# The Role of Music in Facilitating Social Connections: An Empirical Study on Genre Preferences

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**Abstract:** Music is communicative. Particularly, in the context of a digital society in which human connections have grown increasingly rare, music acts as a medium to restore human connections. In order to investigate which genre of music is perceived to the best facilitates social connections, an original questionnaire was conducted. Results show that Jazz is the most popular option among Pop, R&B, and Hip-hop, and such results indicates that Jazz could be a promising candidate for practical applications aimed at enhancing social interactions, based on subjective participant preferences.

*Keywords*: music, interpersonal relationships, synchronization, social uncertainty, Jazz

## 1. Introduction

The arrival of the digital age has drastically altered the forms of human connections. The variety of emerging technologies has imprinted the appearance of a faster-paced society and life-work balance in the hearts of many. From the analog world defined by the plain yet beautiful interactions between individuals to an era of digital revolutions comprised of virtual and media spaces, humans' quotidian life experiences have been immersed in a new reality, a new reality significantly dissimilar from the habitual realities in which people have lived for thousands of years[1].

Embracing the omnipresence of information communication technologies (ICTs) that have slowly penetrated into the journey of human existence, individuals begin to find themselves situated in sophisticated shells that increasingly confine them in their own spaces. Individuals begin to lack the inspiration nor motivation to recover the human interactions in their most original and most genuine manners: the explicit usage of cell phones on the streets detaches individuals from their ability to care for the people around them in depth; the scanning of QR codes in restaurants diminishes the exuberance of the dining rooms, leaving waiters less of a social need; social medias and AIs seem to be granting individuals with the ability to have entertainment alone, but they, in reality, decreases individuals' desire for outdoor assemblies and socialization. These ramifications create a vast sense of loneliness, isolation, and lack of true belonging under the facade of digitization glory. However, regarding these ramifications, one entity and its intersections with psychology and communications may offer a plausible antidote: music.

Music is communicative; As Wilfram and Elefant argue (2009, p. 442), "music is an universal form of communication that has the capacity to overcome linguistic, physical, mental and cognitive barriers to understand others"[2]. In particular, the power of music to surpass physical barriers is especially significant in alleviating the isolation between individuals, for music serves as an exceedingly powerful point of connection in psychology and communication studies. In terms of cognitive researches, music manifests one's process of understanding pattern and rhythm as they hear sounds, achieving entrainment, the process of one being in-sync with the mental state and physical energy of another. In terms of reciprocal determinism, in which the individual and the environment mutually determines their relationships with one another, music, people, and the particular social context achieve reciprocal determinism together, leading people to having much more agency in social situations. What's more, music can serve to address social uncertainty, which refers to the idea of floating intentionality.

This paper aims to understand the extent to which music strengthens analog connection between individuals, and, in particular, which genre of music achieves this purpose the best through research. The paper first begin by elaborating the psychological functions mentioned above. Second, four styles of music - Pop, R&B, Jazz, and Hip-hop - are considered; surveys with questions inquiring these music and their impact on facilitating the connections between individuals during authentic social settings are spread for data analysis. In the end, the paper mentions potential applications, limitations, and future directions for further research.

# 2. Theories and Key Ideas

Music is a fundamental channel of communication: it provides a means by which people share emotions, intentions, and meanings[3]. In the digital world, music can be a powerful tool to extend analog connections that have become rare. The following ideas and their relevant portrayals of music's psychological functions particularly support the broader theme why music can serve to facilitate in-person connections.

## 2.1 Cognitive Science, Rhythmic Synchronization, and Entrainment

Most of the experimental works on music that has been conducted

come from the perspective of the cognitive sciences[4]. Cognitive science specifically addresses the rhythmic and contextual aspect of music, pinpointing to music's function for communication. When music is played while more than two individuals are present (both in one-to one and group setting), individuals unconsciously synchronize their movements with one another as they process the beats and patterns they hear[5]. Music provides something that individuals can connect and synchronize to; as a result, mirror neurons fire, and mimicry occurs. As a result, synchronization generates positive feelings, leading to better connection and communication. The process of synchronization also refers to "self-others merging", when the activation of neural networks is occurring simultaneously in both the self and others[6].

In addition, active engagement in musical activities increases the release of dopamine and endorphin, two important hormones in generating pro-social feelings in conjunction with synchronization. Dopamine directly associates with positivity, emotional stability, and relaxation, and endorphin (a kind of opioid) associates with pain killing and pain threshold. Boecker found that elevated opioids are correlated with feelings of euphoria: the release of endorphin raises pain threshold in humans, elevating the mood of individuals and decrease their stress during social situations[7]. Through regulating the hormonal mechanisms of the nervous system, music works towards opening communication and cultivating positive relationships between individuals.

Finally, as music embodies the features of communication and acts as a point of connection, music associates to the psychological phenomenon named entrainment. Entrainment refers to different layers of synchronization between individuals or groups beyond the physical level; it refers to the mental energy and memory outcomes of individuals. Music's key property during social interaction describes the capacity of an individual to keep their own judgment for a particular situation while being in alignment with others: musical events have meanings that are both shared and yet are intensely personal and idiosyncratic, but any tension between mutual and personal meaning is neither expressed nor shared, leaving the mutual enjoyment of the moment between individuals. For example, X feels energized from one song, but Y feels calm from the same song. Yet, both X and Y feels enjoyment from the song they adore. As a result, music and its rhythmic pattern become the physical aspect of entrainment, and the "mutually shared" property of music becomes the mental aspect of entrainment. What's more, according to Ian, after such social contexts when music created pro-social tendencies, individuals' memories of each other are likely to be heightened: they are likely to experience an enhanced sense of mutual affiliation with each other, which is the "memory" aspect of entrainment[8] . Thus, as music evokes entrainment, music provides opportunities for restoring connections through physical, mental, and memorial aspects.

## 2.2 Floating Intentionality & Reciprocal Determinism

Floating intentionality is a phenomenon in psychology that describes a similar key music property with entrainment. Floating intentionality refers to the paradox that when individuals engages with music, all individuals form an immediate connection with music that changes their state of mind. However, if individuals are asked to elaborate on the specific changes in their minds they made, they often cannot elaborate on a detailed level. Even if that specific meaning is elaborated, it varies from person to person. Since music can evoke immediate emotional changes on a broader scale while ignoring the the details, music becomes communicative. In other words, each interacting individual can interpret musical meanings more-or-less entirely idiosyncratically without necessarily coming into conflict with the interpretations of others while still being connected. Through this way, music is an optimal medium for managing social uncertainties and enhancing mutual affiliations between individuals.

Reciprocal determinism is a social cognitive theory first proposed by psychologist Bandura (1986). Reciprocal determinism, or the triadic reciprocal causation, describes the transactional relationship between self and society that is based on three major elements – behavior; internal personal factors (cognitive, affective, and biological events); and the external environment [9]. Each of these elements have the power to mutually influence one another, and individuals thus act and behave based on their environment and their internal values. In the context of music, there are three similar elements that function the same way as reciprocal determinism: the people, the music itself, and the social context in which the music occurs in. A variety of interactions would occur between these three elements, such as the kind of people defining the social setting or

the type of music that alters the atmosphere between individuals. However, in all these interactions, music becomes a part of the social interaction and a part of human connection, acting as a lubricant in social situations managing social uncertainties (i.e. floating intentionality).

All theories mentioned above — synchronization, entrainment, floating intentionality, and reciprocal determinism — portray the significant role of music in activating or promoting social connections. In particular, each of these theories pinpoints one or more aspect of interpersonal connections, such as physical, mental, or behavioral, and they unction in conjunction with one another to achieve social interactions as a whole. While these mechanisms explain how music in general facilitates connection, they do not examine whether different genres—by virtue of their distinct rhythmic structures, harmonic complexity, and cultural associations—differentially engage in these psychological processes. This study aims to empirically explore these potential genre-specific effects.

## 3. Research and Methods

In order to investigate which genre of music best achieves the purpose of facilitating interpersonal connections and eliminating isolation in social contexts, an original eight-question questionnaire titled "Music Psychology and Interpersonal Relationships Investigation" is published.

To begin with, each question simulates a real social situation, aiming to encourage the respondents to think and reflect on their experiences. For example, one question asks, "you are eating dinner with a group of family friends and distant relatives whom you are not particularly close with", which portray the kind of awkwardness one would authentically experience or have experienced. Or for instance, question 2 asks, "you met a new friend through the internet, but your first meeting together felt tense," which captures how individuals navigate relationships now under the broader context of the digital age.

In addition, each question is followed by a 30-second audio composed of 4 different song snippets. Each song snippet is around 6 to 8 seconds, and the 4 song snippets are arranged in the order of Pop, Jazz, R&B, and Hip-Hop. The songs used in each question are distinctive from the songs in the next question; therefore, there are 32 songs in total chosen all because of their popularity, and these thirty two songs encompass a diversity of music genres and artists such as Charlie Puth (Pop), Strasburg/St. Denis (Jazz), SZA(R&B), and NCT (Korean Hip-Hop).

Then, each question is followed by a line of instruction that asks the respondents to choose one song out of the four that they believe best achieves the task given. For instance, one instruction asks: "From the following snippets, choose ONE song that can best relieve social awkwardness and evoke your will to initiate a conversation with others." In this case, the task given to the respondents is to "relieve awkwardness and initiate conversation." Based on their personal preference and experiences, they can only choose one song. Other tasks of the survey include but not limited to "relax your mind," "alleviate the tense atmosphere," and "build the courage to meet new people".

Finally, alongside with the eight questions that describes real-life scenarios, the questionnaire asks the respondents to report their age groups (under 18, 18-29, 30-49, 50 above) for cross-sectional analysis. The survey was randomly distributed spread through the internet, and the survey was open for a three-day duration, ultimately reaching 602 individuals.

## 4. Data Analysis & Presentation of Results

Throughout the questionnaire, Jazz is the most popular choice among the 602 individuals — it is the most selected genre for three questions out of the eight (3/8 of the questionnaire), scoring as the most preferred genre of music to facilitate social connections within social situations. The second most popular genre is Pop and R&B, both score two questions out of the eight. The least popular genre of music is hip-hop, which is only selected for one question out of the eight.

It is particularly noteworthy that within these three questions that Jazz is the most selected, Jazz also possesses a significant advantage over other genres, which demonstrates individuals' inclination towards Jazz music. For example, from the pie chart shown in Figure 1, Jazz is the top choice for 43.69% of the total respondents, which is around 263 individuals. In addition, The percentage of respondents who chose Jazz is almost double the amount of Pop, which is 25.91%, and R&B, which is 26.91%. The bar chart in Figure 2 further exhibits this tendency, for the bar for snippet two is significantly taller than the others.
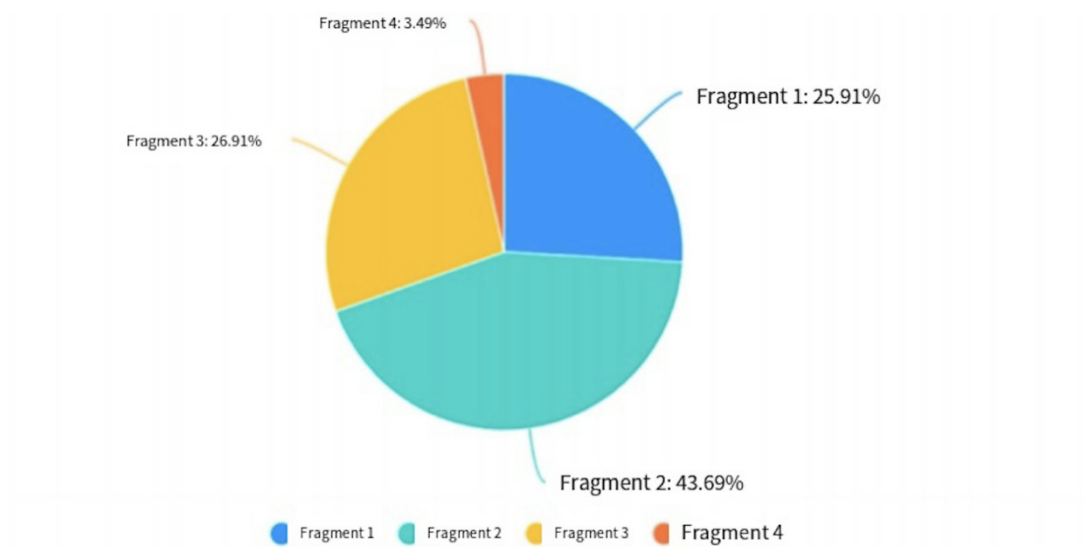
**Figure 1. Result A of the questionnaire (Blue or Fragment 1 is Pop; Cyan or Fragment 2 is Jazz; Yellow or Fragment 3 is R&B; Orange or Fragment 4 is Hip-Hop)**
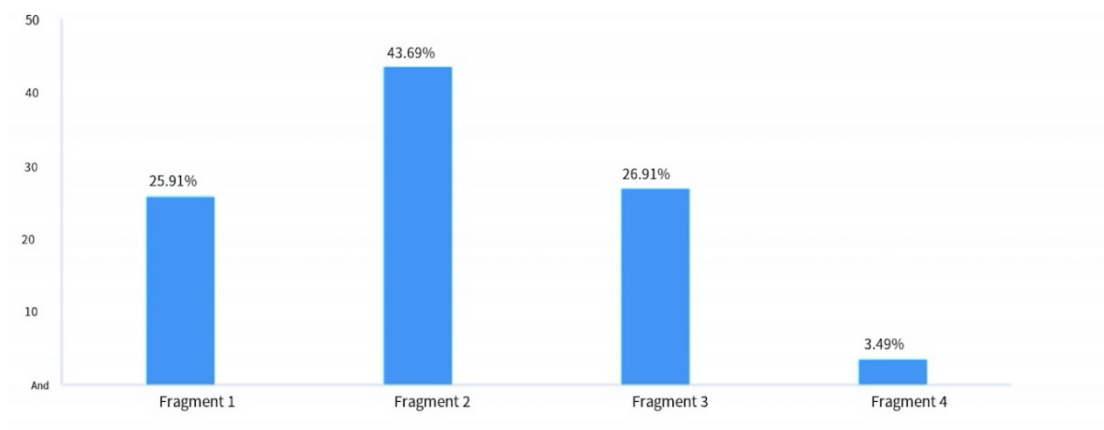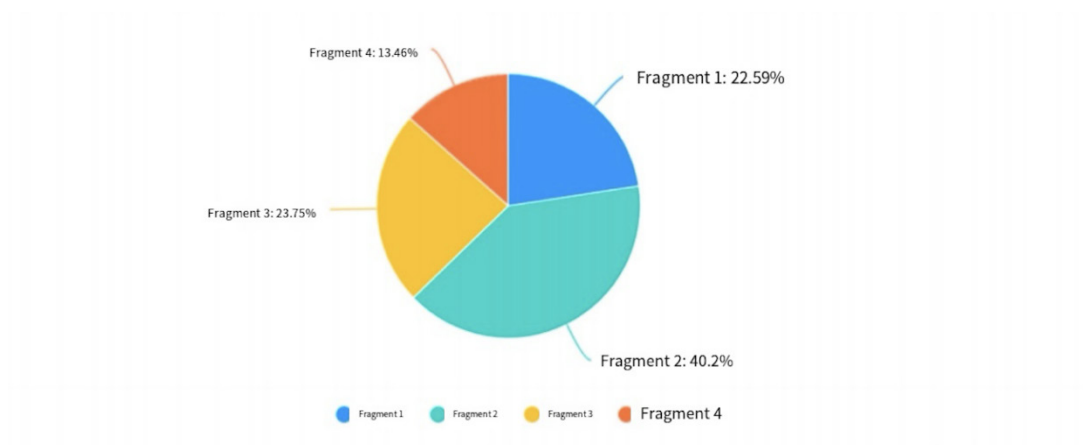


**Figure 2. Result B of the questionnaire (Fragment 1 is Pop; Fragment 2 is Jazz; Fragment 3 is R&B; Fragment 4 is Hip-Hop)**



**Figure 3. Result C of the questionnaire (Blue or Fragment 1 is Pop; Cyan or Fragment 2 is Jazz; Yellow or Fragment 3 is R&B; Orange or Fragment 4 is Hip-Hop)**
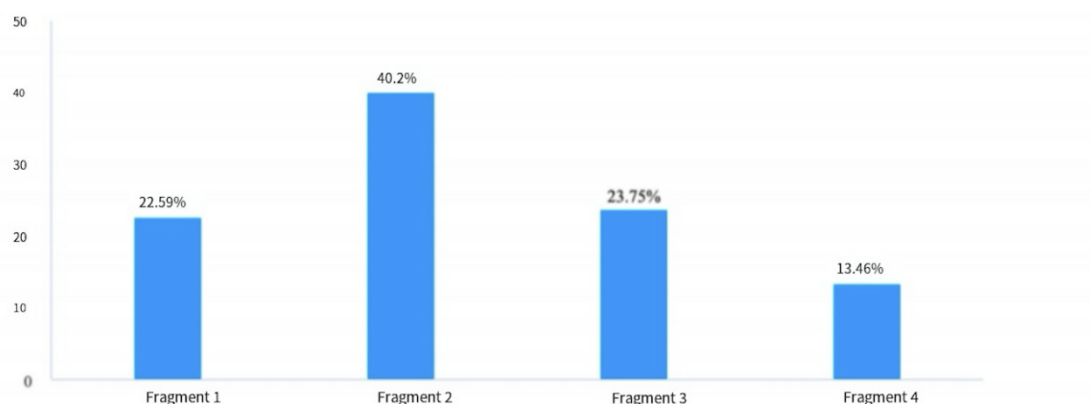
**Figure 4. Result D of the questionnaire (Fragment 1 is Pop; Fragment 2 is Jazz; Fragment 3 is R&B; Fragment 4 is Hip-Hop)**

Figure 3 and Figure 4 illustrate two other charts for a different question. In this case, Jazz is the top choice for 40.2% of the respondents, which amounts to 242 individuals. Others genres score somewhere ranging from 10% to 25%, which is significantly smaller than 40.2%.

One benefit of this questionnaire is its inherent interactive nature. The audio embedded in each question provides agency for the respondents, making the questionnaire not only fulfilling to complete, but triggers the respondents to reflect deeply. What's more, the questionnaire boils down the abstract idea of "how music facilitate communication and social connections" into concrete scenarios, making the questionnaire straightforward for comprehension and completion.

Nevertheless, as one look at the cross-sectional analysis between different age groups, there lies a potential divergence between those who are under eighteen and those above: although observing the 602 respondents as whole, one can easily spot that Jazz is the most popular option, the 21 individuals under eighteen chose Pop as the genre they prefer. Pop is selected for three out of the eight questions, while jazz scores two, R&B scores two, and hip-hop scores none. In the remaining one question, Pop and R&B have a tie, both receiving 7 votes. Figure 5 and Figure 6 demonstrate the percentages for pop (38.1%, 42.86%, respectively) in contrast to the other smaller percentages. However, this result cannot be treated as official and be applied at this moment, for the sample size is far too low to be considered.
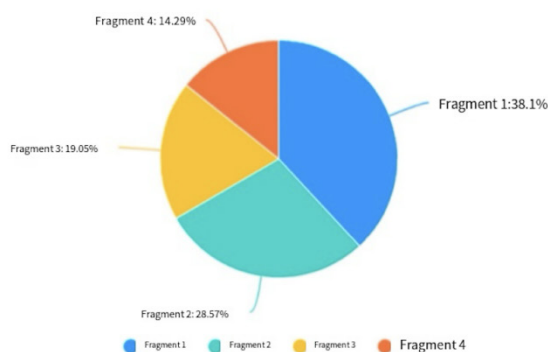


**Figure 5. Result E of the questionnaire (Blue or Fragment 1 is Pop; Cyan or Fragment 2 is Jazz; Yellow or Fragment 3 is R&B; Orange or Fragment 4 is Hip-Hop)**
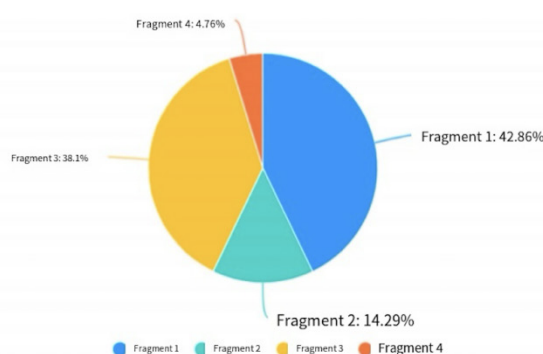


**Figure 6. Result F of the questionnaire (Blue or Fragment 1 is Pop; Cyan or Fragment 2 is Jazz; Yellow or Fragment 3 is R&B; Orange or Fragment 4 is Hip-Hop)**

# 5. Conclusion

Predictions can be made regarding why Jazz is selected for the genre of music best suited for social connection, with Pop as the second. Jazz music is often defined by words such as "laid back", "chill", "soothing," and "alleviating", which suits well for feelings of stress or isolation that need relaxation and comfort to be neutralized. Within social situations, Jazz is only adds positive presence without being excessively noisy. The results from this research can be potentially applied to more daily life contexts, or reinforce existing customs. Playing jazz music in diners is already relatively common. However, Jazz music could now also be played in waiting rooms, professional meetings, field trips, and much more social situations where support for fostering social connections is needed.

However, major limitations exist in this research. First, subjective preferences do not mean objective effects. The questionaire asks the participants to choose the music they believe is the most effective, but in reality, that genre of music may or may not be the most effective. Thus, further research is needed on practical field experiments. Second, the specific psychological and musical reason why Jazz is selected as the most popular genre of music remains unknown. Third, the question "do certain genre of music facilitate a certain psychological function better than other genres of music" remain unexplored. For instance, is Jazz better at completing entrainment, while Pop is better at achieving reciprocal determinism? Overall, based on these limitations, this study should be treated as the beginning of of the academia's journey on exploring the role of music in interpersonal.

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