices in the Context of Metamodern Sensibility. *Open Cultural Studies, 9*(1), 20250053. https://doi.org/10.1515/culture-2025-0053

Sorgner, S.L. (2017). *Nietzsche, the overhuman, and transhumanism. In Y. Tuncel (Ed.), Nietzsche and transhumanism: Precursor or enemy?* (pp. 14–27). Cambridge Scholars Publishing.

Strahovnik, V., & Strahovnik, M. C. (2024). Transhumanism, human moral enhancement, and virtues. *Religions, 15*(11), 1345. https://doi.org/10.3390/rel15111345

Thomas, A. (2024). *A brief history of transhumanism and its critics. In The politics and ethics of transhumanism: Techno-human evolution and advanced capitalism* (pp. 1–31). Bristol University Press.

Titon, J. T. (2009). Economy, ecology, and music: An introduction. *The world of music, 51*(1), 5–15.

Tukova, I. (2024). Vox Humana of War: Ukrainian Art Music as a Mode of Resistance (2022–24). *Musicology Today, 21*(1), 3-11. https://doi.org/10.2478/muso-2024-0002

Tuncel, Y. (2023). Reflections on trash-humanism as performed by Jaime Del Val. *Journal of Posthumanism, 3*(2), 197–200. https://doi.org/10.33182/joph.v3i2.2968

Vita-More, N. (2008). Designing Human 2.0 (Transhuman) – Regenerative existence. *Technoetic Arts: A Journal of Speculative Research, 6*(3–4), 145–152. https://doi.org/10.1080/17493460802480446

White, J. (2021, October 3). *Toward Homo Noeticus*. Institute of Noetic Sciences. https://noetic.org/blog/toward-homo-noeticus/

Wolcott, S. J. (2016). The role of music in the transition towards a culture of sustainability. *Empowering Sustainability International Journal, 3*(1), 1–19. https://escholarship.org/uc/item/4vx624mc

Yenidogan, B. (2021, June). *How to talk about AI art and music: An ontoethico-epistemological debate between transhumanism and posthumanism*. Paper presented at the 2021 Conference on AI Music Creativity, Graz, Austria, 1–12. Retrieved from https://aimc2021.iem.at/papers/

Yudkowsky, E. (2008). *Artificial intelligence as a positive and negative factor in global risk*. In N. Bostrom & M. M. Cirkovic (Eds.), Global catastrophic risks (pp. 308–345). Oxford University Press.

Zanzarella, I. (2020, September). *The problem of musical creativity and its relevance for ethical and legal decisions towards musical AI* [Seminar paper]. PhilArchive. https://philarchive.org/archive/ZANTPO-12

Appendix 1. Opinions on Ethical Dilemmas in Transhumanistic Music (OEDTM)[7]

Opinions on Ethical Dilemmas in Transhumanistic Music (OEDTM)

Explanation: Dear student, this form has been prepared to understand your opinions on the ethical dilemmas that have emerged with the rise of transhumanistis music, that is, music produced with AI support. Please indicate your level of agreement with the statements provided. Note: Transhumanist music entity: supported by software such as AI. Please mark with an **X** in the appropriate box.
I voluntarily agree to participate in this research.
Yes ☐ **No** ☐

Dr. Gvantsa Ghvinjilia

Gender:
☐ Male ☐ Female
Degree Level:
☐ Bachelor 1st Year ☐ Bachelor 2nd Year ☐ Bachelor 3rd Year ☐ Bachelor 4th Year
Branch:
☐ Composition ☐ Musicology ☐ Performing Arts

1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

Ethical Dilemmas	Propositions	1	2	3	4	5
Ethical Dilemma 1. The Human Status of the Musician and the Creativity of the Work Is the musician a human or not? Is music human creativity? If a transhumanist entity (e.g., one with an implant or supported by AI) creates a piece of music, should we consider this a human work? Should we accept it as an expression of human creativity?	1. Music produced by a transhumanist entity can be considered human-produced.					
Ethical Dilemma 2. Fairness in the Competition Between Natural Musical Talent and Transhumanist Musical Talent If a naturally talented human cannot afford expensive new technologies, an unfair competition with Transhumanist Musical Talent arises. Which should be considered more valuable?	2. Competition between music produced by a transhumanist entity and music produced by a human is fair					
Ethical Dilemma 3. The Meaning of Art music Music has emerged from human emotions. Now that it is being imitated by transhumanist entities, should we redefine the concept of art? Is what is produced still art in its essence?	3. Even if AI-generated music is designed to optimize and imitate human emotions, it can still be evaluated as art					
Ethical Dilemma 4. Ownership of Works in Transhumanist Music Who owns the rights to newly produced music? The human, or the software system that enabled it?	4.The ownership of music produced in a transhumanist way still belongs to the human.					
Ethical Dilemma 5. Continuous Development in the Work If a transhumanist music work is created with infinite development and skills, won't natural human talent lose its value over time?	5. As music produced by a transhumanist entity continuously develops, music created through natural human talent may lose its value over time					
Ethical Dilemma 6. Manipulation of People Through Transhumanist Music With its advanced ability to manipulate human emotions, can transhumanist music be used unethically?	6.Using transhumanist music to manipulate people constitutes an ethical problem.					
Ethical Dilemma 7. Authenticity in music Performance If a transhumanist musician uses AI to perfect live performances (e.g. brain neural interfaces), is the performance still authentic?	7.A music performance enhanced by transhumanist music can still be considered authentic					
Ethical Dilemma 8. Cultural Homogenization Through Algorithmic Music Composition Will AI-generated music lead to the erosion of cultural diversity by favoring globally marketable sounds?	8.Transhumanist music will dominate music data and lead to cultural homogenization					
Ethical Dilemma 9: Emotional Labor and Empathy Fatigue If AI-generated music is increasingly used to soothe, stimulate, or heal human emotions, what happens to the role of human musicians as emotional communicators?	9. Transhumanist music will decrease the musician's role as an emotional communication, as they Transhumanists will be more able to influence human emotions					
Ethical Dilemma 10. The Responsibility for Harmful Outputs If music generated by AI (under transhumanist guidance) contains harmful content—such as reinforcing stereotypes, triggering trauma, or encouraging unethical behavior—who is responsible?	10.If transhumanist music causes harm, the human users and developers are responsible (not AI)					

[7] Verified by Tbilisi State Conservatoire's administration (Document No. 02/410)

Biodata of Author

Gvantsa Ghvinjilia is a musicologist, Ph.D., Doctor of Art Studies, and Associate Professor in the Department of Music History at the Tbilisi State Conservatoire, where she also serves as Head of the Dissertation Board. She is Editor-in-Chief of the *Journal of Music Theory and Transcultural Music Studies* (JMTTMS) and a member of the Georgian Composer's Union. In addition, she holds a guest senior lecturer position at Shota Rustaveli Theatre and Cinema Tbilisi State University. Dr. Ghvinjilia was a jury member for the prestigious Tsinandali Awards in 2022 and has been awarded scholarships from both the President of Georgia and the Zakaria Paliashvili Fund. From 2006 to 2013, she held the roles of PR Manager and Head of the Literary Department at the Tbilisi Zakaria Paliashvili Opera and Ballet State Theatre. Between 2021 and 2023, she participated in the Erasmus+ Mobility Exchange Program in Belgium, France, and Poland. She has delivered public lectures in Georgia, Belgium, Poland, and Ukraine and is a frequent contributor to Georgian television and radio as a speaker and commentator. As a music critic, she regularly writes for leading Georgian periodicals and actively participates in national and international academic conferences. Her research interests encompass the religion and music, transcultural studies, multimedia and eco music, musical culture and transhumanism.

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