

The Influence of Music on Prosocial Behavior

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Abstract. Music is a universal part of human experience and has the power to affect individuals' emotions, thoughts, and behavior. Recent studies indicate that music may also be able to promote prosocial behavior—those aimed at benefiting others, such as helping and cooperating. Specifically, music may alter emotional states, which in turn affects prosocial tendencies and behavior. While research on factors influencing prosocial behavior has extensively explored factors like empathy, moods, and situational factors, music's impact has been underexamined. The current paper aims to review six influential papers in the literature that have explored music's effect on prosocial behavior. Studies show that uplifting or soothing music can increase helping behaviors, while annoying or disliked music may hinder them. Additionally, songs with prosocial lyrics can enhance empathy and foster cooperative behavior. Nonetheless, the relationship between music and prosocial actions is complex, with some studies reporting inconsistent or contradictory findings. Future research should examine how different types of music and emotions interact to influence prosocial behavior, accounting for contexts, cultural variations, and individual differences.

Keywords: Music, prosocial behavior, prosocial lyrics, emotion.

1. Introduction

Music is a universal experience for all human beings. For a long time, different regions and cultures have created different kinds of music. Depending on the texture, modes, tones, and harmonies, music can convey different types of moods, emotions, and thoughts. Meanwhile, scientific research has also found that music has a prominent psychological and physiological impact on human beings. For example, in a number of previous psychological studies, researchers have found that music can induce both positive and negative emotions and change people's behavior [1-3]. More intriguingly, certain psychologists have begun to delve into a topic of interest that has long been underexplored, that is, how music influences prosocial and altruistic behavior. Prosocial behavior has been an important component of social psychology and is commonly defined as behaviors that are intended to benefit others, such as helping, sharing, and cooperating. A number of factors that affect prosocial behavior have been extensively examined by researchers. These include personal factors such as moods and empathy, and social and situational factors such as the interpretation of others' needs, the cost of helping, and the relationship to others [4]. Music is not one of these extensively studied factors, as it is not always a present or relevant factor in a prosocial scenario. However, because music is indeed a common experience in people's daily lives, it is highly likely that when a prosocial opportunity occurs, music is present. Understanding music's effect on prosocial behavior can offer valuable insights into how its power can be utilized to enhance social cohesion and well-being. This knowledge can be used to help induce more positivity in society, increase the occurrences of prosocial behavior, and avoid situations that foster negativity. Therefore, the focus of the current paper is to present a literature review of existing studies that have explored music's effect on prosocial behavior. A total of six influential studies on the topic are examined.

2. Impact of Music on Prosocial Behavior

The earliest and most direct evidence that music can influence prosocial behavior came from Fried and Berkowitz [5]. In this study, eighty university students, half men and half women, were randomly assigned to one of four experimental conditions. Three groups listened to a seven-minute musical piece, categorized as either soothing, stimulating, or aversive, while the fourth group was not exposed

to any music and remained seated quietly. The mood ratings revealed that the soothing and stimulating music induced different types of positive emotions, whereas the aversive music triggered negative feelings. Participants who listened to the soothing music were the most likely to engage in helpful behavior (offer help to the experimenter in need) immediately after the experiment, significantly more so than those who listened to aversive music or no music at all, potentially due to the thoughts and emotions that the soothing music inspired. The findings from Fried and Berkowitz's study have important implications for understanding the effect of music on prosocial behavior [5]. The fact that soothing music led to more helpful behavior than either aversive music or no music at all indicates that music has a strong power on inducing emotional states and can directly influence social behavior. This study set the foundations for the studies that followed.

In Fried and Berkowitz, the researchers decided the kind of music that was soothing, stimulating, or aversive [5]. However, music can be variously defined. Traditionally, music can be as simple as a monophonic melody. Typically, music is constructed based on elements such as harmony, melody, meter, rhythm, tempo, and pitch. Nowadays, music can be atonal, lacking a conventional melody, or it can be sounds from the nature, lacking several of the elements aforementioned. Depending on personal preferences, every person might emotionally resonate with a different kind of music, that is, their "chill-inducing" music which leads to affective changes such as tears, shivers down the spine, or goose bumps [6]. In a double blind experiment, Fukui and Toyoshima recruited 22 participants from a Japanese university to test whether chill-inducing music would have a positive influence on altruism, using a dictator game [7]. During the experimental sessions, participants were exposed in randomized order to music that they perceived as chill-inducing, music that they disliked, or simply silence, and were then instructed to play the game in which they distributed money to themselves and a recipient, for a total of 12 sessions. Even though the dictator games were hypothetical situations, the researchers found that participants were significantly more likely to display altruistic behavior when they listened to chill-inducing music, meaning they gave more money to the recipient. Participants were also significantly less likely to display altruistic behavior after they listened to disliked music. Silence had no significant effect on the amount of money that the participants allocated to themselves versus the recipient. This research provides direct evidence that people are more likely to demonstrate prosocial behavior when they listen to music that they prefer or are more emotionally connected to. Meanwhile, it is shown that music can also activate selfish behavior, in this case giving less money to the recipient in the dictator games. These results highlight that different music can create distinct effect on people's moods and prosocial tendencies.

Another complementary evidence to these findings comes from North et al. [8]. In a university gym, the researchers played 646 gym goers either uplifting music or annoying music while they were working out. After the participants were done with their workout and before they left the gym, the researchers asked them to either complete either a low-cost helping task (signing a fictitious petition that aims to support disabled people's access to sporting opportunities) or a high-cost helping task (helping to distribute leaflets that aims to support disabled people's access to sporting opportunities). Participants in the high-cost condition were also asked to choose the number of leaflets they were willing to distribute from the options of 50, 100, 150, 200, and 250. It was found most participants in the low-cost condition agreed to sign the petition regardless of the kind of music being played in the gym. However, it was found that participants assigned to the high-cost condition were more willing to help distributing leaflets when they were exposed to uplifting music, while the ones exposed to annoying music were less likely to help out. Compared to Fukui and Toyoshima whose study was conducted in a laboratory environment, North et al. conducted their study in a natural environment. Because participants in the former research were each exposed to three different conditions and repeated the sessions 12 times, they were more likely to spot the purpose of the study and as a result more subject to participant bias. On the contrary, participants in the latter study were less likely to guess the purpose of the study because it was done in an everyday environment. As a result, North et al. provided extra ecological validity to the found effect of music on prosocial behavior. Besides, while Fukui and Toyoshima only had 22 participants in their research, North et al. had a much greater

number of 646. This large participant pool adds to the overall validity of the findings and the research. Overall, these two studies both provide solid evidence on music's effect on prosocial behavior, with their respective strengths.

3. The Effect of Music with Prosocial Lyrics

From ancient times to current times, lyrics have always been an important element in a variety of genres, expressing the thoughts and feelings that the creators have in mind. Most of the music that the general public listens to today have lyrics. As a result, other researchers have also delved more specifically into the effect of music with prosocial lyrics. Greitemeyer conducted three experiments to test the impact of songs with prosocial lyrics on prosocial thoughts, affect, and behavior [9]. The first experiment tested the effect of prosocial songs on prosocial thoughts. Thirty-four participants were randomly assigned to either the prosocial song condition or the neutral song condition. After listening to the song in their respective conditions, the participants completed a word completion task. It was found that the participants in the prosocial song condition were more likely to come up with a prosocial word for the word completion task than those in the neutral song condition. This means that prosocial songs enhanced the accessibility of prosocial words in participants' minds. The second experiment tested whether prosocial songs increased people's empathy, one of the most important contributors to prosocial behavior. In this experiment, 38 participants listened to either prosocial or neutral songs, and were instructed to read two essays that aimed to induce empathy. Participants then rated their sympathy and compassion levels towards the authors of these two essays. The researchers found that participants in the prosocial song condition demonstrated significantly higher levels of empathy compared to those in the neutral song condition. This finding indicates that prosocial music helps to satisfy an important condition for helping behavior. The third experiment tested whether prosocial songs indeed increases prosocial behavior. A total of 90 participants were recruited. Most of the experimental procedures remained the same, except that the participants were given an actual helping task after listening to the music. As predicted, the participants who listened to prosocial songs were more likely to help than those who listened to neutral songs. Overall, these three experiments by Greitemeyer demonstrates that prosocial songs not only enhance prosocial thoughts but also increase empathy—an essential precursor to prosocial behavior—and ultimately lead to more helping behavior. This suggests that music with positive, prosocial lyrics can be a powerful tool for encouraging cooperative and compassionate behavior in listeners. This research also enhances the validity of the previous three research by specifically exploring music with lyrics.

4. Contradictory Results of the Association between Music and Prosocial Behavior

Nevertheless, other researchers in the field have found some contradictory results. In Gancer and Huda, 97 participants were recruited for the study. They were randomly assigned to one of the five experimental conditions, music with prosocial lyrics, music with antisocial lyrics, uplifting music, annoying music, and no music [10]. After listening to the music, the participants completed a series of questionnaire measures (e.g. measurement of mood) and filler tasks. The real helping task came after and was not announced to the participants in order to avoid participant bias. Each participant was given an envelope containing five dollars and was told that they could leave any amount that they want for a donation for United Way. It was found that participants in the prosocial lyrics and uplifting music condition both experienced an increase in positive mood scores and decrease in negative mood scores. Participants in the antisocial lyrics and annoying music condition both experienced an increase in negative mood scores and decrease in positive mood scores. However, the researchers found no statistical significance for helping behavior based on different conditions. This finding runs contrary to the findings in both North et al. and Greitemeyer [8, 9]. These discrepancies highlight the nuanced and potentially context-dependent nature of music's influence on prosocial

actions. One implication is that while music can reliably influence mood, this does not always translate directly into prosocial behavior. The difference in outcomes might be due to variations in study design, the nature of the helping tasks, or the specific content and delivery of the music used. For instance, the donation task in Gancer and Huda's study, being unannounced and involving monetary decisions, might appear as a higher-cost helping task compared to the more immediate helping tasks used in other studies. Overall, the lack of significant results in Gancer and Huda's research suggests that prosocial behavior may not be solely dependent on mood enhancement by music or the type of lyrics in music but could also be influenced by other factors.

Besides, there also seems to be inconsistency in results found on whether negative moods induced by music can help to induce helping behavior. Past studies have suggested that both positive and negative moods are able to encourage altruistic behaviors, but the outcomes vary based on the specific circumstances [11]. North et al. and Fukui and Toyoshima both found that music-induced negative mood could hinder prosocial behavior [7, 8]. However, a more recent study by McDonald et al. found that even though emotional music coupled with emotionally negative video induce negative moods, the combination actually increases prosocial decision making [12]. This result suggest that different kinds of negative emotions induced by different kinds of music – such as sadness versus frustration – might have distinct effects on prosocial behavior. Music negative in nature might not always cause a decrease in prosocial intentions. What really matters might be the kind of emotions being induced by the music being played.

5. Conclusion

Overall, the exploration of music's impact on prosocial behavior has yielded complex findings. The studies reviewed demonstrate that music, with or without lyrics, can influence one's emotions or moods and in turn influence prosocial behavior. Generally, it is shown that music positive in nature (soothing, chill-inducing, or uplifting) has a boosting effect on people's tendency to display prosocial behavior. However, the effects are not always straightforward or consistent, as evidenced by the varied results across different experiments. For example, while some studies like those by Fried and Berkowitz and Greitemeyer show a clear link between positive or prosocial music and increased helping behaviors, others, such as the research by Gancer and Huda, fail to find statistically significant connections. This inconsistency suggests that the relationship between music and prosocial behavior might be multifaceted, influenced by factors such as the type of music, the specific emotions it elicits, and the context in which it is experienced. The discrepancies in findings also highlight the importance of considering the nature of the negative emotions induced by music. For instance, while North et al. and Fukui and Toyoshima found that negative moods could hinder prosocial behavior, McDonald et al. discovered that negative emotions elicited by a combination of emotional music and visuals could actually enhance prosocial decision-making. This suggests that not all negative emotions have the same effect. Certain types of negative feelings, such as shared sorrow, might even promote altruistic behavior. Therefore, the emotional nuances of music must be carefully considered when evaluating its potential to influence prosocial behavior.

Given these findings, future research should focus on several key areas. First, researchers can explore deeper into the specific types of emotions that different kinds of music can induce and how these emotions interact with prosocial behavior. Researchers should also investigate the role of context, examining how situational factors, such as the environment or the nature of the helping task, influence the relationship between music and prosocial behavior. Moreover, future research should also investigate helping behavior in contexts in which music is more consistently experienced. Would music have greater effect on prosocial behavior if the exposure time is longer? Perhaps longitudinal studies could further reveal the long-term effects of consistent or regular exposure to certain types of music on prosocial tendencies. For example, if one is exposed to uplifting music on a daily basis, would it be reasonable to assume that the music played would have a consistent boost on his/her daily moods, which in turn leads to more prosocial behavior? Furthermore, researchers should examine the

contradictions between lyrics and other musical features. Would prosocial lyrics in this case still have a positive effect on helping behavior, or will annoying music decrease people's tendency to help? Finally, another important direction for future research is to explore the role of individual differences, such as personal music preferences and cultural background, in shaping how music affects prosocial behavior. Understanding these individual and cultural variations could allow for more personalized and effective uses of music in promoting social cohesion and altruism. Overall, while the existing body of research on music's effect on prosocial behavior provides a range of meaningful findings, it also reveals the need for a more detailed and specific understanding of how music can be used to foster positive social behaviors and a positive social environment.

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