Examining Social Aspects of Music via Attraction and Losses During COVID-19

Olivia Jewell

Department of Psychology

Goldsmiths University of London

Thesis submitted for the degree of Doctor of Philosophy

March 2023

Declaration of Authorship

I, Olivia Jewell, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed:

Date: 15 March, 2023

Acknowledgements

I would like to thank my supervisors Professor Lauren Stewart and Professor Keon West, for their support, guidance, and patience over the past three and a half years. Working with you has been such a valuable learning process and I know that through your feedback I have grown in unmeasurable ways. I also want to send a special thank you to Dr. Jacques Launay for working with me as an additional supervisor for the past three years. I appreciate the hours and energy you have volunteered during this process. I'd also like to thank Dr. Nick Ruth for helping with my qualitative research, data-coding during countless meetings, and overall being a supportive friend.

To all of my family and friends, both named and unnamed: I appreciate everything you have all done; I know it has been a long process. Space prohibits my ability to name each of you individually, but please know that your help and support have been invaluable. However, there are a few people I'd like to call out specifically:

I want to send a very special shout-out to my "London Ladies," (you know who you are) without whom I never could have survived this process. Thank you all so much for your unconditional support, kind words, validation, and vent-sessions. To my amazing Aunties Teresa, Cynthia, and Helen: thank you all for your advice, feedback, love, and support over the past several years. To my Grandma Frony I'd like to extend special thanks for the hours of help with statistics, for volunteering to proofread my thesis, and for the many meetings we had going through everything line by line. To my G-Pa: thank you for inspiring in me a lifelong love of both psychology and music. It has been an honor to follow in your footsteps, and I will proudly carry on the name of "Dr Jewell."

Last, but most certainly not least, I want to thank my parents. Dad, I know you'd be proud of how far I have come, even if you aren't here to see it in person. I love you and miss you every day. Mom, there are no words that can adequately summarize how much you have done for me over the past several years. Between frantic and anxious phone calls, to lots of laughter both home and abroad, to help with heating bills and teaching advice, you have been an invaluable presence throughout this whole process (I'm not crying, you're crying).

It has been quite the journey, thank you all for the help and encouragement along the way.

Abstract

This thesis explores two distinct aspects of the association between music and social relationships. The first part of the thesis focuses on Question 1, which is how does music preference influence attraction towards a new person? The first three studies established that music preference and political orientation are associated, that there are clear stereotypes about what music liberals versus conservatives like, and that these are a partial reflection of music preferences in the real-world. Studies 4 and 5 established that music preference similarity influences social attraction independently of political orientation similarity. Because of the apparent stereotypes about what liberal versus conservative individuals like to listen to, Study 6 examined whether alignment with these stereotypes was necessary for music preference to influence social attraction. Results indicated that music preference similarity influenced social attraction independently of political orientation similarity and independently of whether the target aligned with stereotypes. These results suggest that it is possible that having similar music preferences can facilitate social attraction between strangers, even when there are salient differences in other attributes. The second part of the thesis focused on Question 2, which was What do people miss when they are not able to engage in in-person group singing due to the COVID-19 pandemic? Study 7 compared singing groups with other kinds of group activities for what participants missed; Study 8 used an interview format to ask participants what they missed about in-person rehearsals in detail. Results of these two studies indicate that the in-person element of choir rehearsal cannot be substituted with an online format, partly because being able to hear others' voices in the same space is a central aspect of the experience. Overall, the findings of this thesis illustrate some of the many social benefits of music and can help shed light on ways music can be used to bring people together.

Contents

List of Figures

List of Tables

Chapter 1 – Introduction and Literature

Research on music and psychology has found that music can be a highly social phenomenon. Some of the social functions of music include displaying one's identity and getting to know new people (Frith, 1981; North et al., 2000; North & Hargreaves, 1999; Perkins et al., 2020; Schäfer & Sedlmeier, 2009) as well as facilitating attraction and positive feelings towards others (Bakagiannis & Tarrant, 2006; Boer et al., 2011; Launay & Dunbar, 2015; Selfhout et al., 2009). Additionally, studies have discovered a variety of benefits which result from group music-making, such as emotion regulation, bonding with group members, increased mood, and reduced stress (Clift et al., 2010; Dingle et al., 2013; Judd & Pooley, 2014). Further research has found evidence that it is the *social* aspects of group music-making that help impart these benefits (Creech et al., 2013; Good & Russo, 2021; Schladt et al., 2017; Specker, 2014). This thesis explores two distinct social aspects of music: how does music influence attraction towards others, and what do participants feel is lost from the group singing experience when they are no longer able to participate in person.

The first set of studies explores the relationship between shared music preference, political orientation, and attraction under the circumstances of learning about someone for the first time. Research shows that similarity across a variety of different attributes can facilitate attraction towards a stranger (Byrne, 1961a; Byrne & Clore, 1966; Montoya & Horton, 2013). Political orientation and music preference are two attributes that appear to facilitate attraction and which also correlate with one another (Bakagiannis & Tarrant, 2006; Boer et al., 2011; Fox & Williams, 1974; Huber & Malhotra, 2017). Over six studies, this thesis examines whether individuals make assumptions about a relationship between music preference and political orientation, establishes whether music preference and political orientation have independent influences on attraction towards another individual, and tests whether music preference can facilitate attraction even when unaligned with previously

established stereotypes. This research has implications for understanding how shared music preference may facilitate attraction across salient differences and expands the extant literature on attraction overall. In contrast, the second set of studies examines how the social aspects of singing together may impart benefits on members by asking participants what they missed most about their groups when they were no longer able to participate in person due to the COVID-19 pandemic and subsequent lockdown. The overarching goal of this research is to explore how music helps people connect with one another both via music preferences and via music-making, to better understand some of the social benefits of music. The first section in this thesis explores research surrounding similarity and attraction in general before taking a more detailed look at music preference and attraction.

Key Terms

Because this thesis captures so many areas of research, before examining the literature, it is important to highlight some of the key terms and concepts that will be used. Each of these terms relates directly to the social benefits of music as are discussed in the thesis. The definition of attraction helps illustrate how the thesis will discuss the ability for shared music preferences can bring people together by potentially facilitating friendships. The terms relating to political orientation provide context for a variable that appears to strongly correlate with music preferences. Additionally, this section defines how terms around shared music preferences will be used throughout the thesis. Finally, the concept of stereotypes is included to illustrate that music preference can facilitate attraction, even when previously established stereotypes are not conformed to. This shows that one potential social benefit of music making is the ability for music preferences to bring people together despite potential differences between them. The literature below describes some of these terms in more detail, however here is an initial introduction.

To begin, interpersonal attraction is a central theme of this thesis. Likely the most notable research into interpersonal attraction began with Byrne (1961, p. 713) who initially defined attraction by stating that "attraction between persons is a function of the extent to which reciprocal rewards are present in their interaction." He later specified that "interpersonal attraction is a construct referring primarily to an individual's affective evaluation of another individual" (Byrne & Griffitt, 1973, p. 318). For this thesis, the concept of attraction is based on this second definition and refers to the degree to which participants feel positively about a target individual. The measures used in the thesis, which elaborate on the concept of attraction, are described later in the literature review.

To turn to some of the political terminology used, Studies 4-6 below include mention of a target person's membership in a British political party, either Labour or Conservative. While political party membership is not always the same as identification with one side of the political spectrum versus the other, research has found that political party membership is one of the largest factors contributing to where an individual places themselves on the left-right spectrum (Peral & Calvo, 2022). Thus, it did not seem inappropriate to specify the target's membership in a political party while simultaneously asking participants where they felt they landed on the Left-Right political spectrum. Sanity checks were also conducted to ensure that participants felt they were politically similar or different to the target as might be predicted (e.g., those who placed themselves on the left side of the political spectrum felt more similar to the target when she was a member of the Labour party versus the Conservative party).

Additionally, much of the research into psychology and politics frequently use the terms *liberal* and *left-wing* interchangeably, and similarly use *conservative* and *right-wing* - interchangeably (Arian & Shamir, 1983; Thomsson & Vostroknutov, 2017). For the purpose of consistency participants who identify as being on the Left side of the political spectrum are

referred to as *Liberals* and participants who self-identify as being on the Right side of the

political spectrum are referred to as *Conservative.*

Moving on to consider how music preferences will be discussed, there are a handful

of terms specific to this thesis that it is necessary to clarify. For the purpose of this thesis

shared music preferences refers to the overarching concept of two individuals having music

preferences in common, including whether this commonality can influence attraction. There

are two specific independent variables defined to help explore how shared music preference

influences attraction. These are *music preference similarity,* which refers to the manipulated

level of similarity between a participant and a target, and *perceived musical similarity,* when

participants self-report how alike they believe themselves to be to a target, musically. This

pattern applies to sharing political orientation as well; *shared political orientation* refers to

when two individuals have comparable political beliefs. There are two independent variables

that explore this also, *political orientation similarity,* (which refers to the manipulated level

of similarity between a participant and a target) and *perceived political similarity,* when

participants self-report how politically alike they believe themselves to be to a target. These

independent variables are defined in more detail in Studies 4-6.

Next, the concept of stereotypes is important to define as it relates to participants'

ability to predict what a target's music preference might be based on their political

orientation. Study 6 addresses whether adherence to a particular stereotype impacts attraction

to a target. Research on stereotypes dates back to the early 20th century, where Walter

Lippman argues that individuals respond to culturally formed "pictures" that represent a

simplified perception of someone as has been defined by the individual's culture (as cited in

Snyder et al., 1982). An influential literature review defined stereotypes as "beliefs about the

characteristics, attributes, and behaviors of members of certain groups" (Hilton & von

Hippel, 1996, p. 240). This thesis uses the latter definition in order to discuss the way that

participants appear to have certain beliefs about what a target person's music preference might be based on their political orientation, or other attributes, and vice-versa.

Review of the Literature

Relationship between Similarities and Attraction

Decades of research has demonstrated that similarity between individuals increases attraction. Early psychological research on this subject comes from Byrne (1961a) who asked participants to fill out a survey asking about their attitudes on a variety of issues (e.g. divorce, military spending, modern art). Weeks later, participants returned and were asked to make judgements about a target individual who had been fabricated to be either similar or different to the participant. Attraction, measured by Likert-like scales asking participants how much they liked the target and whether they would enjoy working with the target, indicated that participants felt more positively about the target who was presented with similar attitudes to the participant than the target who had different attitudes (Byrne, 1961a).

Later studies followed this format, but incorporated other information, such as the level of prestige of the target (Byrne, Griffitt, et al., 1966), importance of the topic (Byrne & Nelson, 1964, 1965b), how the information was presented (Byrne & Clore, 1966), and physical attraction (Byrne et al., 1968), all providing evidence supporting the similarity-attraction effect. While these studies specifically asked participants how much they liked the target, additional research has shown that participants also appear to show preferential treatment towards those similar to themselves (Lonsdale & North, 2009) display more interest in spending time with a similar other (Dunlop & Beauchamp, 2011; Luther et al., 2016) associate similar others with more positive traits and fewer negative traits (Ajzen, 1974; Lonsdale & North, 2009; Tekman & Hortaçsu, 2002a) and show higher preference towards those who are most similar to themselves compared with those who are not

(Bruchmann et al., 2018; Huber & Malhotra, 2017). Additionally, self-report studies have found that individuals tend to naturally associate with those similar to themselves (Alford et al., 2011; Phillips, 2014), which is also the case in online settings (Aiello et al., 2012; McPherson et al., 2001). Research on the related concept of intergroup bias, which is typically defined as defined as differential behavior towards more similar in-group members versus less similar out-group members, also shows clear patterns of favorable treatment towards the ingroup and less favorable treatment towards the outgroup (Bakagiannis & Tarrant, 2006; Ben-Ner et al., 2009; Hewstone et al., 2002; Tarrant et al., 2001).

The research above focuses mainly on similar attitudes, which can be defined as the way an individual feels about a specific topic or issue (Merriam-Webster, Inc., 2022). However, Ajzen (2012) points out that one's attitudes are likely influenced by an individual's values, which tend to be more over-arching principles about how one views the world (Merriam-Webster, Inc., 2022). Although these definitions indicate that attitudes and values are not quite the same, it is unsurprising that evidence suggests that similarity in values also appears to facilitate attraction in experimental settings (Coombs, 1966; Curry & Kenny, 1974), and in real-world settings (Hill & Stull, 1981; Solomon & Knafo-Noam, 2012). Combined, these studies provide overwhelming support for the positive relationship between similarity and attraction towards a stranger.

Several theories have been put forth to explain the relationship between similarity and attraction, e.g. the reinforcement hypothesis (Byrne & Nelson, 1965a; Byrne & Rhamey, 1965) and the repulsion hypothesis (Rosenbaum, 1986). Golightly and Byrne (1964) developed the reinforcement hypothesis, arguing that shared attitudes function as positive reinforcement in the form of validation of that attitude. In their study, participants performed a learning task where feedback came in various forms. Results indicated that when participants received feedback as statements that agreed or disagreed with their previously

recorded attitudes, they scored significantly higher than those in the control condition. This finding indicates that statements about attitudes can be effective as positive and negative reinforcers (Golightly & Byrne, 1964).

An alternative theory, the repulsion hypothesis, argues that rather than similar attitudes resulting in attraction, dissimilar attitudes result in feelings of repulsion (Rosenbaum, 1986). In his research, Rosenbaum (1986) demonstrated that participant attraction towards a dissimilar target was significantly lower than towards a target who was similar and towards a control target about whom no attitudinal information was provided. Additionally, there was no significant difference in attraction towards the target with similar attitudes versus the control, suggesting that similarity did not increase attraction.

Later research has produced results which appear to support the reinforcement hypothesis more than the repulsion hypothesis. Smeaton and colleagues (1989) conducted research to test the repulsion hypothesis, but found that attraction increased when dissimilar attitudes were held constant but similar attitudes increased. Singh and Tan (1992) also found that attraction was higher for those who had similar attitudes compared to those who were not given any attitudinal information. Byrne and Nelson (1965c) also conducted research examining reinforcements in the form of attitudinal similarity and its effect on attraction. Results of their experiment indicated that attraction increased with number of shared attitudes creating a positive linear relationship. In other words, people seem to be paying attention to the number of similar traits and that is increasing their resulting attraction towards a target. Another study also found that positively reinforcing statements led to increased attraction, neutral statements led to a small increase in attraction and negatively reinforcing statements appeared to reduce attraction (Byrne et al., 1966).

A third explanation for attraction is known as the information-processing model, which proposes that when an individual is given information about their similarity or dissimilarity to another person, they then infer *other* information about that person, which can result in attraction (Ajzen, 1974; Kaplan & Anderson, 1974). In research by Ajzen (1974) results indicated that attraction towards a target was influenced by the affective value of the attributes that described the target, such that attraction increased when attributes were positive and decreased when attributes were negative. Additionally, similar targets were considered more socially attractive than dissimilar targets. A second study found that participants used information about the target to ascribe other attributes to them. Attitude towards the target was then based on the positive or negative valence of the newly ascribed attributes (Ajzen, 1974). These findings indicate that participants will make assumptions about an individual based on initial information they are provided with which then influence the degree of attraction towards that person.

A comprehensive meta-analysis by Montoya and Horton (2013) examined the effect of similarity on interpersonal attraction while comparing the reinforcement model and the information processing models of attraction. Overall, the literature review produced more support for the information processing hypothesis than for the reinforcement hypothesis (Montoya & Horton, 2013).

Political Orientation

In addition to value similarity increasing attraction, evidence indicates that there are strong correlations between one's values and their political orientation, which also appears to lead to attraction. Schwartz (1992) conducted research outlining two dichotomous value dimensions which captured ten different individual values: self-transcendence (universalism, benevolence) versus self-enhancement (power, achievement), and openness to change (self-

direction, stimulation) versus conservation (conformity, tradition, security). Subsequent

research has found that individual values are important for guiding political beliefs, voting

behavior, and placement on the left-right spectrum (Caprara & Zimbardo, 2004; Michaud et

al., 2009; Schwartz et al., 2010; Wilson, 2004), such that political liberalism is frequently

defined and associated with values like equality, universalism, benevolence, and self-

direction, whereas a conservative political orientation is strongly defined and associated with

freedom, security, conformity, tradition, authority, and power (Graham et al., 2009; Hirsh et

al., 2010; Piurko et al., 2011; Wilson, 2004).

Given that similar attitudes and values can facilitate attraction, and because values

and political orientation appear to be highly correlated, it is not surprising that research has

found that similar political orientation also facilitates attraction. A large-scale survey study

analyzed how married couples' opinions on various questions about political issues

correlated. Results found that couples' views correlated positively and significantly with one

another on all political issues surveyed (Alford et al., 2011). Phillips (2014) also found that

political attitudes were positively correlated between romantic partners. This research also

examined how participants responded to targets displayed in hypothetical dating profiles and

found that participants felt more positively towards and more attracted to those with whom

they shared political beliefs versus dissimilar political beliefs (Phillips, 2014).

Additional research presenting participants with fictional targets has similarly found

that attraction increases with political similarity. Huber & Malhotra (2017) presented

participants with different fictional targets to evaluate. Researchers compared the degree of

similarity between the participant and target with participants' evaluations of interest in

making contact, being friends with, or dating the target. Results indicated that similar

political orientation increased participants' evaluations of interest in the target depicted in the

profiles (Huber & Malhotra, 2017). In a second study the authors showed that participants

tended to react more positively towards those whose profiles displayed similar political information, and that the communication between individual members of an online dating site occurred significantly more between those who were politically similar than those who were not (Huber & Malhotra, 2017). Bruchmann and colleagues (2018) also asked participants to rate the profiles of different targets for their favorability and their assumptions about the morals held by the target. Results indicated that favorability increased when the political beliefs of the target were more similar to those of the participants. Additionally, these researchers found that perceptions of value similarity with a target mediated the relationship between similar political orientation and attraction. In other words, participants appeared to be more attracted to those with similar political beliefs because of the perception that they shared values as well (Bruchmann et al., 2018).

While there is substantial evidence for the effect of political similarity on attraction, and it appears that people in established relationships have highly correlated political views, research indicates that individuals do not tend to publicize their political views when seeking relationships, such as on dating profiles. For example, Collier (2016) examined one thousand online dating profiles and found that profiles were more likely to mention the individual's weight or income than their political orientation, which was mentioned rarely. An examination of political preferences on a popular dating site showed only about 14% of profiles displayed any political information therefore it ranked 23rd out of 27 in the frequency of being included in a profile (Klofstad et al., 2012). The authors concluded that individuals seem to avoid displaying political information on these types of profiles (Klofstad et al., 2012). A follow-up study by Klofstad and colleagues (2013) indicated that both liberal and conservative participants lean towards dating those who are like themselves on non-political domains, and that these non-political domains tend to be correlated with political orientation. Furthermore, a qualitative study indicated that half the participants explicitly stated that they

do not like to display their political views on these apps, even though they would like to find

politically similar others (Chan, 2021a). Additionally, participants said they frequently had to

use non-political cues to infer a target's political orientation because not all profiles displayed

explicitly political information (Chan, 2021a). While Klofstad and colleagues (2012) stated

that inclusion of political information on a dating profile might relate to how important

politics are to that person, Chan (2021a) discussed specific reasons participants mentioned for

not wanting to include explicit political information online. These ranged from feelings that it

was unnecessary for finding a politically similar other, to the fear that doing so would appear

boastful and make them a less desirable match, to concerns that there could be negative

repercussions for someone's employment (Chan, 2021a).

Collectively, these findings suggest that although similar political orientation appears

to facilitate attraction, individuals do not seem to be advertising this information. However,

as suggested in the research by Chan, (2021a) and by Klofstad and colleagues (2013)

individuals may turn to non-political information that facilitates attraction and correlates with

political orientation. The information processing model would predict that as individuals see

that they are similar to another person in a non-political dimension, especially one that might

correlate with political orientation, they may assume they also share politics with that person,

which then results in attraction.

Music Preference

To turn to music preference, research in this area has been prolific over the past few

decades. Studies examining music preference have found that having shared music

preferences appears to increase attraction (Boer et al., 2011; Launay & Dunbar, 2015;

Tekman & Hortaçsu, 2002a). In addition, studies have shown that music preferences have

associations with political orientation. Thus, it is possible for music preference to act as a

non-political trait to facilitate attraction, as suggested by Klofstad and colleagues (2013). Older research looking at music preference and political orientation found significant associations between the two. In general, liberal participants preferred blues, classical, jazz, folk, soul, punk, and new wave more than conservatives, whereas conservatives preferred easy listening, top hits, and 70's or 80's rock (Fox & Williams, 1974; Peterson & Christenson, 1987). Another study found that participants who scored higher on a measure of conservatism tended to prefer music that was simpler and more familiar (Glasgow et al., 1985). While these results indicate a pattern of music preference being linked to political orientation over several years, it is worth noting that these studies were conducted over three decades ago, thus the musical styles and political issues that were central to this research have likely changed in the intervening years.

More recently, studies have found that liberal participants prefer rap, electronic, indie, and alternative music, in addition to preferring blues, jazz, classical, folk, and soul, which reflect the findings in the older research (North & Hargreaves, 2007a; Rentfrow & Gosling, 2003). However, for conservative participants, there appears to be a preference for country, religious, soundtrack music, and pop (North & Hargreaves, 2007a; Rentfrow & Gosling, 2003; Stringer, 2017). In addition, Purhonen and Heikkilä (2017) found evidence for a negative correlation between conservatism and "highbrow" music preferences such as classical, opera, and jazz. Overall, these studies indicate a strong relationship between music preference and political orientation.

In addition to correlating with political orientation, shared music preference also appears to promote positive feelings or behaviors towards others. Evidence has suggested that individuals tend to feel more positively about those with whom they share music preferences, which is expected based on the research discussed above. Tekman and Hortaçsu (2002) found that participants assigned more positive traits and fewer negative traits to those who shared

their music preference compared to those who did not. In their first study, Lonsdale and

North (2009) also found that participants attributed more positive characteristics to those who

shared their music preference than to those who did not. Their second study showed that

when participants were given the opportunity to award tokens to others, they rewarded

significantly more tokens to those who shared their preference over those who did not

(Lonsdale & North, 2009). These findings are unsurprising considering the evidence above

indicating that similarity results in attraction. A replication study examining these phenomena

found additional evidence that participants feel more positively towards fans of their

preferred music styles than towards fans of their least preferred music styles (Lonsdale,

2021), further supporting the hypothesis that shared music preference can facilitate attraction.

Furthermore, studies on ingroup and outgroup bias indicate that perceptions of

outgroups can be influenced by information about the outgroup's music preference. In one

study, participants were asked to rate the thinking styles of an outgroup. When participants

were told that they had similar music preferences with the outgroup they reported more

positive attitudes towards that group compared with a control outgroup about whom no

musical information was given (Bakagiannis & Tarrant, 2006). Research has also examined

the effect of outgroup bias on perception of music preferences. Participants were asked to rate

an ingroup and outgroup on several positive and negative adjectives and guess the music

preferences of both groups. In addition to a significant ingroup bias with regards to the

positive and negative adjectives, participants estimated that the ingroup would prefer music

stereotyped as being more popular and would not prefer music stereotyped as being less

popular (Tarrant et al., 2001). These findings reflect other research indicating that individuals

tend to have more positive feelings for members of an ingroup in comparison to members of

an outgroup (Ben-Ner et al., 2009; Hewstone et al., 2002).

Research has also specifically found that *attraction* towards a target or stranger can be encouraged by sharing music preference. Participants in a study by Zillmann and Bhatia (1989) endorsed being more attracted to a target they shared music preferences with than to one they did not. One study directly asked participants how much they liked a target person who either shared or did not share their music preference and found that participants liked the target they shared music preferences with significantly more (Boer et al., 2011). Research by Launay and Dunbar (2015) showed that when participants are presented with a stranger and given information about that person's hobbies, religion, occupation, music preference, and more, shared music preference was the best predictor for interpersonal attraction towards the stranger.

Additionally, there is evidence showing that music preference tends to be the most common topic discussed when getting to know a stranger (Rentfrow & Gosling, 2006). A sample of participants were instructed to get to know each other over the course of six weeks. Results found that music was the most frequently discussed subject across the six-week period (Rentfrow & Gosling, 2006). This possibility is reinforced by evidence suggesting that similar music preference is also associated with friendship formation (Aiello et al., 2012; Selfhout et al., 2009) and is frequently displayed on online profiles (Klofstad et al., 2012). These findings suggest that music preference plays an important role in getting to know others, and may help form some of the foundations of future friendship.

Music preference may be an important aspect of getting to know someone, in part, because of the other attributes it signals. Research has suggested that participants can consistently predict a target's traits, such as personality (Rentfrow et al., 2009; Rentfrow & Gosling, 2006, 2007) ethnicity (Marshall & Naumann, 2018; Shevy, 2008), or drug use (Fried, 2003) based only on their music preference, however, there is little published research examining perceptions of political orientation based on music preference.

In one study, Shevy (2008) discussed the potential for music to convey "extramusical" information, in his study which showed that participants associated country music more with conservatism and rap/hip-hop music more with liberalism (Shevy, 2008). A similar study comparing stereotypes about German folk music, punk, country, and hip-hop between an American and German sample found that German folk music was associated with conservatism whereas punk and hip-hop were more associated with liberalism (Kristen & Shevy, 2013). Additionally, a study on perceptions of music fans in South Africa found that fans of reggae, jazz, country and Afrikaans pop were perceived as more politically conservative, whereas rock and heavy metal listeners were perceived as politically liberal (Schwär & Middleton, 2017). Although these studies did not examine attraction towards these targets, they illustrate that music preferences can convey information about an individual beyond what they like to listen to.

Music and Identity

Early research into music and identity suggests that advertising aspects of oneself could be a function of music preference (Frith, 1981). This point is furthered by North and Hargreaves (1999) in their article focusing on the functions that music serves. They discuss research which emphasizes the role of music in identity-formation, especially in adolescents. A later empirical study examining adolescents' relationship to music found that participants emphasized listening to certain kinds of music as a way to create an image for themselves (North et al., 2000). These findings would suggest that music preference could be a reliable signal for displaying other traits about oneself, potentially including political orientation.

Research attempting to answer this question has focused on a variety of different attributes associated with music preference. Many studies have provided participants with a target person who likes a specific genre of music and then asked them to indicate what they

infer about that individual's personality traits (Rentfrow et al., 2009; Rentfrow & Gosling, 2006, 2007). A study focusing on stereotypes surrounding fans of rap music versus heavy metal found that those who listen to rap were perceived as being dangerous to others while those who listen to heavy metal are considered dangerous to themselves (Fried, 2003). Studies looking at music preference and race have also found patterns. Research has found that rock, alternative, country, classical, and pop, were more associated with white targets, whereas black targets were seen to prefer rap, hip-hop, soul jazz, and gospel (Marshall & Naumann, 2018; Schwär & Middleton, 2017; Shevy, 2008). Research by Ziv and colleagues (2008) even examined how high- or low-status appearances and high- or low-status music preferences influence participants' perceptions of a target, finding that high ratings on positive personality traits (e.g., educated, trustworthy) went to high-status looking individuals who liked high-status music as opposed to when they liked low-status music. Additionally, participants have associated traits such as age, religiosity, and intelligence with fans of certain music preferences (Lastinger, 2011; North & Hargreaves, 1999; Schwär & Middleton, 2017). As mentioned above, fewer studies have examined perceptions of political orientation based on music preference. However, these have consistently shown that participants associate certain political orientations with fans of different genres of music (Kristen & Shevy, 2013; Schwär & Middleton, 2017; Shevy, 2008). An important note about each of the studies discussed above is that they have asked participants to rate the attributes of a target based on their music preference, as opposed to reporting the possible music preferences based on a target. Additionally, the music preference of these targets has been limited to one genre.

One study by Lonsdale and North, (2012) addressed this gap by providing participants with a photo and short description of ten target individuals. Out of four possible choices, participants reliably chose the genre that the target was intended to represent, for example, a heavy metal fan, a jazz fan, or a pop fan. In the second study, participants read one of two

target descriptions and either rank-ordered ten genres in order of perceived popularity to the

target or rank-ordered the ten genres in order of how similar the target was to a typical fan of

that style. Participant judgements on the most popular genre for each target correlated

significantly with stereotypes about fans of that genre. Combined, these results indicate that

when participants are presented with a target who has certain attributes, they reliably assume

the target's music preference based on stereotypes about fans of that genre (Lonsdale &

North, 2012). Another study provided some evidence that participants agree on the likely

music preference of a target person when only provided with a picture of that person (Tian et

al., 2021).

Music Preference and Political Orientation

There is a clear relationship between music preference and identity, and it appears that

individuals can intentionally use music preferences to signal other aspects of themselves.

This adds evidence to the possibility that music can display "extramusical information,"

which is influencing attraction, potentially including politics.

Furthermore, while there is ample evidence for both music preference and political

orientation to facilitate attraction, the studies discussed above find that people do not

typically include their political orientation on a social media profile, and when they do, they

tend to mention being in the middle of the spectrum (Collier, 2016; Klofstad et al., 2013;

Rentfrow & Gosling, 2006). However, music preferences appear to be displayed more

frequently. One study found evidence that almost 80% of participants listed their music

preference on their dating profile, whereas less than 20% listed their political orientation

(Klofstad et al., 2012). Since it appears that individuals use music to get to know each other

(Rentfrow & Gosling, 2006) and because music preference seems to correlate with political

orientation (Fox & Williams, 1974; North & Hargreaves, 2007a; Peterson & Christenson,

1987; Rentfrow & Gosling, 2003), it is possible that music preference is serving as the non-political information described by Klofstad and colleagues (2013), which acts as a proxy for political orientation to facilitate attraction. The information processing model would thus hypothesize that when an individual sees they share music preferences with a target, they then assume they also share political orientation with the target, because of the correlations between the two, which then facilitates attraction (Ajzen, 1974; Kaplan & Anderson, 1974; Montoya & Horton, 2013). In other words, the information processing model may explain why displaying music preference in lieu of political orientation is a functional way to increase attraction without needing to display political orientation directly. This means that shared music preference could be facilitating attraction both directly and indirectly by interacting with political orientation.

One study attempted to answer a related question by examining whether *values* were mediating the relationship between music preference and attraction. Across three studies, Boer and colleagues (2011) found evidence that the relationship between music preference and attraction is mediated by values, however this relationship only appeared to exist in a lab setting and not in a real-world setting (Boer et al., 2011). As mentioned above, values and political orientation are highly correlated (Caprara & Zimbardo, 2004; Hirsh et al., 2010; Piurko et al., 2011; Schwartz et al., 2010; Wilson, 2004), thus it is possible that this pattern holds if values, as an independent variable, is replaced with political orientation in studying attraction. It is then possible to test whether music preference can serve as a signal for political orientation to facilitate attraction both directly and indirectly by interacting with political orientation.

Examining attraction via music preferences constitutes one way by which music can bring people together, illustrating some of the social benefits of music. However, one aspect of music is that it can be produced together. Making music together is an integral part of the

music experience, and there is a variety of evidence illustrating the positive benefits of doing

so. To examine this phenomenon, this thesis looks specifically at some of the benefits of

group singing and choir membership to examine what participants might be missing when

they are no longer able to sing together in person.

Benefits of Participation in a Singing Group Studies examining group singing and the

benefits it provides for mental health (Bailey, 2006; Creech et al., 2013; Daykin et al., 2021;

Dingle et al., 2013), social bonding (Kreutz, 2014; Pearce et al., 2015; Specker, 2014;

Stewart & Lonsdale, 2016), spiritual engagement (Kennedy, 2009; Parker, 2017) and even

traits like trust and self-confidence (Anshel & Kipper, 1988; Cohen, 2007) have indicated the

powerful positive impact that singing together can have on individual singers. Group singing

also appears to facilitate various social benefits such as feelings of bondedness, support, and

community (Bailey & Davidson, 2002; Moss et al., 2018; Parker, 2017; Rohwer & Rohwer,

2012; Southcott & Joseph, 2015; Specker, 2017; Specker, 2014). However, it is unclear

which aspects of participating in choir are contributing to these benefits. In-person choir

rehearsals include a collection of elements, such as meeting others in person, a sense of

routine, working towards a common goal, hearing others' voices, and the act of singing itself,

that may facilitate the benefits mentioned above (Bailey & Davidson, 2003; Kennedy, 2009;

Specker, 2017).

Qualitative studies have established that participants self-report various benefits

arising from their participation in choirs (Clift & Hancox, 2001). In a series of interviews

conducted by Judd and Pooley (2014) choir members actively discussed some of the positive

outcomes they felt from being in a community choir, including feeling relaxed, uplifted, and

less stressed. Qualitative research on community choirs in Canada, Wales, and the

Southeastern United States illustrated that participants felt that their membership in the choir

helped them cope with chronic pain, mental health issues, and loss, as well as made them feel

positive emotions, connected to the community, and helped create a sense of identity (Kennedy, 2009; Parker, 2017; Rohwer & Rohwer, 2012). Choir members have also described how participation generally makes them feel more positive (Dingle et al., 2013; Joseph et al., 2018; Livesey et al., 2012; Sanal & Gorsev, 2014) and less negative (Dingle et al., 2013, 2017).

There is also evidence suggesting that in addition to individual benefits, participation in a community choir can provide substantial social benefits as well. One meta-analysis reviewed research on the social benefits of music participation, including facilitation of new connections and friendships with others, building of a social support system, and bringing different kinds of people together (Perkins et al., 2020). Choir membership also appears to help promote other social gains, such as increased communication, trust, and the ability to exist in a supportive, judgement-free place (Anshel & Kipper, 1988; Bailey & Davidson, 2002; Gick, 2011).

Choir members also report that being part of a community choir makes them feel bonded to each other, connected to the community, and a sense of enjoyment at sharing a collective experience and reaching towards a common goal (Bailey & Davidson, 2005; Cohen, 2007, 2009; Joseph et al., 2018; Judd & Pooley, 2014; Parker, 2017; Silber, 2005; Specker, 2017; Specker, 2014). One member even suggested that the choir felt more like one organism than a group of 20 different people (Judd & Pooley, 2014). Further research on group singing suggests that it may be uniquely effective for bonding groups quickly compared to other social activities like creative writing and crafts (Pearce et al., 2015, 2017).

Additional research has presented the possibility that the social aspects of music-making may be the most important for providing some of the individual benefits mentioned (Creech et al., 2013). Furthermore, studies directly comparing individual singing with group

singing have found that individuals tend to gain more from singing in groups than from singing alone (Good & Russo, 2021; Schladt et al., 2017). These results suggest that the benefits of group singing and choir participation may not be simply due to the act of singing itself, but are specifically related to singing in a group.

Researchers have discussed various possible mechanisms for the augmented benefits of singing together versus alone. For example, ideas like *communitas* or *flow* have been put forth to help explain what happens during group singing that can create these bonds or make choir so beneficial (Livesey et al., 2012). *Communitas* refers to a strong sense of group bonding or a collective social experience (Camlin et al., 2020; Specker, 2017). *Flow* has been referred to as describing moments of a kind of self-other-merging, where participants seem to be mentally connected in some way, or at least highly absorbed in their collective activity (Hopper et al., 2016; Walker, 2010). It is possible that this sense of total immersion in a group activity can explain some of the positive results that occur.

In her research on group singing and social cohesion, Specker (2014; 2017) specifically applies Camlin and colleagues' (2020) concept of communitas to group singing. She also discusses the importance of the sonic experience which encompasses the idea of shared physical participation in the musical activity. The author argues that the sonic experience is an essential aspect of how group singing facilitates cohesion, reaching a common goal, and building a safe environment (Specker, 2014, 2017). This research helps to illustrate some of the many social benefits of music, which help illustrate why it is important to ask what participants might miss when they are not able to engage in these activities in person.

Summary

Overall, the research above provides evidence for the ability of music preferences to signal attributes about another individual, potentially including political orientation. This research also illustrates the capacity for shared music preferences to facilitate attraction between individuals. Additionally, the evidence above highlights the social and emotional benefits which come from group singing. It is clear from the evidence above that both of these aspects of music provide social benefits. However, one goal of this thesis is to look specifically at how music preferences facilitate attraction in light of other traits that they might be signaling. The second goal of the thesis is to understand what benefits of group singing are lost when participants can no longer sing together in person. Examining the social benefits through these two lenses allows for deeper exploration of how we use music socially, with potential implications for using music to bring people together.

Notes on Methodology

Methods Used in Each Study

It is necessary to mention that appropriate ethical approval from the Psychology Department Ethics Board at Goldsmiths University London was obtained for all studies prior to data collection.

There are a variety of methodological choices that are made before conducting research, many of which concern the method by which data will be collected and analyzed depending on the question being asked. The studies in this thesis used a combination of quantitative survey data and qualitative interview data to answer the research questions. Both theoretical and practical reasons for the methodologies that were chosen for this thesis, which are discussed below.

Seven out of the eight studies in this thesis use quantitative online survey data. Quantitative research is grounded in older ideas of the scientific tradition, in which an individual forms a theory or idea about the world around them, and then seeks to test it in some way (Breakwell et al., 2012; Davies & Hughes, 2014). Much of this research involves using questionnaires to indirectly measure psychological phenomena (Breakwell et al., 2012), in the case of this thesis, these phenomena include feelings of social attraction and similarity towards a target person. Additionally, from a practical standpoint, each the studies had to be conducted online due to the COVID-19 pandemic and resulting lockdown, and using surveys meant that data collection was straightforward, and the quantitative data necessary to answer the research questions was easily analyzable. This said, conducting all the studies online, using an online sample, did confer certain other advantages. First, recruiting an online sample, while somewhat expensive, meant that a large number of participants could be reached. Additionally, the website Prolific, from which participants were recruited, allowed for the filtering and screening of participants, as well as the recruitment of participants who had already conducted one of our studies. This meant it was possible to recruit exactly the number of participants required, from the precise population we were interested in.

Furthermore, the use of an online survey format also carried some advantages. First, it was easy to distribute the survey to participants. More importantly, the survey format meant that it was easy to build on each survey in order to ask additional questions (e.g., Study 4 adds on to the format of Study 3 by including Social Attraction and using four versions of Kate's profile instead of 2). Additionally, because each study built off the survey of the previous study, they help to replicate the results of the previous study.

With regards to the research surrounding the COVID-19 pandemic, the lockdown circumstances created an opportunity for additional research. Studies 7 and 8 examined group singing from a survey perspective (Study 7) and an interview perspective (Study 8). From a

practical standpoint, all data needed to be collected remotely, so an online survey for Study 7

meant that we could gather data on the bigger picture of how individuals felt about singing

groups during lockdown. However, it also felt important to collect more detailed information.

Denzin and colleagues (2023) discuss qualitative research in terms of studying phenomena in

a natural setting and attempting to understand them from the meaning that the individuals

involved bring to those events. Davies and Hughes (2014) add that qualitative research tends

to feel more human, and during an unprecedented event like the COVID-19 pandemic, it felt

especially important to get individual's detailed accounts of their experiences. Moreover,

Study 8 provides an especially unique contribution because other research conducted on

choirs during the lockdown period only used multiple choice or open-ended questions

(Daffern et al., 2021; Theorell et al., 2020), as opposed to a full semi-structured interview.

The researchers felt that these two studies complimented each other in how they asked similar

questions, but in different levels of detail.

Research Overview

   Across two sections, this thesis sought to explore two overarching questions, each

with sub-questions. Given the relationships between music preference, political orientation,

and attraction, the first question was broken down as follows:

1. How does music preference influence attraction towards a new person?

    a. Is there a bi-directional link between music preferences and political

       orientation, such that political orientation be used to predict music

       preferences and vice-versa?

    b. Does shared music preference influence attraction towards a target

       independent of an effect of political orientation, or are these variables

       interacting to influence attraction?

      c. If shared music preference can drive attraction independently from political orientation, does this pattern hold even when music preference and political orientation do not conform to stereotypes?

Second, the thesis explored the social impact of no longer being able to participate in group singing during the COVID-19 pandemic, which provided unique circumstances for understanding the value of the social aspects of group singing when group members were no longer able to participate in person. The following question was broken down into two sub-questions:

2. What do people miss when they aren't able to engage in in-person group singing due to the COVID-19 pandemic?

      a. Do members of singing groups miss different elements from members of other kinds of groups?

      b. What do choir members miss most about singing together when they are no longer able to do so in person?

Together, this set of questions was intended to shed light on the social value of different aspects of music, both with regards to music preferences and music making, and how these aspects help people connect with one another in different ways.

Chapter 2 – Music Preference and Political Orientation

Since several studies later in the thesis focus on music preferences and political orientation, the first goal was to examine the relationship between music preference and political orientation before investigating how these variables influence attraction. Additionally, these four studies found and tested a set of genres that are clearly associated with one side of the political spectrum versus the other for use in the rest of the thesis.

The literature review above discusses the association between an individual's identity, music preferences, and assumptions that participants make about traits associated with those music preferences (Frith, 1981; North & Hargreaves, 1999; Rentfrow et al., 2009; Rentfrow & Gosling, 2007). While, this previous research has established that participants will presume a target's music preference based on a variety of attributes (Lonsdale & North, 2012), it is not clear that participants will do this when only given information about a target's political orientation. The following studies test this to understand the relationship between music preference and political orientation while excluding other attributes. First, a pilot study asked what musical genres liberal participants perceive to be popular for conservatives. Study 1 expanded on the pilot by including both liberal and conservative participants, asking whether participants agree on what conservative and liberal targets like to listen to. In Study 2 participants were asked about their actual music preferences and political orientation to examine how these actually align. Study 3 further tested this relationship between music preference and political orientation and introduced a paradigm using a photo and description of a target as a stimulus for which the only information manipulated was the target's music preference.

Pilot Study

This brief pilot study intended to get insight into the kinds of music liberal participants perceived conservative conspecifics like to listen to. Based on literature suggesting that there are genres which tend to be associated with more conservative beliefs (North & Hargreaves, 2007a; Rentfrow & Gosling, 2003; Stringer, 2017), it was predicted that there would be a consistent set of musicians, genres, or artists to represent perceived music preferences for conservative youth, however we did not establish a specific a priori hypothesis with regards to which genres or artists these might be. While it would have been possible to examine both liberal and conservative stereotypes, the first study only focused on liberal perceptions of conservative music preference in order to explore, with a small sample, whether a small selection of stereotypically conservative genres would emerge, before moving on to a larger sample.

Method

Participants

Since this pilot study was purely exploratory and did not include statistical analysis, no power analysis was conducted a priori. A total of 51 British adults (19 Male, 32 Female) participated in this exploratory survey. All participants were recruited from the website Prolific which allows members to earn small amounts of money by participating in surveys. It is important to note that Prolific allows for various political filters. For a sample from the United Kingdom, participants can either be screened by self-reporting their political alignment (left, right, center). As mentioned in the introduction, those who identified with the left side of the spectrum are referred to as liberal and those who identified as being on the right side of the spectrum are referred to as conservative. For the current study, participants were filtered by whether they self-identified as being on the left side of the political spectrum.

Design and Procedure

Pilot 1 used a within-subjects design, such that all participants saw every question in the survey. This was an exploratory study with only one open-ended question: *Please think about politically Conservative British Youth, ages 18-25. Now, think about what music you believe they prefer, and list up to three Songs, Musicians/Groups, or Genres you think they like to listen to*. We included these three options so that participants could provide answers with varying levels of specificity depending on what they believed their conservative conspecifics might enjoy listening to. Participants answered the question using free text to provide up to three options for each of the categories. They were thanked for their participation and redirected back to the Prolific website to obtain their credit for completing the study.

Results and Discussion

The *Genre* category had the most agreement between participants in terms of perceived popularity for politically conservative British youth. An initial analysis counted the number of times each genre appeared among participants' answers. Every participant but one answered this question. The number of times each genre was mentioned by participants is illustrated in *Figure 1*.

Figure 1

Genres by Number of Participant Mentions
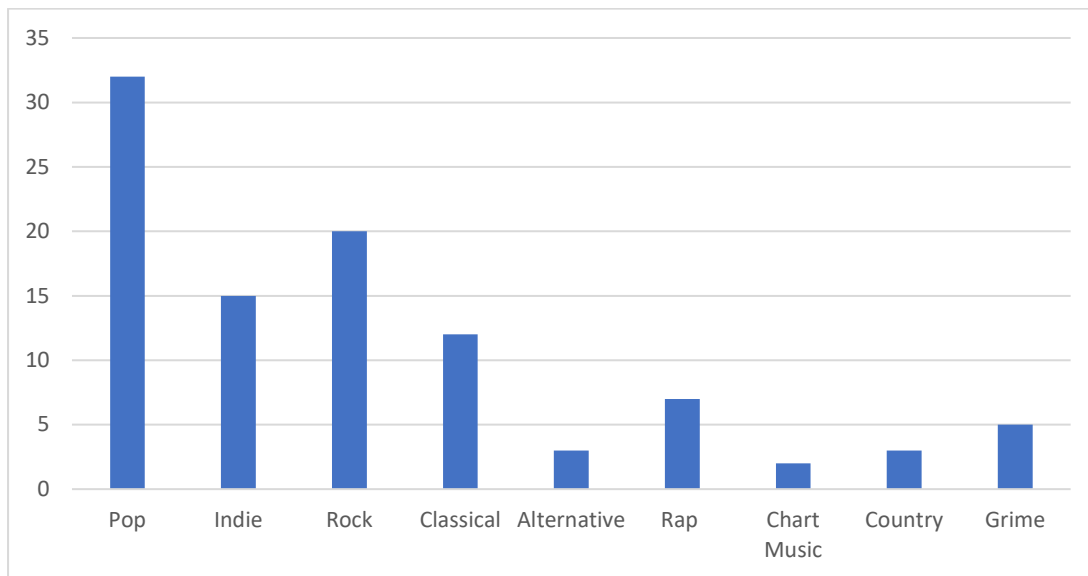
There was less agreement and more variation among participants in the

Artists/Musicians category, this is likely to be partly due to participants using different

examples to illustrate the genres they mentioned in the previous part of the question.

However, some musicians and groups did appear multiple times between participants. All but

one participant answered this question, and 61 different artists/bands were mentioned. *Figure*

2 illustrates all the artists who received at least three mentions from participants.

Figure 2

Artists and Bands by Number of Participant Mentions
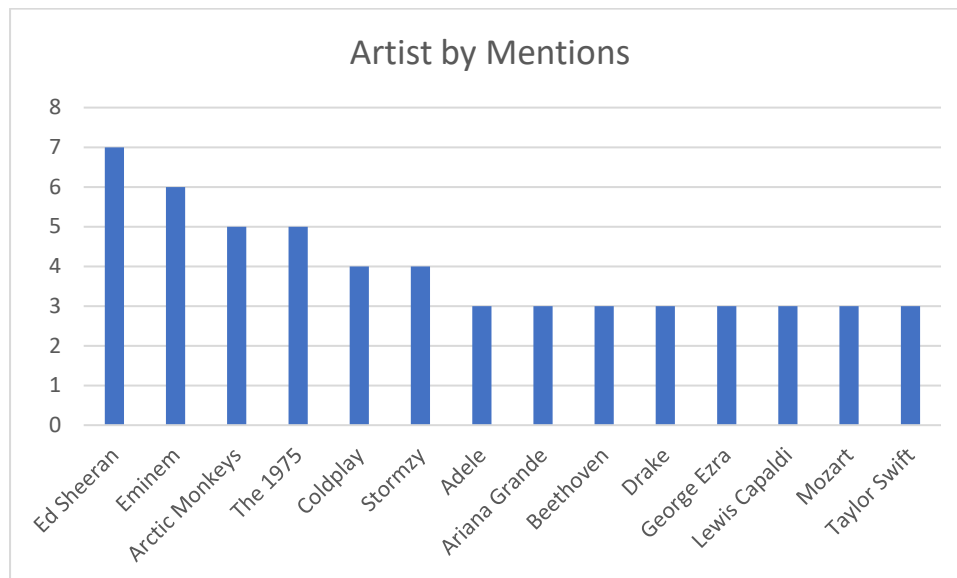
While only a couple of songs were mentioned by participants (Mr. Brightside, The Killers, and Shotgun, George Ezra, both given twice), there were several songs that fit into the artist and genre categories participants had previously mentioned. Many of the songs that participants listed were written by artists they had previously mentioned. Fifteen participants chose not to answer this part of the question.

The variety in genres and artists that participants mentioned meant that it was not possible to use these responses to develop a set of "conservative" music genres for use in the following studies of the thesis. Research by North and Hargreaves (2007a) established that there are genres that appear to be most popular with younger listeners, regardless of political orientation, these being Rap/Hip-Hop, Pop, Chart Music, Indie, and Rock. Thus, the music preferences participants provided look like what any young British person would be expected to like as opposed to reflecting genres considered popular for conservatives. For the subsequent study the age range of participants was intentionally expanded in the hope that participant responses would be less focused around generic popular music.

Additionally, it was noted that of the nine genres participants mentioned, six are featured in the STOMP (Rentfrow & Gosling, 2003), mentioned in the introduction. Indie, chart music, and grime are not featured in the STOMP and thus were unique to participant responses. Since indie and chart music have been featured in previous research on music preferences (Dys et al., 2017; North & Hargreaves, 1999, 2007a, 2007b, 2007c), they were included in the subsequent study in addition to the 14 genres featured in the STOMP.

Study 1 – Do participants associate music preferences with political orientation?

Since the Pilot Study used a small sample and only examined liberal participants' perceptions of conservative music preferences, a second study was set up to examine perceived music preferences for both liberal and conservative targets. This study used a slightly different design and included a set list of genres for participants to examine.

The research question for the current study was comparable to that of the pilot study in that the goal was to determine whether any musical genres were perceived to be more popular with one political orientation over the other. It was hypothesized that even when only provided with information about the political orientation of a target, participants would consistently associate certain genres with either liberal targets or conservative targets.

Method

Participants

A power analysis indicated that a minimum of 90 participants would be required to achieve a medium effect size with a power of .8 and an alpha level of .05. A sample of 100 British participants were recruited from the website Prolific. Age ranged from 18-48 ($M =$ 28.55, $SD =$ 7.99), 66 identified as female, 33 identified as male, and one participant identified as nonbinary. These participants were not pre-selected for self-reported political

orientation, thus were 61 self-identified liberal participants and 38 self-identified

conservative participants. One individual neglected to answer this question; this person's data

were excluded from analyses for a final sample of 99.

Design and Procedure

A rank-order format was used for this study, as opposed to the open-ended format

from the pilot study. A list of 16 genres was provided, which included 14 items from the

Short Test of Music Preferences (STOMP), created by Rentfrow and Gosling (2003), and two

additional genres (indie and chart music) unique to the Pilot Study. It is important to note,

that after the creation of the STOMP, the measure was later revised by including 9 new

genres (bluegrass, funk, gospel, international, new age, oldies, opera, punk, and reggae).

However, the researchers chose to use the original stomp for a couple of reasons. First, of the

previous research on music and politics that has included genres featured in the STOMP-R,

the results have been mixed in terms of whether preferences for those genres are aligned with

a specific political orientation. For example, Peterson & Christenson (1987) 1987 found that

reggae, soul, punk, and new wave were preferred significantly more by liberal participants.

However, Cian and colleagues (2022) did not find any significant association between

political orientation and reggae, punk, or opera. Second, some of the genres on the STOMP-R

can be grouped with one another under categories in the original (e.g., opera as a subgenre of

classical) as has been done in some previous research (Cian et al., 2022), Thus, for the

research in this thesis, it was considered a better choice to use a more concise measure that

was more reflective of the genres that have been associated with political orientations in

previous research on music and politics (Fox & Williams, 1974; North & Hargreaves, 2007a;

Purhonen & Heikkilä, 2017; Stringer, 2017). The complete list of genres included pop, rock,

classical, indie, alternative, rap/hip-hop, country, indie, jazz, top 40/chart music, blues,

electronic, soul, folk, heavy metal, and sound track. The study was within-groups, such that each participant answered questions about both liberal and conservative targets.

Participants were asked to think about either liberal or conservative British people around their age and rank the 16 genres listed in order of their perceived popularity, with the top ranking (first) indicating highest perceived popularity and the bottom ranking (sixteenth) indicating the lowest perceived popularity. This study featured a between-subjects design, so all participants were asked to do this both for conservative conspecifics and for liberal conspecifics, regardless of the political orientation indicated by the participant. Participants were thanked for their participation before being redirected back to the Prolific website for payment.

Results and Discussion

An independent samples *t*-test was conducted to examine whether there were differences in how participants rated the perceived popularity of different musical genres for conservative targets and liberal targets. Several genres revealed significantly different mean popularity ratings, suggesting that participants tended to associate some musical genres with certain political ideologies more than others. Classical music and religious music had two of the largest mean differences for their perceived popularity between liberals and conservatives. Participants rated classical music as more popular for conservatives ($M = 6.89$, $SD = 4.80$) than for liberals ($M = 10.96$, $SD = 4.14$; $t (198) = 6.42$, $p < .001$, two-tailed), with a large effect size ($\eta^2 = 0.30$). Religious music was similarly rated as more popular for conservatives ($M = 9.35$, $SD = 5.20$) than for liberals ($M = 13.49$, $SD = 3.66$; $t (198) = 6.51$, $p < .001$, two-tailed), also with a large effect size ($\eta^2 = 0.30$). Note that lower score indicates *higher* perceived popularity for the target.

Several genres were perceived as more popular for liberals than conservatives. Indie music was considered more popular for liberals ($M = 5.31$, $SD = 3.86$) than conservatives ($M = 8.38$, $SD = 4.09$; t (198) = -5.46, $p < .001$, two-tailed) with a large effect size ($\eta^2 = .23$). Rap/hip-hop music was also perceived as significantly more popular for liberals (t (198) = -4.67, $p < .001$, two-tailed; ($M = 6.20$, $SD = 4.46$) than conservatives ($M = 9.42$, $SD = 5.27$), with a large effect size as well ($\eta^2 = .18$). Alternative music was perceived as significantly more popular for liberals ($M = 5.61$, $SD = 4.05$) than conservatives ($M = 9.03$, $SD = 4.02$; t (198) = -5.99, $p < .001$, two-tailed), with a large effect size ($\eta^2 = .27$). *Figure 3* below illustrates the mean differences in rankings between liberal and conservative targets. Other musical genres had significant differences in means for their perceived popularity as well, however for succinctness, all genres and their mean popularity rankings are featured in *Table 1* below.

Figure 3

Mean differences of participant ratings for genre popularity
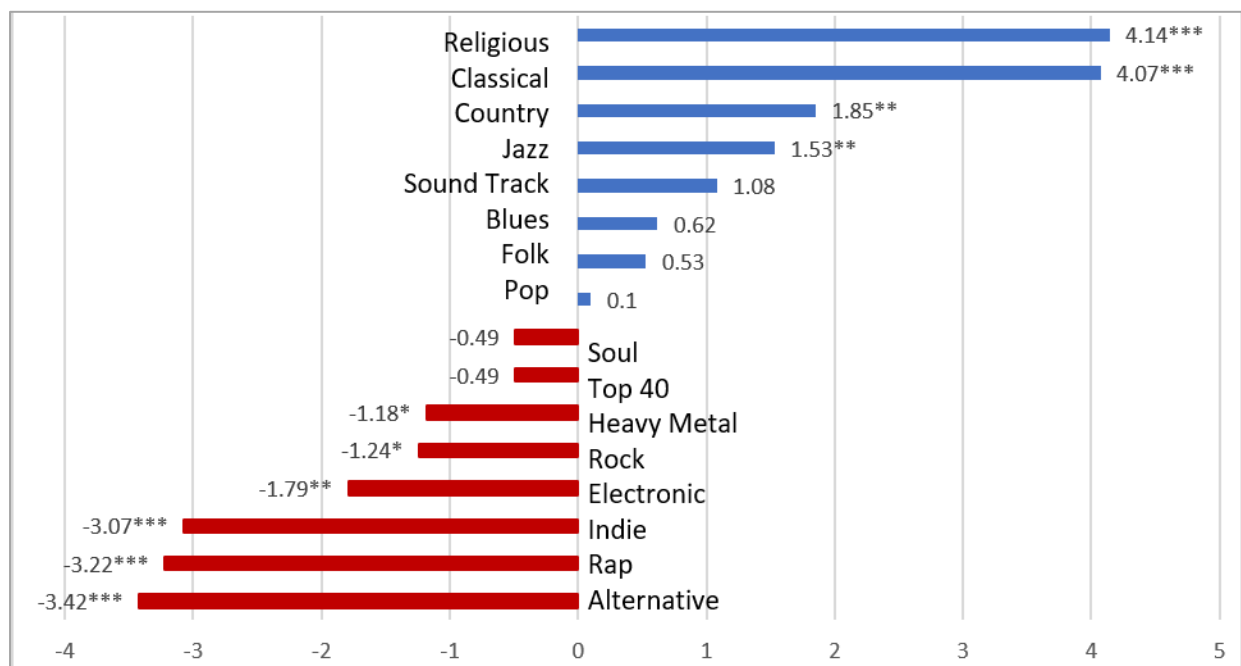
Note. Positive mean differences indicate greater perceived popularity for conservative targets (in blue) and negative mean differences indicate greater perceived popularity for liberal targets (in red).

***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$

Table 1

Mean Ranking for Perceived Popularity of Genre by Political Orientation

	t	η^2	Conservative Target		Liberal Target		Mean Differences
			M	*SD*	*M*	*SD*	
Religious	**6.51*****	0.30	9.35	5.2	13.49	3.66	4.14
Classical	**6.42*****	0.30	6.89	4.8	10.96	4.14	4.07
Country	**3.30****	0.10	8.69	3.99	10.54	3.94	1.85
Jazz	**2.74****	0.07	8.4	3.98	9.93	3.91	1.53
Sound Track	1.89	0.04	8.21	3.98	9.29	4.09	1.08
Blues	1.17	0.01	9.16	4.17	9.78	3.29	0.62
Folk	0.92	0.01	9.43	4.33	9.96	3.81	0.53
Pop	0.18	0.01	5.29	3.89	5.39	4.11	0.1
Soul	-0.87	0.01	9.27	3.74	8.78	3.74	-0.49
Top 40	0.74	0.01	5.17	4.87	5.66	4.53	-0.49
Heavy Metal	**-2.01***	0.04	11.11	4.33	9.93	3.98	-1.18
Rock	**-2.07***	0.04	8.32	4.38	7.08	4.02	-1.24
Electronic	**-3.06****	0.09	9.88	4.14	8.09	4.14	-1.79
Rap/Hip-Hop	**-4.67*****	0.18	9.42	5.27	6.2	4.46	-3.22
Indie	**-5.46*****	0.23	8.38	4.09	5.31	3.86	-3.07
Alternative	**-5.99*****	0.27	9.03	4.02	5.61	4.05	-3.42

***significant at p < .001
**significant at p < .01
*significant at p < .05

A two-way analysis of variance (ANOVA) was run on each of the 16 genres in order to examine whether participants' political orientation had an impact on perceptions of music preference based on the target's political orientation. Significant main effects of target political orientation appeared for classical ($F(1,194) = 36.3$, $p < .001$, partial $\eta^2 = .16$), jazz ($F(1,194) = 5.68$, $p = .018$, partial $\eta^2 = .03$), and religious ($F(1,194) = 34.97$, $p < .001$, partial $\eta^2 = .15$), suggesting that these genres were perceived as more popular for conservative participants. Additionally, significant main effects of target's political orientation appeared alternative ($F(1,194) = 33.39$, $p < .001$, partial $\eta^2 = .15$), indie ($F(1,194) = 24.71$, $p < .001$, partial $\eta^2 = .11$), and electronic ($F(1,194) = 9.31$, $p = .003$, partial $\eta^2 = .04$, suggesting that these genres were perceived as more popular for liberal targets. There was no main effect of

participant political orientation meaning that the perceived popularity of these genres was based *only* on the target's political orientation.

While these results reflected the findings of the *t*-test, there were a few notable exceptions to this pattern. First, unlike in the t-test analysis, heavy metal did not produce a significant main effect ($F(1,194) = 3.46$, $p < .064$). Country music produced a main effect of target political orientation ($F(1,194) = 14.83$, $p < .001$, partial $\eta^2 = .07$) *and* a main effect of participant political orientation ($F(1,194) = 5.96$, $p = .016$, partial $\eta^2 = .03$), but no significant interaction ($F(1,194) = 0.03$, $p = .854$). Both liberal and conservative participants rated country music as more popular for conservative targets than liberal targets, *however* conservative participants also perceived that country music was more popular overall than liberal participants did.

The second exception is that there appeared to be a significant interaction for ratings of rap/hip-hop music ($F(1,194) = 9.63$, $p = .002$, $\eta^2 = .05$), in addition to the significant main effect of target political orientation ($F(1,194) = 14.83$, $p < .001$, partial $\eta^2 = .07$). When liberal participants rated perceived popularity for rap/hip-hop music they rated it as very popular for liberal targets ($M = 5.49$, $SD = 4.11$) and very unpopular for conservative targets ($M = 10.38$, $SD = 4.98$). However, when conservative participants rated perceived popularity for rap/hip-hop music, the ratings were much more moderate between liberal targets ($M = 7.34$, $SD = 4.86$) and conservative targets ($M = 7.87$, $SD = 5.47$). This finding indicates that liberal participants felt that rap/hip-hop music was more polarizing between individuals of different political orientations than conservative participants did. Eight genres did not produce any significant differences between liberal versus conservative targets, these were: pop, rock, chart music/top 40, blues, folk, heavy metal, sound track, and soul.

The current study sought to establish whether participants would associate certain music preferences with either liberal or conservative targets, for the purpose of selecting musical genres for subsequent studies examining the influence of shared musical and political preferences on attraction. Out of the 16 genres presented to participants, classical, religious, country, and jazz were deemed to be significantly more popular for conservative targets (henceforth known as *conservative genres*), whereas indie, rap/hip-hop, alternative, electronic, rock, and heavy metal, were deemed to be more popular for liberals (referred to as *liberal genres*). The term *polarized genres* will refer to these eight genres which are perceived to be more popular for one political orientation versus the other. These results illustrate that participants can use information about political orientation to make assumptions about music preference, however it does not indicate what individuals of different political orientations actually listen to. Study 2 sought to address this question by asking participants about their music preferences and political orientation directly.

Study 2 – How do participants' actual music preferences relate to their political orientation?

The findings of the Study 1 constitute a contribution to the understanding of the relationship between music preference and political orientation. However, because there are few studies above specifically examining self-reported music preference and political orientation, many of which took place decades ago, it is necessary to determine whether these patterns of association still hold today.

The current study helps determine whether the perceived differences in popularity of different genres between liberals and conservatives actually reflect reality. Additionally, this research also allowed us to create a database of participants whose political orientations and music preferences had been recorded for potential use in subsequent research in the thesis.

One specific demographic of participants we hoped to find was those who preferred indie music *or* disliked country music for use in future studies. It was hypothesized that the pattern of music preferences would correspond to the findings in Study 1. In other words, liberal participants would endorse liking the *genres perceived to be 'liberal' genres* more than conservative participants, and conservative participants would endorse liking the genres perceived to be '*conservative' genres* more than liberal participants.

Method

Participants

The power analysis for the previous study indicated that in order to achieve a medium effect size between groups a minimum sample size of 90 is required. However, because we were hoping to find a substantial number of participants who either liked indie music or disliked country music, in addition to taking a broad look at participant music preferences, the sample size was increased considerably. A sample of 643 British participants were recruited from Prolific. There were 320 self-identified liberal participants and 323 self-identified conservative participants. There were 273 male participants, 362 female participants, seven who self-identified as non-binary, and one who specified that their gender was not listed. Participants ranged in age from 18 to 48, with a mean of 30.71 ($SD = 7.5$).

Design and Procedure

Participants were given a survey which asked about their political orientation and music preferences. A list of 16 genres (pop, classical, rock, indie, rap/hip-hop, country, top 40, alternative, blues, folk, jazz, heavy metal, religious, sound track, electronic, and soul) from the previous study was provided with the instruction *Please tick all of the genres below that you enjoy*. Next, participants were presented with the eight polarized genres and asked to indicate the degree to which they preferred those genres, on a scale from 1 (*I don't like it at*

all) to 4 (*I like it a lot*). These eight genres were classical, religious, country, jazz, indie,

rap/hip-hop, alternative, and electronic. Participants could then answer an open-ended

question which said *Please fill in any other genres/artists you like to listen to.* Finally,

participants rated the importance of music to them, on a scale from 1 (*Very unimportant*) to 5

(*Very important*).

Results

T-Test Analysis

An independent samples *t*-test was run to compare preference for each of these genres

between the self-identified liberal and conservative participants. While all differences were

statistically significant, the effect sizes are relatively small. Several of the genres followed the

patterns predicted by Study 1.

For example, conservative participants preferred religious music ($t(640) = 2.15$, $p <$

.05, M = 1.76, SD = 0.95) significantly more than liberal participants ($M = 1.61$, $SD = 0.83$),

as well as preferring country music ($t(640) = 2.53$, $p < .005$, $M = 2.64$, $SD = 0.93$)

significantly more than liberal participants ($M = 2.46$, $SD = 0.91$) which aligns with findings

from previous research (North & Hargreaves, 2007a; Shevy, 2008; Stringer, 2017).

Furthermore, liberal participants preferred rap/hip-hop ($t(640) = -4.55$, $p < .001$, $M = 2.95$,

$SD = 0.92$) significantly more than conservatives ($M = 2.59$, $SD = 1.1$) which is also reflected

in previous research (Rentfrow & Gosling, 2007; Shevy, 2008).

One exception was that the liberal sample ($M = 2.81$, $SD = 0.89$) preferred classical

music slightly more than the conservative sample did ($t(640) = -2.98$, $p = .003$, $M = 2.59$, *SD*

= 0.97), however, the effect size is relatively small ($\eta^2 = .01$). The same was true for jazz

music, which liberals ($M = 2.63$, $SD = 0.91$) also seemed to prefer more than conservatives

did ($t(640) = -3.880$, $p < .001$; $M = 2.36$, $SD = 0.89$), but the effect size here appears small as

well (η^2 = .01). Note that the guidelines for η^2 for independent samples *t*-tests (Cohen, 1988; as cited in Pallant, 2016) are as follows: .01 = small, .06 = medium, .14 = large. *Table 2* below illustrates the *t*-test results.

Table 2

t-*Test results for how much participants preferred each polarized genre.*

Genre	*t*	η^2	Conservatives		Liberals		Mean Differences
			M	*SD*	*M*	*SD*	
Alternative	**-9.314*****	**0.014**	2.56	0.873	**3.18**	**0.789**	**-0.612**
Indie	**-6.930*****	**0.119**	2.88	0.932	**3.34**	**0.76**	**-0.466**
Rap/Hip-Hop	**-4.551*****	**0.032**	2.59	1.07	**2.95**	**0.917**	**-0.359**
Jazz	**-3.880*****	0.009	2.36	0.892	**2.63**	0.907	-0.275
Classical	-2.98**	0.007	2.59	0.969	**2.81**	0.89	-0.219
Electronic	-2.466*	0.023	2.55	0.957	**2.74**	1.005	-0.191
Religious	2.150*	0.07	**1.76**	0.954	1.61	0.827	0.151
Country	2.532*	0.01	**2.64**	0.93	2.46	0.905	0.183

***significant at *p* < .001
**significant at *p* < .01
*significant at *p* < .05

Chi-Square Analysis

A series of chi-square analyses were run comparing which genres were preferred more for liberal or conservative participants. There was only one genre which was endorsed as being preferred by the conservative participants significantly more than for the liberal participants, which was religious (χ^2 (1, *n* = 643) = 3.52, *p* = .044, φ = -0.08). Contrary to the results of Study 1, which found that classical music and jazz were perceived to be more popular with conservative targets, both classical music (χ^2 (1, *n* = 643) = 5.22, *p* = .018, φ = .09) and jazz (χ^2 (1, *n* = 643) = 10.17, *p* = .001, φ = .13) were preferred by liberal participants more than by conservative participants.

Furthermore, there were several genres which were not significantly associated with liberal or conservative targets in Study 1, but were significantly preferred by liberals in the current study. These genres were folk (χ^2 (1, n = 643) = 26.51, p < .001, φ = .21), soul (χ^2 (1, n = 643) = 23.07, p < .001, φ = .19), soundtrack (χ^2 (1, n = 643) = 9.88, p = .001, φ = .13), and blues (χ^2 (1, n = 643) = 9.98, p = .002, φ = .12). Additionally, heavy metal, which was significantly associated with liberal targets in Study 1 was not significantly preferred by either liberal or conservative targets (χ^2 (1, n = 643) = 2.60, p = .088, φ = .07). *Table 3* below illustrates the chi-square statistics for each genre, and *Figure 4* displays the number of participants who endorsed liking each genre. Additionally, a *t*-test was run to see whether there was a significant difference in the number of genres liberal and conservative participants endorsed liking overall. Results indicated that liberal participants endorsed liking significantly more genres (t(641) = -7.12, p < .001, M = 6.50, SD = 2.87) than conservative participants (M = 5.04, SD = 2.32).

Table 3

Chi-Square for number of participants who endorsed each genre by political orientation

Genre	χ^2	Phi (φ) Coefficient	Adjusted Residuals	
			Right	Left
Alternative	78.90***	0.35	-9.0	**9.0**
Indie	32.69***	0.23	-5.8	**5.8**
Folk	26.51***	0.21	-5.2	**5.2**
Soul	23.07***	0.19	-4.9	**4.9**
Rock	11.36**	0.14	-3.5	**3.5**
Jazz	10.17**	0.13	-3.3	**3.3**
Soundtracks	9.88**	0.13	-3.2	**3.2**
Electronic	9.69**	0.13	-3.2	**3.2**
Blues	8.98**	0.12	-3.1	**3.1**
Rap/Hip-Hop	8.75**	0.12	-3.0	**3.0**
Classical	5.22*	0.09	-2.4	**2.4**
Pop	2.51	0.07	-1.7	1.7
Heavy Metal	2.60	0.07	-1.7	1.7
Country	1.59	-0.05	1.3	-1.3
Top 40	2.35	-0.06	1.6	-1.6

| Religious | 3.52* | -0.08 | **2.0** | -2.0 |

***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$

Figure 4

Number of participants who endorsed liking each genre
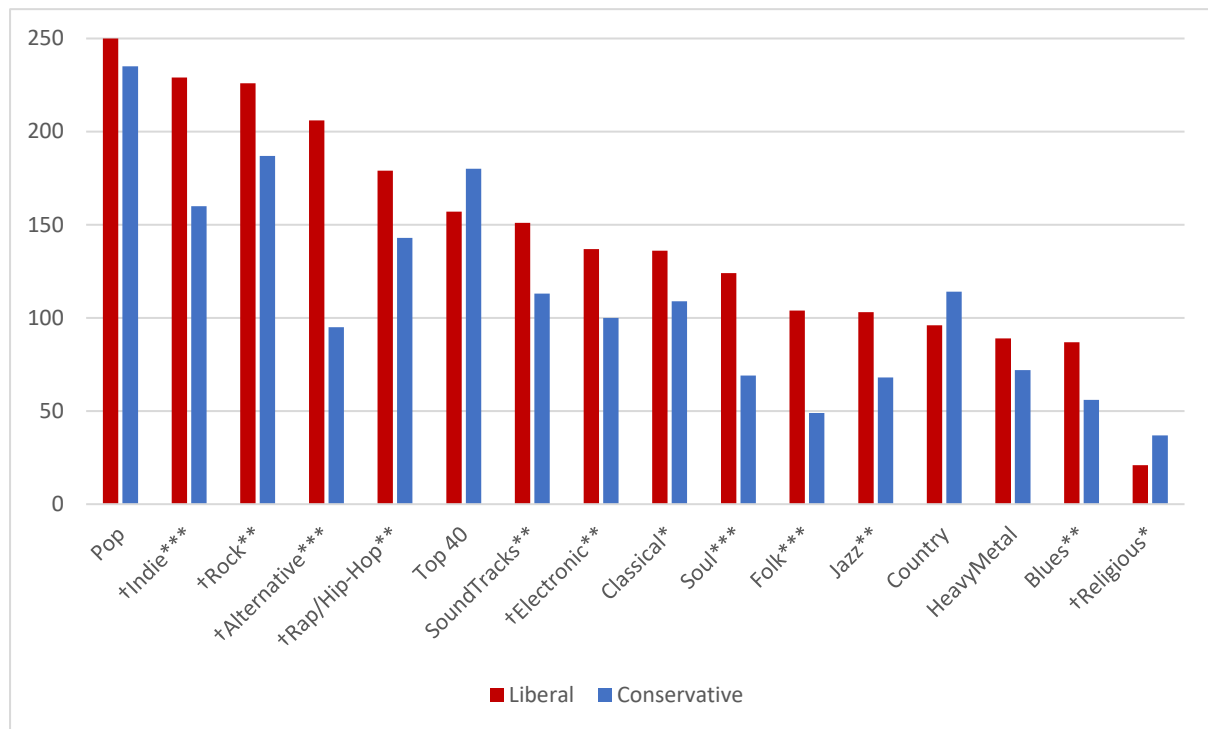
Note. Genres marked with † are those for which there is congruence between the perceived (Study 1) and actual (Study 2) genre preferences.

***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$

Discussion

The goal of the current study was to determine whether the association between music preference and political orientation found in Study 1 aligned with individuals' actual music preferences. The hypothesis was partially supported in that all four of the liberal genres, alternative, indie, rap/hip-hop, and electronic, were more popular among liberal participants

than conservative participants. These findings were also reflected in the chi-square analysis since significantly more liberal participants than conservative participants endorsed liking all four of the liberal genres. Furthermore, two of the conservative genres, country and religious, were preferred more by conservative participants than by liberal participants. However, it is notable that in the chi-square analysis, while more conservative participants endorsed liking both country and religious music, only religious music reached statistical significance. Additionally, this study has provided a pool of participants that can be further recruited for additional research as part of this thesis.

Study 1 established that people make assumptions about what individuals like to listen to based on their political orientation. Study 1 also presented several genres which participants reliably associated with liberal versus conservative targets. Study 2 found that, especially for liberal participants, these associations are relatively accurate. However, neither of these studies ensure that the genres which participants perceived to be most popular for liberals versus conservatives will lead participants to assume that a fan of those genres is necessarily liberal versus conservative.

Research has indicated that individuals may choose to listen to music because it has a pleasing aesthetic, it triggers specific emotions or memories, or it facilitates feelings of connection for the listener (Vuoskoski & Eerola, 2011). Thus, it is possible that when an individual sees a target's music preference, they may not automatically associate that preference with a political orientation. Additionally, since one of the goals of these initial studies was to establish genres for use in the rest of the thesis, it was important to confirm that the genres isolated in Study 1 would clearly signal that a target is either more liberal or more conservative. Answering this question would also help establish the close relationship between music preference and political orientation, which creates more justification for asking what happens to attraction towards a target when a participant shares one of these

attributes with them but not the other. Solidifying the understanding of these stereotypes helps provide justification for examining the potential interaction effect they may have on attraction. The subsequent study was designed to help cement these stereotypes.

Study 3 – Can music preference be used to predict political orientation?

Study 3 had two main goals. The first was to scrutinize the polarized genres found in Study 1 to understand whether participants can use these to predict political orientation. The second goal was to introduce a paradigm for use in the rest of the thesis. Based on the associations participants made in Study 1 and the relationships found in Study 2, it is hypothesized that when the target indicates a preference for the *conservative* genres (those which show more popularity with conservatives versus liberals), participants will perceive them as more conservative, whereas when the target indicates a preference for the *liberal* genres (those which show more popularity with liberals versus conservatives), participants will perceive them as more liberal.

The paradigm introduced in this study features the photograph of a target individual, "Kate," which is presented with a description featuring her music preferences. Social profiles have been used before in music research (Lonsdale & North, 2012; Tian et al., 2021; Ziv et al., 2008) where a photo, a description, or both are provided to a participant who was then asked to choose the musical styles they believed that person would prefer. However, in this study both profiles will include the same photo and the only information provided about the participant will be music preference and some distractor information which will be consistent across the two profiles.

Method

Participants

Since this study featured a new paradigm, there was uncertainty surrounding what the effect size would be. The power calculations indicated that for a small-medium effect size, with a power of .8 and alpha of .05, a total sample of 200 participants would be required. As with the previous two studies, participants were recruited from Prolific. A total of 199 British participants were surveyed. However, six participants did not complete the survey thus their data were removed, leaving a total sample of 193 participants, with an age range of with an age range of 18-44 ($M = 29.04$, $SD = 7.01$). The gender breakdown of the participants included 139 who identified as female, 52 who identified as male, and two who identified as non-binary.

Design and Procedure

The survey which was built for this study included a hypothetical social media profile for a 24-year-old woman named Kate. The profile featured a picture of a White woman standing outside holding a warm beverage with a short description underneath the image. This photo was selected from an online database of free-to-use images, and was chosen because the woman in the image did not definitively appear to be particularly liberal or conservative partly because she is wearing a coat and scarf. Essentially, being bundled up against the cold makes her appearance more generic, and it is potentially more believable that she could be either liberal or conservative. Both profiles included a line which said *I'm a little shy at first but I warm up to people quickly. I love to read, especially outside (I also love book suggestions if you have any!).* The second line included one of two descriptions of musical preference, based on the results of Study 2. The conservative music profile said *If I'm not reading, I'm definitely listening to music, predominantly classical, country, or*

religious music. The other profile, which featured the more stereotypically liberal music said

If I'm not reading, I'm definitely listening to music, predominantly indie, alternative, or

electronic music.

The genres on each profile were chosen because of the previously identified

relationship with political views, in other words, we intentionally chose genres that were

found to be polarized to one side of the political spectrum or the other according to Study 1.

Classical, country, and religious music had the largest significant mean differences in

rankings for perceived popularity between liberals and conservatives and had the largest

effect sizes for the "conservative" genres. For the more liberal genres alternative, indie, and

rap/hip-hop were the three with the highest effect sizes. However, as discussed briefly in the

introduction, research on race and music preference has found correlations between self-

reported ethnic identity and music preferences. In general, individuals appear to associate

certain genres of music with members of different races (Rentfrow et al., 2009; Rentfrow &

Gosling, 2007). For example rock, alternative, and country are more associated with white

targets, whereas black targets were assumed to prefer rap, hip-hop, and soul (Marshall &

Naumann, 2018; Shevy, 2008). Because of these associations and because the photo for the

profile features a Caucasian woman, we felt that using electronic music as the third genre

instead of rap/hip-hop would be a better choice.

This study used a between-subjects design, such that half the participants saw Kate's

profile with the three more conservative genres, and the other half saw Kate's profile with the

more liberal genres. The question central to the study asked *Do you think Kate is…*then

included a slide-bar scale with *Very liberal* on one side and *Very conservative* on the other.

The slide-bar translated to numbers 0-100, with 0 corresponding with very liberal and 100

corresponding with very conservative, although participants could not see this. Distractor

questions included asking participants what beverage they thought Kate preferred, whether

she preferred dogs or cats, and if participants would be interested in getting a drink with Kate

or going to a concert with Kate, all in the same slide-bar format. In line with the previous

studies, participants were thanked for their time and redirected back to the Prolific website to

obtain their study credit. *Figure 5* below illustrates an example of Kate's profile.

Figure 5

Example of Kate's Profile

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love
to read especially outside (I also love book suggestions if
you have any!)

If I'm not reading, I'm definitely listening to music
predominantly indie, alternative, or electronic music.

Results and Discussion

An independent-samples *t*-test was run to examine the ratings for how politically

conservative or liberal participants believed Kate to be, based on the genres she listed

preferring in her profile. Results of the *t*-test indicated a significant difference for political

orientation (t (191) = -5.51, p < .001, two-tailed), with Kate being perceived as less

conservative when her profile listed indie, alternative, and electronic music ($M = 35.84$, $SD =$ 24.53), and more conservative when her profile listed classical, country, and religious music ($M = 55.36$, $SD = 24.69$). The magnitude of difference was large ($\eta^2 = .14$). Means are displayed in *Figure 6*.

Figure 6

Mean Difference Between Kate's Perceived Conservatism

Error bars: +/- 2 SE
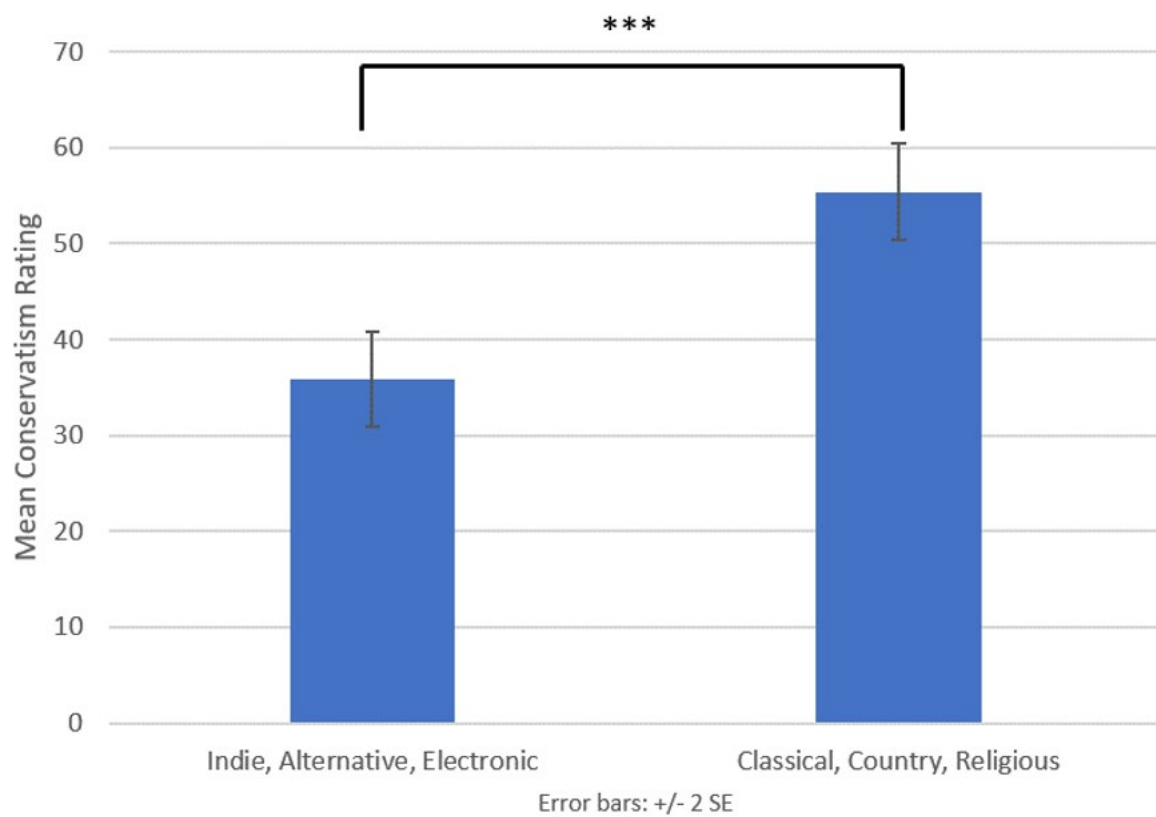
***significant at *p* < .001

1***significant at p < .001

The hypothesis is supported by the above analysis, indicating that, at least when grouped together, preference for certain musical genres appear to signal a particular political orientation to observers. These findings are consistent with North and Hargreaves (1999) and North and colleagues (2000), which also provided evidence supporting the idea of music preference as a kind of "social badge," or form of illustrating one's identity. While the social

profiles above are not unique to research on stereotypes and genre, the current research has focused on only one trait (political orientation) in association with music preference, whereas much of the previous literature has used a variety of traits when describing a stereotypical listener (Brown, 2012; Tekman & Hortascu, 2002). This research also highlights the impact that one characteristic can have on others' perceptions of someone's music preference.

General Discussion

The results of Study 1 showed clear associations between political orientation and music preference, independent of the political orientation of the participant. However, two genres, country music and rap/hip-hop appeared to be exceptions. The findings for country music suggest that conservative participants believe that country music is highly popular overall. It may be that conservative participants who like country music believe it to be more popular than it truly is. The findings for rap/hip-hop suggest that liberal participants believe the gap in popularity for this genre is much larger between conservative and liberal targets than conservative participants believe it to be. If liberals perceive rap/hip-hop to be especially popular for other liberals, that might feed the perception that it would inherently be *less* popular for conservatives.

Overall, Study 1 supports the previous literature which has found that participants can use non-musical information to predict music preference (Lonsdale & North, 2012; Tian et al., 2021) and reinforces that there are stereotypes surrounding the kinds of people who listen to certain genres of music (Kristen & Shevy, 2013; Marshall & Naumann, 2018; Rentfrow et al., 2009; Rentfrow & Gosling, 2007; Schwär & Middleton, 2017). In addition, these findings expand the extant research by illustrating that participants can make reliable and consistent assumptions about music preference based only on a target's political orientation, without other added information.

One contribution of note is the emergence of polarized and non-polarized genres. Study 1 illustrated that there were genres which appeared to migrate to one side of the political spectrum versus the other, as well as genres that appeared unrelated to political orientation. Study 2 reinforced that certain genres can be more popular for conservatives versus liberals and vice-versa, although this is a trend and not a rule. These studies also identified genres that do not appear to have any specific political orientation. These findings beg the question of what it is about each genre that facilitates the perception that it will be more popular for more conservative versus more liberal targets.

One study by Schäfer and Sedlmeier, (2009) examined how someone's preference for a genre of music relates to the function that that genre serves. They found various correlations between preferences for certain genres and their functions. For example, a preference for rap music or rock music was strongly correlated with the use of music to express one's values. However, a preference for folk music was highly correlated with the function of the music putting the listener in a good mood, which may not have any direct relationship with someone's political orientation. In other words, one explanation for these politically polarized genres, and those which are not polarized, could be partly based on the function that genre serves for the listener. However, it is likely this is not the only reason, so more research is necessary to explore this deeper.

Future research could potentially examine these genres more closely to determine why some genres do not appear associated with one side of the political spectrum while others are. One possible future study might ask participants to rate different genres of music based on how much they associate them with politics versus other attributes. Participants could also rate the genre for how well it serves a particular function for the listener, which may help shed light on why some genres appear to be more political than others. Study 2 was observational, with the goal of discovering whether the associations between music

preference and political orientation found in Study 1 aligned with individuals' actual music preferences. While preferences for the liberal genres supported the hypothesis, two of the conservative genres, classical and jazz, did not. Results indicated that these were preferred more by liberal participants than by conservative participants, contrary to the predictions. It is notable that in some previous research there are inconsistencies specifically regarding these two genres. In research on the stereotypes surrounding jazz and classical music, these genres are perceived as more conservative (Lonsdale & North, 2012; Purhonen & Heikkilä, 2017; Rentfrow & Gosling, 2007), however in reality, they are preferred more by liberal participants (Corrigall & Schellenberg, 2015; Rentfrow & Gosling, 2003). The results from Studies 1 and 2 reinforce the possibility that these two genres do not relate to political orientation in a straightforward way. This observation has implications for future research on music preference and identity since a participant or individual who specifies they like jazz or classical music may be perceived as more conservative when they may be more liberal.

Furthermore, significantly more liberal participants endorsed liking folk music, soul, soundtracks, and blues, whereas in Study 2 these genres were not significantly associated with either political orientation. This finding indicates that a participant's perception of music preference based on political orientation may not capture the entirety of what people of that orientation like to listen to. In other words, at least for liberal participants, music preferences appear to be more diverse than individuals might presume.

Findings also indicated that liberal participants tended to endorse liking more genres than conservative participants did. This aligns with Fox and Williams's (1974) findings that liberal participants tended to be more involved in musical activities, such as attending concerts or buying records, than their conservative counterparts. There is a large temporal gap between that study and the current study and it is likely that self-identification as liberal or conservative has changed over the decades such that it is not clear to what degree the

findings between these studies are observing the same phenomenon. A potential future study could examine the similarities in political orientation across decades, to see whether there are attributes inherent to people who identify as liberal over time which are also influencing their musical behavior.

These complexities in music preference are interesting when taken in to account with the results from Study 3, which found evidence that when participants are presented with a target person, about whom they are only given information about music preference, they will consistently assume the target's political orientation using this information. Since Study 2 indicated that genre preferences appear to be more complex than just aligning with an individual's political orientation, it is interesting that participants reliably agreed on Kate's likely political orientation. This finding helps establish the close relationship between music preference and political orientation and provides more justification for asking what happens to attraction when one of these variables is similar between a participant and target and the other variable is different.

Limitations

One limitation from Study 2 is that although participants were recruited based on self-reported political orientation, and they were asked to report their political orientation as part of the survey, this question was presented as multiple choice with only two answers. This means that where participants lie on the political spectrum was not captured in much detail. Information about *how* liberal or conservative participants are may have provided more nuanced findings with respect to which participants preferred each genre. Additionally, participants were asked to rate the degree to which they liked each of the eight polarized genres, however for the other eight genres the only data collected was whether participants did or did not like it. A more thorough survey could have asked participants to rate the degree

to which they liked all 16 of the genres included, instead of focusing only on the eight polarized genres from Study 2.

A limitation in Study 3 is that demographic information on the participants own political orientation was not collected. This means it was not possible to run analyses to examine whether participant political orientation influenced how they rated Kate's level of conservatism. Future research examining music preference could include more questions which ask about the participant to see whether participant demographics influence how they perceive the target. Another possible limitation is the inclusion of religious music. Since, religiosity and religious music are both highly associated with conservatism (Duriez, 2003; Rentfrow & Gosling, 2003; Stringer, 2017; Young et al., 2013) it is likely that including this genre heavily influenced participants' perceptions of Kate.

Conclusions

The goal of the studies in this Chapter was to take a close look at the relationship between music preference and political orientation. Study 1 provided evidence that there are genres which individuals perceive to be more popular for conservative targets and those which they perceive to be more popular for liberal targets. Study 2 illustrated that some of these stereotypes in Study 1 and observed in previous studies (Fried, 2003; Rentfrow et al., 2009; Rentfrow & Gosling, 2007) align with the reality of what conservative and liberal participants like to listen to. Additionally, Study 2 provided a pool of participants whose political orientation and music preferences have been collected for use in subsequent research. Finally, Study 3 established that participants make consistent assumptions about a target's political orientation when only provided with their music preference. Study 3 also introduced the paradigm of presenting the target in the format of a social media profile, which will be used throughout the rest of the thesis. Overall, these results suggest that while

participants can make reliable associations between a target's political orientation and their

music preference, the reality of individual music preferences is more complicated than is

reflected just in political orientation. Since these studies have helped reinforce the

relationship between music preference and political orientation, the next two chapters focus

on how this relationship influences attraction towards a target.

Chapter 3 – Predicting Social Attraction

The two studies in this chapter help illustrate one way that music can help facilitate connection between people via music preferences. The next question asks whether shared music preference independently influences attraction or if music preferences are signaling political orientation which then facilitates attraction. To date, there does not appear to be any research examining this question. One potential exception is the research by Boer and colleagues (2011). Researchers compared the perceived *values* and music preferences of a target with those of participants and found that similar values mediated the relationship between music preference and social attraction (Boer et al., 2011). However, the third study attempted to examine this relationship in an observed setting using a survey distributed to undergraduate roommate pairs. While perceived similarity was significantly correlated with social attraction, there was no significant correlation between shared music preference and value similarity. The study by Boer and colleagues (2011) produced some evidence that the relationship between music preference and social attraction is mediated by values, but only in a lab setting and not in the observed setting. Thus, in answering Question 1b of the thesis, Studies 4 and 5 attempt to shed light on how shared music preference influences attraction.

This Chapter includes two studies which examine the influence of music preferences and political orientation on social attraction to understand whether music is influencing attraction directly or indirectly. Study 4 uses regression analysis to examine how perceived musical similarity and perceived political similarity predict attraction. Study 5 takes these findings a step further by explicitly manipulating whether participants see a target with whom they share music preferences, political orientation, both, or neither. In addition to measuring attraction, a measure of attitude homophily and background homophily are included to understand whether music preferences are signaling aspects of the target's attitude or background which may then also influence attraction.

Measurement of Attraction

As mentioned in the introduction, previous studies have established that similarities between individuals increase social attraction (Byrne, 1961b; Byrne, Nelson, et al., 1966; Byrne & Nelson, 1964; Condon & Crano, 1988; Mccroskey et al., 1975; Singh, 1973). Additional studies have also shown that shared music preference leads to increased positive feelings and social attraction towards a stranger (Baym & Ledbetter, 2009; Knobloch et al., 2000; Launay & Dunbar, 2015).

In several of the early studies on attraction and similarity, attraction was measured by simply asking participants how much they felt they liked the target and how much they would want to work with them (Byrne & Clore, 1966; Byrne & Nelson, 1964, 1965a). However, these two questions do not address the nuances of attraction. In McCroskey and McCain's (1974) study, the authors discuss *interpersonal* attraction as a multi-faceted concept, and their resulting development of scales measuring attraction reflect this. Factor analysis on a variety of Likert-like questions asking about different aspects of attraction revealed three main categories. The first was *social* attraction, which included questions such as "I think he (she) could be a friend of mine" and "He (she) just wouldn't fit in to my group of friends." The second category was labeled *physical* attraction, which included questions asking about the appearances about the target. The third and final category was called *task* attraction, and included questions like "I have confidence in his (her) ability to get the job done" and "I have the feeling he (she) is a very slow worker." Finding these categories of attraction supported the authors' hypothesis that attraction is multi-dimensional, and provided a set of questions for use in future research on attraction. A later study by McCroskey and colleagues (2006) reexamined these scales and found them to have consistent internal and external reliability and validity. This social attraction scale has been used in previous research on music and attraction (Boer et al., 2011). Furthermore, this measure and definition of attraction is the one

used for the subsequent studies because this research was specifically interested in understanding the feelings of possible friendship towards the target.

Attitude and Background Homophily

In addition to the primary outcome of social attraction, two additional dependent variables were tested in order to understand the degree to which music preferences is signaling other information to a participant. One was a measure of attitude homophily and the other was a measure of background homophily (McCroskey et al., 1975; McCroskey et al., 2006). Homophily is commonly defined as the tendency for individuals who are similar to be more likely to interact with one another and scales measuring homophily tend to measure a participant's perception of similarity with a target (Andersen & Todd de Mancillas, 1978; Lawrence & Shah, 2020; Mccroskey et al., 1975; McCroskey et al., 2006; McPherson et al., 2001). The questionnaires chosen to measure these variables come from research conducted by McCroskey and colleagues (1975). As with the research above on attraction, factor analysis was conducted on several items measuring various aspects of homophily. A later study which reexamined these scales focused on those measuring attitude homophily and background homophily which found that they had consistent validity and reliability (McCroskey et al., 2006). The measure of attitude homophily has been shown to correlate with measures for value similarity and has been used in previous music preference research (Boer et al., 2011; McCroskey et al., 2006). Thus, it is possible to think about scores for Attitude Homophily and Background Homophily as a measure of how similar participants believe themselves to be to the target in these two areas.

The measure of attitude homophily has been shown to correlate with measures for value similarity and has been used in previous music preference research (Boer et al., 2011; McCroskey et al., 2006). If music preference is acting primarily as a proxy for political

orientation, we would expect to find that both political orientation and music preference have a significant and relatively equal impact on feelings of attitude homophily. If music preference is perceived to convey other information relating to background, as would be suggested by previous research (Boer & Abubakar, 2014; Lonsdale & North, 2012; North & Hargreaves, 2007a, 2007b), we would expect to find music preference to have a significant effect on background homophily scores.

The Current Studies

Establishing whether shared music preference can exert an effect on social attraction, independent of the effect of political orientation, requires a design where similarity in music preferences and political orientation are manipulated independently. It then becomes possible to ask whether, if political orientation between a participant and target is not shared, can shared music preference increase social attraction compared with a situation in which neither politics nor music preferences are shared. In other words, can high music preference similarity "make up" for low political orientation similarity and vice versa?

Study 4 – How does perceived musical similarity and perceived political similarity predict social attraction?

The current study was intended to establish the degree to which perceived musical similarity and perceived political similarity predict social attraction. The amount of information about a target's music preference and political orientation was manipulated (e.g., one target profile included music preference but no information about political views) to answer this question. The null hypothesis is that there is no independent influence of music preference on social attraction. The presence of a significant interaction term between perceived musical similarity and perceived political similarity on social attraction, and the absence of an independent effect of perceived musical similarity, would indicate the

possibility that perceived musical similarity is only predicting social attraction by signaling political orientation. However, if perceived musical similarity does significantly predict social attraction towards the target, it would indicate an independent influence of shared music preference on social attraction and we could reject the null hypothesis.

Method

Participants

Previous literature illustrated effect sizes varying from moderately small to large (Launay & Dunbar, 2015; Lonsdale, 2021; Lonsdale & North, 2009; Tekman & Hortaçsu, 2002b). The power analysis specified that a minimum sample of 203 would be required to detect a small-medium effect size for a linear multiple regression involving 3 predictors with a power of 0.8. The sample for this study included 205 British members of the Prolific community. The minimum age was 18 with a maximum of 77 ($M = 39.83$, $SD = 15.46$). One participant identified as non-binary, 103 identified as male, and 100 identified as female, and one participant declined to answer. One hundred and four participants self-reported being conservative and 101 self-reported being liberal.

Design and Procedure

This study took place online and participants consented to participating after reading an information sheet and data protection form. The survey included the same social media profile and photo of 'Kate' as in Study 3.

The first profile only said *I'm a little shy at first but I warm up to people quickly. I love to read, especially outside (I also love book suggestions if you have any!)* as it was intended to represent a neutral condition where no information about Kate's political orientation or music preference was included. The second profile included the first line and

the phrase *I'm super active in my local Labour party.* The third profile contained the first line

and the phrase *I'm really into indie music.* The last profile included the first line and the

phrase *I'm really into indie music and I'm super active in my local Labour party.* After

looking at Kate's profile, participants answered questions about how they felt about Kate.

The study used a between-subjects design, such that each participant only saw one

version of Kate. The independent variables, *perceived musical similarity* and *perceived*

political similarity, were measured with two questions assessing participants' perceptions of

musical and political similarity with Kate. These asked *How similar do you think Kate's*

political orientation is to your own? and *How similar do you think Kate's music preference is*

to your own? Participants answered by sliding an arrow along a scale from *Not similar at all*

to *Very similar,* which ranged from 1-100. Participants' responses to these questions were

coded with the aforementioned variable labels.

The main dependent variable was social attraction towards Kate, measured by the 12-

item Social Attraction scale developed by McCroskey and colleagues (2006) to measure

interpersonal attraction. This scale has been used in previous studies on shared music and

interpersonal attraction (Baym & Ledbetter, 2009; Boer et al., 2011). As mentioned, we also

wanted to understand to what degree participants perceived themselves to be similar to Kate

based on the information provided about her, thus two of McCroskey and colleagues' (2006)

other scales were included as dependent variables. These were the 10-item Background

Homophily subscale, and the 15-item Attitude Homophily subscale. At the end of the survey

participants were debriefed, thanked, then redirected back to Prolific where they were

reimbursed for their participation.

Results

Initial statistics were run to examine how politically similar participants perceived themselves to be to Kate. A t-test examined whether liberal versus conservative participants considered themselves to be more politically similar to Kate when her profile specified her political orientation. This served as a manipulation check to ensure that participants were interpreting Kate's political party membership as intended.

When Kate's profile only stated that she was a member of the Labour party, there was a statistically significant difference in perceived political similarity ($t(50) = 10.17$ $p < .001$, $\eta^2 = .67$), with liberal participants providing higher scores ($M = 79.38$, $SD = 14.03$) than conservative participants ($M = 30.08$, $SD = 30.35$). When Kate's profile specified that she was in the Labour party and listened to indie music, there was still a statistically significant difference ($t(49) = 7.85$ $p < .001$, $\eta^2 = .56$) in political similarity ratings. Liberal participants gave higher scores for political similarity ($M = 70.27$, $SD = 22.98$) than conservative participants ($M = 21.88$, $SD = 20.94$). These findings indicate that participants interpreted Kate's membership in the Labour party as expected.

Additionally, a *t*-test analysis was conducted to examine the degree to which liberal and conservative participants felt musically similar to Kate. However, there were no statistically significant differences between how musically similar liberals and conservatives felt themselves to be with Kate when her profile only said she liked indie music ($t(49) = 1.14$ $p < .262$) or both indie music and that she was in the Labour party ($t(49) = 1.84$ $p < .072$).

Social Attraction

A hierarchical multiple regression was run to predict participants' ratings of social attraction towards Kate. A hierarchical regression was used in lieu of a standard multiple regression so it was possible to see the effect of perceived musical similarity and perceived

political similarity on social attraction scores with and without the influence of an interaction term between the two. Model 1, which only included perceived musical similarity and perceived political similarity as independent variables, was statistically significant ($F(2, 198)$ = 39.67, $p < .001$, adj R^2 = .28), with both independent variables adding significantly to the model. Model 2 included both independent variables as well as an interaction term between them, but this did not lead to a significant increase in R^2 ($F(1, 197)$ = .25, p = .619), suggesting this interaction term should not be included in the model. It is notable that perceived political orientation scores had a higher beta value (β = 0.33, $p < .001$) than perceived musical similarity (β = 0.32, $p < .001$), but only by a very small margin (.004). Coefficients are displayed below in *Table 4*.

Attitude Homophily

A hierarchal multiple regression was also run examining whether perceived political similarity and perceived musical similarity would predict attitude homophily. Model 1 was statistically significant ($F(2, 197)$ = 100.22, $p < .001$, adj R^2 = .50), and both independent variables contributed significantly to the model. Again, Model 2 included both perceived political similarity and perceived musical similarity, as well as an interaction term, but the interaction term did not contribute significantly to an increase in R^2 ($F(1, 197)$ = 1.59, p = .209). The beta values show that perceived political similarity (β = 0.55, $p < .001$) made a larger contribution to attitude homophily scores than perceived musical similarity (β = 0.29, $p < .001$). *Table 4* below shows the coefficients for this regression.

Background Homophily

The last dependent variable examined was background homophily. Model 1 in the hierarchal regression included perceived political similarity and perceived musical similarity and was statistically significant ($F(2, 194)$ = 26.76, $p < .001$, adj R^2 = .22). Both predictors

contributed significantly to the model, with perceived musical similarity contributing more (β = 0.31, $p < .001$) than perceived political similarity ($\beta = 0.25$, $p < .001$). Coefficients for Model 1 are displayed in *Table 4*. When the interaction term was included in Model 2 there was no significant increase in R^2 ($F(1, 197) = 1.11$, $p = .294$).

Table 4

Regression Coefficients for Each Dependent Variable

	B	95% CI for B		$SE\ B$	β	R^2	ΔR^2
		LL	UL				
Social Attraction							
Model						0.54	0.29
Constant	2.44***	2.276	2.554	0.07			
Political Similarity	0.01***	0.004	0.008	0.001	0.33		
Musical Similarity	0.01***	0.004	0.008	0.001	0.32		
Attitude Homophily							
Model						0.50	0.50
Constant	1.912***	1.789	2.034	0.062			
Political Similarity	0.010***	0.008	0.012	0.001	0.55		
Musical Similarity	0.006***	0.004	0.008	0.001	0.29		
Background Homophily							
Model						0.22	0.21
Constant	2.081***	1.938	2.225	0.073			
Political Similarity	0.004***	0.002	0.007	0.001	0.25		
Musical Similarity	0.006***	0.003	0.008	0.001	0.31		

***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$

Discussion

The initial analysis on feelings of similarity towards Kate between liberal and conservative participants showed that participants did interpret Kate's membership in the Labour party as expected. When Kate's profile specified that she was part of the Labour Party, liberal participants felt significantly more politically similar to her than conservative participants. Again, the goal of this analysis was to determine whether liberal participants felt more similar to Kate when she said she was in the Labour party, since membership in a political party is not the same as identifying on one side of the political spectrum or the other, despite being closely correlated (Arian & Shamir, 1983; Freire, 2008; Peral & Calvo, 2022).

This analysis indicates that, as expected, participants who are liberal see themselves as more similar to someone in the Labour party than participants who are more conservative.

This study also found that perceived musical similarity and perceived political similarity both significantly predicted social attraction. Notably, adding the interaction term did not increase the amount of variance explained by the independent variables. In other words, the regression analysis did not produce evidence that perceived musical similarity and perceived political similarity are interacting to influence social attraction. The absence of an interaction and presence of an independent effect of perceived musical similarity means we can reject the null hypothesis. This indicates that sharing music preferences can influence social attraction independently of political orientation, meaning music preference may not be acting primarily as a signal for political orientation. Additionally, the beta-values for music preference and political orientation were similar (.32 and .33 respectively), indicating that these independent variables had a similar influence on social attraction.

The findings for attitude homophily showed that perceived musical similarity is a significant predictor, which indicates that music preference is conveying *some* information about Kate's attitudes, and potentially her political orientation or values. Additionally, as predicted, the beta-values for perceived musical similarity and perceived political similarity (.29 and .55 respectively) indicate that perceived political similarity had a much larger impact on attitude homophily scores compared with similar music preferences. Adding the interaction term to the analysis on attitude homophily also did not increase the variance explained by the independent variables, indicating that perceived musical similarity and perceived political similarity are influencing attitude homophily independently of one another.

The results regarding background homophily also indicated that both perceived musical similarity and perceived political similarity significantly predicted background homophily scores. A notable finding from this regression analysis is that the beta value for perceived musical similarity is higher ($\beta = .31$) than that for perceived political similarity ($\beta = .25$), indicating that music preference signals *more* about an individual's background than political orientation does. As with social attraction and attitude homophily, adding the interaction term to the regression predicting background homophily did not increase the variance explained by the model, suggesting an independent influence of perceived musical similarity and perceived political similarity.

A notable observation from this study is that there was no significant difference in perceived musical similarity towards Kate between liberal and conservative participants. Since previous literature (North & Hargreaves, 2007a) as well as Study 2 in this thesis indicated that more liberal than conservative participants endorsed liking indie music, this finding is somewhat unexpected. While this result did not appear to change the role of perceived musical similarity in predicting the dependent variables, participants for Study 5 were recruited from a pool of participants who had filled out the earlier survey asking about music preferences. This meant they could then be assigned to a specific experimental condition based on their previously mentioned music preferences and political orientation.

Study 5 – How does sharing music preference and political orientation influence social attraction when similarity is manipulated?

In Study 4 participants self-reported their perceived musical and political similarity to the target, while in Study 5 similarity between the participant and the target was manipulated by assigning participants to a specific experimental condition depending on their specified music preferences and political orientation. As in Study 4, the null hypothesis is that is no

independent effect of music preference similarity on social attraction. The presence of an interaction between music preference similarity and political orientation similarity on social attraction presents the possibility that music preference similarity is only influencing social attraction by signaling political orientation similarity. However, if we find a main effect for music preference similarity on social attraction it would indicate that shared music preference has an independent influence on social attraction and we could reject the null hypothesis.

Method

Participants

Participants for this study were recruited from the sample of those who had completed Study 2, which asked about music preferences. Based on Study 2 about 250 participants were identified with a common profile: that of either liking indie music or disliking country music. Of these, we selected half who self-identified as liberal and half who self-identified as conservative. A power analysis specified that a minimum total sample size of 128 was required to achieve a medium effect with a power of 0.8 for a two-way analysis of variance. This finding indicated that the number of available participants should be sufficient to detect an effect in the analysis below. The final sample of participants included 255 British members of the Prolific community. The minimum age was 18 with a maximum of 45 ($M =$ 31.58, $SD = 7.70$). Five participants identified as non-binary, 105 identified as male, 144 identified as female, and one participant declined to respond. There were 111 participants who self-reported being liberal and 144 self-reported being conservative.

Design and Procedure

Based on responses in Study 2 participants were categorically assigned to an experimental condition where they saw one of four versions of Kate's profile. The four versions of Kate's profile all included the line *I'm a little shy at first but I warm up to people*

quickly. I love to read, especially outside (I also love book suggestions if you have any!), and then specified her music preference and political party membership. The first profile said *I'm really into indie music and I'm super active in my local Labour party.* The second said *I'm really into country music and I'm super active in my local Labour party.* The third profile said *I'm really into indie music and I'm super active in my local Conservative party.* Finally, the fourth profile said *I'm really into country music and I'm super active in my local Conservative party.*

These versions of Kate's profile were organized such that participants either shared both Kate's music preference and her political orientation, neither of these, or one but not the other. *Table 5* below displays the participant group assignments. This design allowed us to present information through careful matching of the participant to a specific target profile to control whether similarity on each dimension was matched or mismatched. In all other respects (e.g., measures used, image of Kate's profile, online survey) this study was the same as Study 4.

Table 5

Participant Group Assignments

Group	N	Music Preference Similarity	Political Orientation Similarity
1	68	High	High
2	64	Low	High
3	58	High	Low
4	65	Low	Low

Results

Social Attraction

A two-way analysis of variance (ANOVA) was run to examine social attraction scores towards Kate. This analysis was chosen so it was possible to compare mean social attraction

ratings towards Kate depending on whether music preference similarity with Kate was high or low, and whether political orientation similarity was high or low. The independent variables were political orientation similarity (high or low) and music preference similarity (high or low). There was a significant main effect of political orientation similarity ($F(1,249)$ = 64.49, p < .001, partial η^2 = .21). When participants' political orientation similarity with Kate was high, social attraction scores were 0.52 points higher than when participants' political orientation similarity with Kate was low (95% CI [.39, .65], p < .001), even when music preference similarity was low. There was also a significant main effect of music preference similarity ($F(1,249) = 24.63$, $p < .001$, partial $\eta^2 = .09$). When participants' music preference similarity with Kate was high, they liked her significantly more than when music preference similarity with Kate was lower by 0.32 points (95% CI [.20, .45], p < .001), even when political orientation similarity with Kate was low.

As in Study 4, there was no significant interaction between political orientation similarity and music preference similarity on social attraction scores ($F(1,249) = 2.14$, $p =$ .145, partial $\eta^2 = .01$).The significant main effect of music preference can be seen in *Figure 7.*

Figure 7

Social Attraction Scores by Political Orientation Similarity and Music Preference Similarity
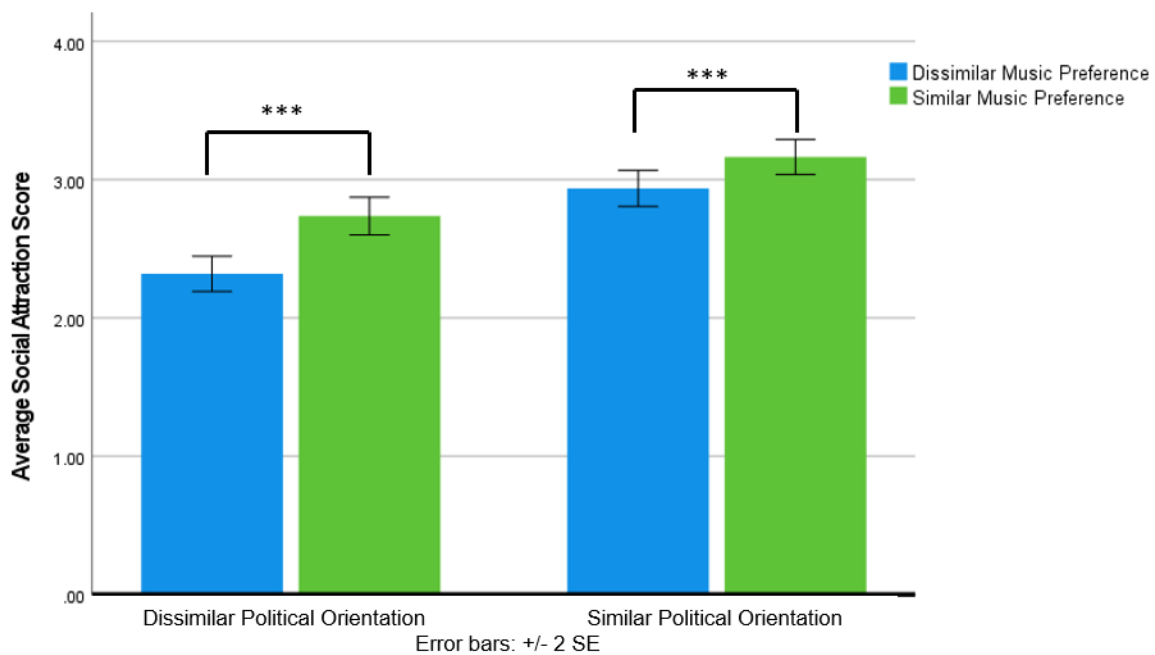
Note. Statistical significance is only displayed for the main effect of music preference similarity as this was the focus of the thesis.

***significant at *p* < .001
**significant at *p* < .01
*significant at *p* < .05

Attitude Homophily

A two-way ANOVA was run to examine the effects of political orientation similarity and music preference similarity on attitude homophily scores. There was a significant main effect of political orientation similarity ($F(1,246) = 127.12$, $p < .001$, partial $\eta^2 = .34$). When participants' political orientation similarity with Kate was high, attitude homophily scores were 0.67 points higher than when participants' political orientation similarity with Kate was low (95% CI [.55, .79], p < .001). There was also a significant main effect of music preference similarity ($F(1,246) = 23.05$, $p < .001$, partial $\eta^2 = .09$). Attitude homophily scores were 0.29 points higher when participants' music preference similarity was Kate was high

versus when it was low (95% CI [.55, .79], p < .001). There was no significant interaction

between political orientation similarity and music preference similarity on attitude homophily

scores ($F(1,246) = .25$, $p = .615$). These findings suggest that individuals associate similar

musical preference with shared attitudes, but independently of political orientation. However,

it is important to note that the effect size for music preference similarity is medium ($\eta^2 = .09$),

whereas the effect size for political orientation similarity is quite large ($\eta^2 = .34$). Main

effects for music preference similarity are displayed in *Figure 8*.

Figure 8

Attitude Homophily Scores by Political Orientation Similarity and Music Preference

Similarity

Note. Statistical significance is only displayed for the main effect of music preference similarity as this was the focus of the thesis.

***significant at *p* < .001
**significant at *p* < .01
*significant at *p* < .05

Background Homophily

A two-way ANOVA examining background homophily scores revealed a significant main effect of political orientation similarity ($F(1,247) = 39.35$, p < .001, partial $\eta^2 = .14$). When participants' political orientation similarity with Kate was high, they rated her higher in background homophily by 0.34 than when political orientation similarity was low (95% CI [.23, .44], p < .001). There was also a main effect of music preference similarity (F(1,247) = 5.30, p = .022, $\eta^2 = .02$), with those who had high music preference similarity with Kate rating her higher in background homophily by 0.12 than those who had low music preference

similarity with Kate (95% CI [.02, .23], p = .022). However, this had a relatively small effect size (η^2 = .02).

The ANOVA did not reveal a significant interaction between political orientation similarity and music preference similarity ($F(1,247)$ = 1.29, p = .258). The main effects for music preference similarity are displayed in *Figure 9*.

Figure 9

Background Homophily Scores by Political Orientation Similarity and Music Preference Similarity
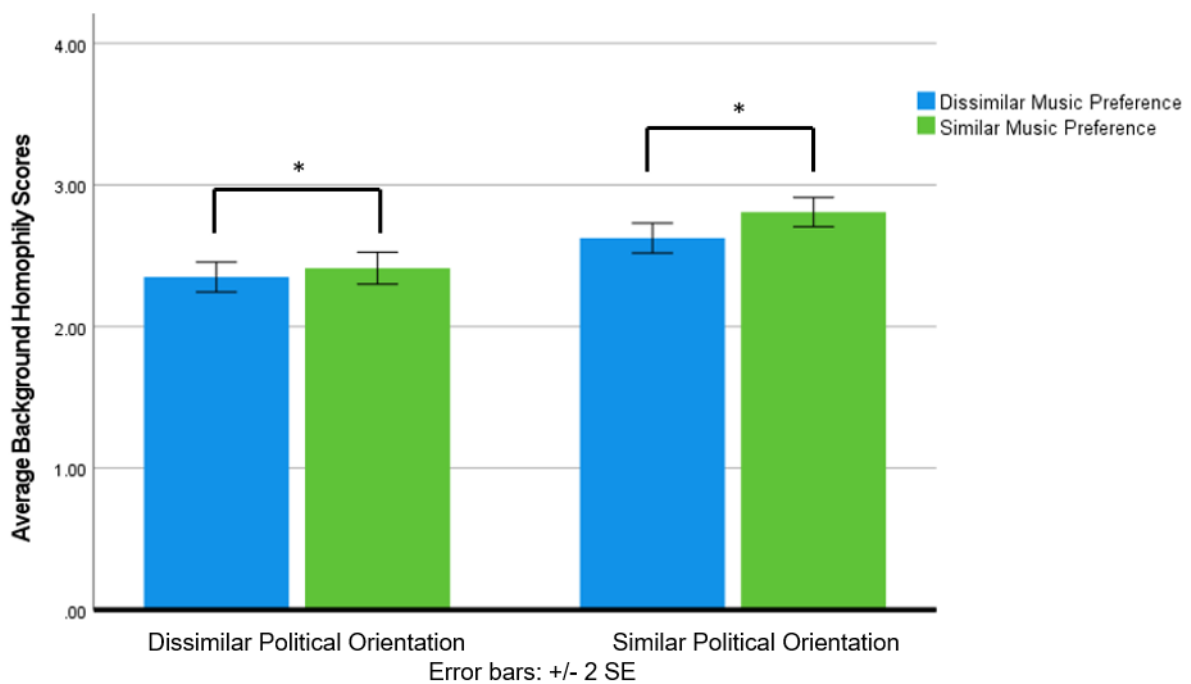
Note. Statistical significance is only displayed for the main effect of music preference similarity as this was the focus of the thesis.

***significant at *p* < .001
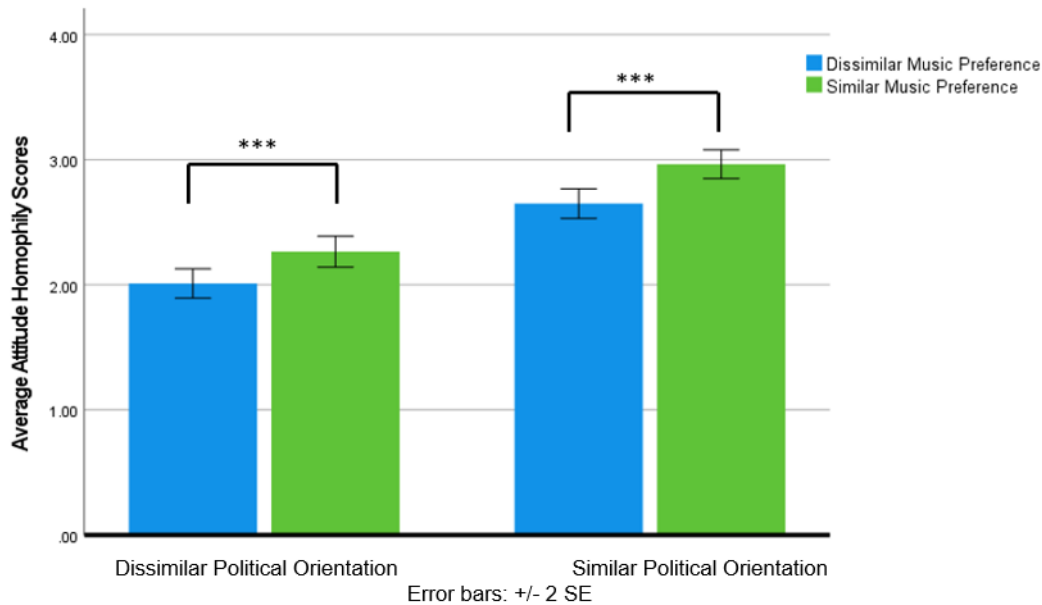**significant at *p* < .01
*significant at *p* < .05

Discussion

Study 4 showed that perceived musical similarity and perceived political similarity both predict social attraction towards a target, independently of one another. The current

study showed a similar pattern of results. The absence of an interaction between music preference similarity and political orientation similarity on social attraction, as well as the presence of a main effect of music preference similarity on social attraction, means that we can reject the null hypothesis that music preference similarity has no independent effect on social attraction.

The principal difference between these studies is that in Study 4, participants self-reported their perceived musical and political similarity towards Kate, which was then used to predict social attraction towards her. However, in Study 5 music preference similarity and political orientation similarity with Kate were manipulated by assigning participants to see different versions of her profile based on their previously reported music preference and political orientation. The similarities in these findings, despite the differences in method between the two studies, indicates that these findings cannot be attributed to self-reported versus manipulated similarity but instead appear to demonstrate a reliable, independent effect of music preference similarity.

The results for attitude homophily were similar to those in Study 4 as well. Political orientation similarity had a much stronger effect on attitude homophily than music preference similarity. However, the significant main effect of music preference on attitude homophily indicates that music preference does appear to signal attitudes to some degree, but not as much as political orientation. The results for background homophily were slightly different from those in Study 4. In Study 4, perceived musical similarity and perceived political similarity strongly predicted background homophily, with perceived musical similarity having a slightly stronger influence. However, in Study 5, although both independent variables significantly predicted background homophily scores, political orientation similarity had a much larger influence on background homophily than music preference similarity. These similarities and differences are discussed in detail below.

It is notable that the measures for attitude homophily and background homophily measure slightly different attributes, thus it is not surprising that these variables were influenced differently by music preference similarity and political orientation similarity. As mentioned above, the measure for attitude homophily asks questions about how similar an individual feels towards a target on issues of how they treat others, whether they share values, and if they think about the world similarly. The measure of background homophily asks participants how similar they feel towards a target in terms of social class, economic situation, or geographic region. These scores may be influenced differently because political orientation or music preference may reflect an individual's background differently from the way it reflects their attitudes.

General Discussion

Studies 4 and 5 examined the social impact of sharing music preferences with another person and how this can help facilitate connections between people by increasing social attraction. These studies show that shared music preference and shared political orientation are influencing social attraction independently, and that shared music preferences can increase social attraction even when political orientation is not shared. These findings support the previous literature on similarity and attraction (Byrne, 1961a; Byrne & Nelson, 1965c; Montoya & Horton, 2013), but also show the unique impact of shared music preference and shared political orientation on social attraction. Additionally, the unique contribution of shared music preference on attitude homophily and background homophily illustrates that music preference could be conveying information about Kate's attitudes and her background in ways that previous studies have not demonstrated. It is thus possible that music preferences do indeed convey non-musical information about an individual, and that this information also influences social attraction, even if it is not interacting with political orientation to do so.

Social Attraction

The analyses on social attraction from both Studies 4 and 5 were consistent with one another. Both shared political orientation and shared music preference affected social attraction independently, indicating that shared music preference increases social attraction regardless of whether political beliefs are aligned.

Furthermore, the beta values in the regression analysis in Study 4 indicate that perceived musical similarity and perceived political similarity impacted social attraction towards Kate almost equally. However, in Study 5, the effect sizes indicate that political orientation similarity had a much larger impact on social attraction towards Kate than music preference similarity. This discrepancy could be related to the differences in design between the studies. In Study 4, participants received different information about Kate depending on the experimental condition they were in, while in Study 5 participants in each experimental group were given information about both Kate's music preference and her political orientation. The effect of music preference similarity on social attraction may have decreased in Study 5 because it was being compared to similarities or differences in political orientation in each condition that were explicitly stated. It may be the case that political orientation is a stronger predictor for social attraction towards a target overall. However, this does not diminish the evidence for the independent effect of shared music preference on social attraction. It is also important to note that in Study 5 participants were assigned to conditions based on their self-reported music preference and political orientation, this means that they may have had stronger feelings about their respective music preferences and political orientations than participants in Study 4, who were assigned randomly.

These results support previous similarity-attraction literature by illustrating that the more participants share with the target, the higher they will endorse feeling socially attracted to the target (Ajzen, 1974; Byrne & Nelson, 1964; Montoya et al., 2008; Montoya & Horton,

2013). However, the information processing model mentioned in Chapter 1 suggests that social attraction as a result of similarity can be partially explained by the assumptions people make once similarity in one area has been established (Ajzen, 1974; Kaplan & Anderson, 1974; Montoya & Horton, 2013). The evidence from Studies 4 and 5 indicates that social attraction is still possible when participants are made aware of specific differences.

The independent effect of shared music preference on social attraction presents implications for the use of music preferences in bringing people together in spite of other differences (Harwood, 2017). Previous literature focusing on bridging differences via music tends to focus on specifically exposing participants to music of other cultures (Case et al., 2021; Kuchenbrandt et al., 2014; Neto et al., 2015, 2019; Sousa et al., 2005), however there may be contexts in which this is not a straightforward process. Using shared music preference to bring different people together may serve as an easier or more straightforward starting point, compared with exposing people to new genres of music. These implications are discussed further in the conclusion of the thesis.

Attitude Homophily

Results for attitude homophily also appeared to be consistent between Study 4 and 5. These two studies provided evidence that shared music preference influenced participants' perceptions of attitude homophily with Kate, and that this effect was independent of the effect of shared political orientation. Overall, participants rated attitude homophily with Kate significantly higher when they shared her political orientation, both in Study 4 and Study 5. This finding aligns with what might be expected, considering that political orientation is frequently shaped by attitudes and values (Caprara et al., 2006; Knutsen, 1995; Van Deth & Geurts, 1989). There was a similar, albeit smaller, effect on attitude homophily when participants shared music preference, which suggests that music preference can signal

attitudes to some degree. This might provide some support for the possibility that music preference is also signaling values (Boer, et al., 2011). However, these effects emphasize the fact that while music might convey some information about attitudes, it does not do so as powerfully or in the same way that information about political party membership does. Music may be signaling aspects of a person's attitudes, but this may not be the reason for increased social attraction as a result of shared music preference. The information processing model suggests that when individuals are made aware of similarities they share with another person, they will begin to presume they share similarities in other attributes as well and this increases social attraction (Ajzen, 1974; Kaplan & Anderson, 1974; Montoya & Horton, 2013). These findings do not necessarily invalidate the possibility that the information processing model can help explain increased social attraction via similarity, but they do illustrate the complexities of how music preferences may signal other attributes as well as lead to attraction.

Background Homophily

The results from both studies on background homophily also suggested that both shared music preference and shared political orientation had an independent impact on background homophily scores. However, an interesting aspect of these findings was the difference in effect of shared music preference versus that of shared political orientation on background homophily between the two studies. The multiple regression in Study 4 showed a higher beta-value for perceived musical similarity than for perceived political similarity, suggesting that music preference has a stronger influence on background homophily. However, the analysis of variance in Study 5 revealed that the effect size for political orientation similarity was large while the effect size for music preference similarity was small, indicating that political orientation had the larger effect on background homophily scores.

These results are interesting considering research which suggests that music preferences can have a strong connection with one's national background, family background, and peer groups (Boer et al., 2013; Boer & Abubakar, 2014; Dys et al., 2017; Miranda & Gaudreau, 2018). This research suggests that one might expect music preference to be a stronger signal of elements of someone's background. In Study 5, participants in all experimental conditions saw information about both Kate's music preference and her political orientation, whereas in Study 4 only one condition displayed both attributes. If political orientation has a larger effect on feelings of background homophily towards a target than music preference does, the fact that all participants saw information about Kate's background may explain why this effect was visible in Study 5 and not Study 4. Future research could examine how music might display information about an individual's background in order to shed light on the inconsistency between Studies 4 and 5.

Limitations and Future Directions

These studies are not without limitations. In Study 5, two of Kate's profiles did not align with previously established stereotypes that associate specific genre preferences with certain political orientations (Dys et al., 2017; North & Hargreaves, 2007a; Shevy, 2008). It is possible that these non-stereotypical profiles impacted the results by violating participants' expectations of what Kate's music preference or political orientation was more likely to be. Study 6 will focus on looking into this possible limitation more closely by examining whether participants feel differently about targets who do or do not fit certain stereotypes.

Furthermore, neither study included a control condition or variable to compare with the effects of shared music preference so it is not possible to say decisively that the effects above are unique to shared music preferences. Future research could expand on Studies 4 and 5 by including a control variable, which may help illustrate whether these findings are unique

to music preferences, or are simply a reflection of the similarity-attraction phenomenon in general.

One notable and unexpected finding in Study 4 is that participants' self-reported perceived musical similarity with Kate did not conform to what might be expected based on previous studies. Research on the correlates of music preference suggests that indie music tends to be more popular with liberal participants and less popular with conservative participants (Dys et al., 2017; North & Hargreaves, 2007a; Rentfrow et al., 2009; Rentfrow & Gosling, 2007; Shevy, 2008). Because Kate's profile specified that she liked indie music, we would expect the conservative participants to endorse low perceived musical similarity with Kate and for liberal participants to endorse high perceived musical similarity with Kate. However, the amount of variance in these ratings was larger than expected based on previous research (Fox & Williams, 1974; Schwär & Middleton, 2017) which indicates that participants' music preferences do not always align with political orientation in the way previous literature suggests.

Recruitment in Study 5 attempted to correct for this inconsistency by distributing the study to participants who had already completed a survey asking about their music preferences and political orientation. This approach allowed us to assign participants to specific experimental conditions (i.e., the version of Kate's profile they would see). However, it was clear from participant responses that individual music preferences are varied, and this variance does not always occur on political lines. This finding may produce additional challenges for future research on political orientation and music preferences since there is no guarantee that, in any sample of participants, music preference and political orientation will align with previously established stereotypes.

Conclusions

These findings expand the extant research on music preference by illustrating the independent effect of shared music preference on social attraction. There was also evidence that shared music preferences can increase social attraction, even considering salient differences (e.g., political orientation). Additionally, it appears that when participants perceive themselves as similar musically, they also perceive themselves as having similar attitudes and backgrounds as well, which is what would be predicted by the information processing model. These findings emphasize the role that music can play to connect people, and also has implications for the role of music preferences in helping to bring together communities that are different from one another in other ways.

Chapter 4 – Does Alignment with Stereotypes Matter?

Thus far this thesis has established that individuals make assumptions about music preference based on political orientation (Study 1) and vice versa (Study 3). It has also established that individual music preferences tend to align with these associations with relative accuracy (Study 2). Furthermore, Studies 4 and 5 indicated that while music preferences and political orientation might be related to one another, they influence social attraction independently. Each of these findings helps illustrate how music preferences can shape perceptions of others in certain social contexts. However, one important point to note is that out of the profiles of the target, Kate, that were displayed to participants, two aligned with the stereotypes established in Study 1 linking music preference with political orientation while the other two did not align with the previously established stereotypes. This represented a potential confound (i.e., the effects of the previous studies may have been due to this stereotypical alignment, rather than to musical and political preferences per se). We were thus curious whether this alignment or lack thereof influenced social attraction towards Kate. Study 6 addresses this question.

Study 6 – Does alignment with stereotypes affect how music preference similarity and political orientation influence attraction?

Much of the early research on stereotypes is based on those around race (Gilbert, 1951; Katz & Braly, 1933), however research has expanded to examine gender stereotypes, stereotypes of members of the LGBTQ, and even stereotypes surrounding attractiveness (Eagly et al., 1991; McInroy & Craig, 2017; Tabassum & Nayak, 2021). Despite the breadth of research investigating stereotypes overall, there is not much research at present examining how congruence with stereotypes influences attraction. The few studies that do exist appear to focus specifically on gender roles. Early studies on attractiveness with regards to gender

roles revealed that participants felt targets who were more aligned with gender roles to be

more attractive (Shaffer & Johnson, 1980; Shaffer & Wegley, 1974). However, more recent

research found that participants found targets who were *incongruent* with gender roles more

attractive than those who were congruent (Chappetta & Barth, 2016, 2022).

One study that relates to music preference and alignment with expectations was

conducted by Ziv and colleagues (2008). The researchers examined how participants

evaluated targets who listened to high or low-status music and were either high or low-status

in appearance. An interaction between status of music preference and status of appearance

indicated that when high-status appearing targets liked high-status music, evaluations of them

were higher than when these targets preferred low-status music. However, for targets who

appeared to be of low-status, preference for high or low status music did not significantly

change how they were evaluated (Ziv et al., 2008). This finding indicates that participants

perceived the incongruent targets differently than they perceived the targets whose

preferences and appearances aligned with expectations. Alignment with expectations

regarding high-and low-status appearances and high- and low-status music is not quite the

same as alignment with stereotypes about political orientation and music preference.

However, since participants in Study 5 saw versions of Kate which did not align with the

previously established stereotypes, the findings from Ziv and colleagues (2008) indicate the

possibility that a lack of alignment influenced how much participants liked her. The

following study seeks to determine whether this alignment with stereotypes interacted with

musical similarity and political similarity to influence social attraction towards Kate. Since

the previous research on alignment with stereotypes and resulting attraction does not appear

consistent there are no a priori hypotheses for this study regarding whether participants will

like Kate when she aligns with stereotypes more or less than when she does not align with

stereotypes. As with the previous two studies, we also examined the influence of shared

music preferences and shared political orientation on social attraction.

Method

Participants

The power analysis specified a minimum sample of 77 for a linear multiple regression

involving 3 predictors with a power of 0.8. Additionally, the power analysis specified a

minimum total sample size of 240 to achieve a medium effect with a power of 0.8 for a three-

way analysis of variance. Study 5 illustrated effect sizes ranging from small ($\eta^2 = .02$) to

large ($\eta^2 = .34$), thus to ensure that smaller effects could also be detected, the sample size for

the current study was increased.

Participants were recruited from Prolific using their feature which allowed for the

filtering of participants by self-reported political orientation. There were 238 self-reported

conservatives and 257 self-reported liberals, for a total sample size of 495. Average age was

44.24 years ($SD = 28.76$); 242 participants identified as male, 245 identified as female, six

identified as non-binary, and two selected "rather not say."

Design and Procedure

This study was conducted online via Qualtrics and used a between-groups design.

Instead of selecting participants whose political orientation and music preferences

were already known, a large sample of participants were recruited and questions about their

music preferences were embedded in the survey. As with the previous two studies, the design

was between-subjects such that each participant randomly saw only one version of Kate's

profile. There were four total versions of Kate's profile, all of which mentioned her music

preference and political party affiliation. *Table 6* below illustrates Kate's music preference

and political orientation for each version.

Table 6

Versions of Kate

Group	*n*	Music Preference	Political Orientation
1	123	Indie	Labour
2	123	Country	Labour
3	126	Indie	Conservative
4	123	Country	Conservative

After looking at Kate's profile, participants answered the three questionnaires by

McCroskey and colleagues (2006), asking about social attraction, attitude homophily, and

background homophily. Next participants were asked four questions about their music

preference. One question asked participants to tick each of the genres they liked, followed by

a question asking participants to tick each of the genres they did *not* like. The genres

presented were the same 16 used in the previous studies in this thesis (pop, rock, classical,

indie, alternative, rap/hip-hop, country, jazz, top 40/chart music, blues, electronic, soul, folk,

heavy metal, and sound track). Next participants indicated how much they liked the eight

polarized genres (classical, indie, alternative, rap/hip-hop, country, jazz, and electronic). An

open-ended question at the end of the survey gave participants space to indicate any other

music preferences they had that were unlisted. After completing the survey, participants were

thanked for their participation and redirected back to the Prolific website to be credited for

their time.

Coding the Data

Each of Kate's profiles was coded for whether it aligned with stereotypes or not.

Additionally, participants were coded based on whether they shared Kate's music preference

and whether they shared her political orientation. This procedure meant that for each participant it was possible to group them based on whether they saw a stereotypical or non-stereotypical version of Kate, whether they shared her music preference or did not, and whether they shared her political orientation or did not. To code for political orientation similarity, participants' self-reported political orientation was compared with the political party displayed on the version of Kate's profile they saw. To code for music preference, participants' self-reported music preferences were compared with the genre listed on the version of Kate's profile they saw.

Results

Political Similarity

As in Study 4, it was important to verify that participants were interpreting Kate's political party membership as intended. Thus, a manipulation check in the form of a *t*-test was run to compare participants perceptions of political similarity with Kate. Mean similarity scores were compared between self-identified liberal participants and self-identified conservative participants based on whether they saw the Labour or Conservative version of Kate. In other words, when self-reported liberals saw Labour Kate and when self-reported conservatives saw Conservative Kate, participants rated their perceived political similarity with her as significantly higher ($M = 73.71$, $SD = 20.13$) than when liberals saw Conservative Kate and when conservatives saw Labour Kate ($M = 15.83$, $SD = 18.44$, $t(492) = 33.26$, $p < .001$, $\eta^2 = .69$).

Effects of Music Preference, Political Orientation, and Stereotypicality

Social Attraction

A 2x2x2 analysis of variance was conducted in order to compare mean social attraction scores towards Kate based on whether Kate's profile aligned with stereotypes or did not align with stereotypes. This comparison was in addition to examining the influence of music preference similarity and political orientation similarity on social attraction such that the analysis was 2 (aligned with stereotypes vs not aligned with stereotypes) x 2 (high music preference similarity vs low music preference similarity) x 2 (high political orientation similarity vs low political orientation similarity). Music preference similarity, political orientation similarity, and whether Kate's profile aligned with stereotypes were input as independent variables and social attraction towards Kate was the dependent variable. The only significant findings were the main effects of music preference similarity ($F(1,478) = 10.33$, $p = .001$, $\eta^2 = .02$) and political orientation similarity ($F(1,478) = 78.83$, $p < .001$, $\eta^2 = .14$). Whether Kate's profile was aligned with stereotypes did not have a significant effect on social attraction towards her ($F(1,478) = .33$, $p = .565$).

Next, a two-way analysis of variance was run to examine how music preference similarity and political orientation similarity impacted social attraction towards Kate, in order to see whether the results of Studies 4 and 5 replicated. There was a significant main effect of music preference similarity ($F(1,482) = 11.62$, $p = .001$, $\eta^2 = .02$) and of political orientation similarity ($F(1,482) = 85.20$, $p < .001$, $\eta^2 = .15$). Pairwise comparisons indicated that when participants' music preference similarity with Kate was high average social attraction scores were .17 points higher than when music preference similarity with Kate was low (95% CI [.07, .27], $p = .001$). Additionally, when participants' political orientation similarity with Kate was high, mean social attraction scores were increased by .47 points compared with when political orientation similarity with Kate was low (95% CI [.37, .57], $p < .001$). There

was no significant interaction between music preference similarity and political orientation

similarity. Group means are displayed in *Figure 10*.

Figure 10

Social Attraction Scores by Political Orientation Similarity and Music Preference Similarity

Note. Because there was no significant effect of stereotype alignment on social attraction scores, this chart only illustrates the effects of music preference similarity and political orientation similarity. Statistical significance is only displayed for the main effect of music preference as this was the focus of the thesis.

* Significant at p < .05
** Significant at p < .01
*** Significant at p < .001

Attitude Homophily

As with the analysis on social attraction, a three-way analysis of variance was run in

order to examine how music preference similarity, political orientation similarity, and

whether Kate's profile aligned with stereotypes on attitude homophily scores. However,

again, the only significant findings were the main effects of music preference similarity

$(F(1,468) = 17.57, p < .001, \eta^2 = .04)$ and political orientation similarity $(F(1,468) = 78.83, p$

$< .001, \eta^2 = .28)$.

Subsequently, a two-way analysis of variance was run to examine the influence of

music preference similarity and political orientation similarity on attitude homophily scores.

There was a significant main effect of music preference similarity on attitude homophily

$(F(1,472) = 20.04, p < .001, \eta^2 = .04)$. There was also a significant main effect of political

orientation similarity on attitude homophily scores $(F(1,472) = 196.87, p < .001, \eta^2 = .29)$.

Pairwise analysis on the main effect of music preference similarity revealed that mean

attitude homophily scores were .21 points higher when music preference similarity with Kate

was high as opposed to low (95% CI [.12, .30], $p < .001$). Pairwise analysis on the main

effect of political orientation similarity indicated that when participants' political orientation

similarity with Kate was high, average attitude homophily scores were .66 points higher than

when political orientation similarity with Kate was low (95% CI [.57, .75], $p < .001$). There

was no significant interaction between the independent variables. Average attitude homophily

scores are displayed in *Figure 11* below.

Figure 11

Attitude Homophily Scores by Political Orientation Similarity and Music Preference

Similarity

Note. Because there was no significant effect of stereotype alignment on social attraction scores, this chart only illustrates the effects of music preference similarity and political orientation similarity. Statistical significance is only displayed for the main effect of music preference as this was the focus of the thesis.

* Significant at p < .05
** Significant at p < .01
*** Significant at p < .001

Background Homophily

A three-way analysis of variance was run examining how background homophily scores were affected by music preference similarity, political orientation similarity, and whether Kate's profile was aligned with stereotypes. As with the previous two dependent variables the only significant findings were the main effects of music preference similarity

($F(1,476) = 7.36$, $p < .001$, $\eta^2 = .02$) and political orientation similarity ($F(1,476) = 41.94$, $p <$

.001, $\eta^2 = .08$).

Next, a two-way ANOVA was run to explore whether background homophily scores

were affected by music preference similarity and political orientation similarity. There was a

significant main effect of music preference similarity ($F(1,480) = 8.25$, $p = .004$, $\eta^2 = .02$) on

background homophily scores. There was also a significant main effect of political

orientation similarity on background homophily scores $F(1,480) = 46.61$, $p < .001$, $\eta^2 = .09$).

Pairwise analysis indicated that when participant music preference similarity with Kate was

high, average background homophily scores were .14 points higher than when music

preference similarity with Kate was low (95% CI [.04, .23], $p = .004$). Additional pairwise

analysis indicated that when political orientation similarity with Kate was high, average

background homophily scores were .33 points higher compared to when political orientation

similarity with Kate was low (95% CI [.23, .42], $p < .001$). There was no statistically

significant interaction between music preference similarity and political orientation

similarity. Means for background homophily are displayed in *Figure 12*.

Figure 12

Background Homophily Scores by Political Orientation Similarity and Music Preference

Similarity

Note. Because there was no significant effect of stereotype alignment on social attraction scores, this chart only illustrates the effects of music preference similarity and political orientation similarity. Statistical significance is only displayed for the main effect of music preference as this was the focus of the thesis.
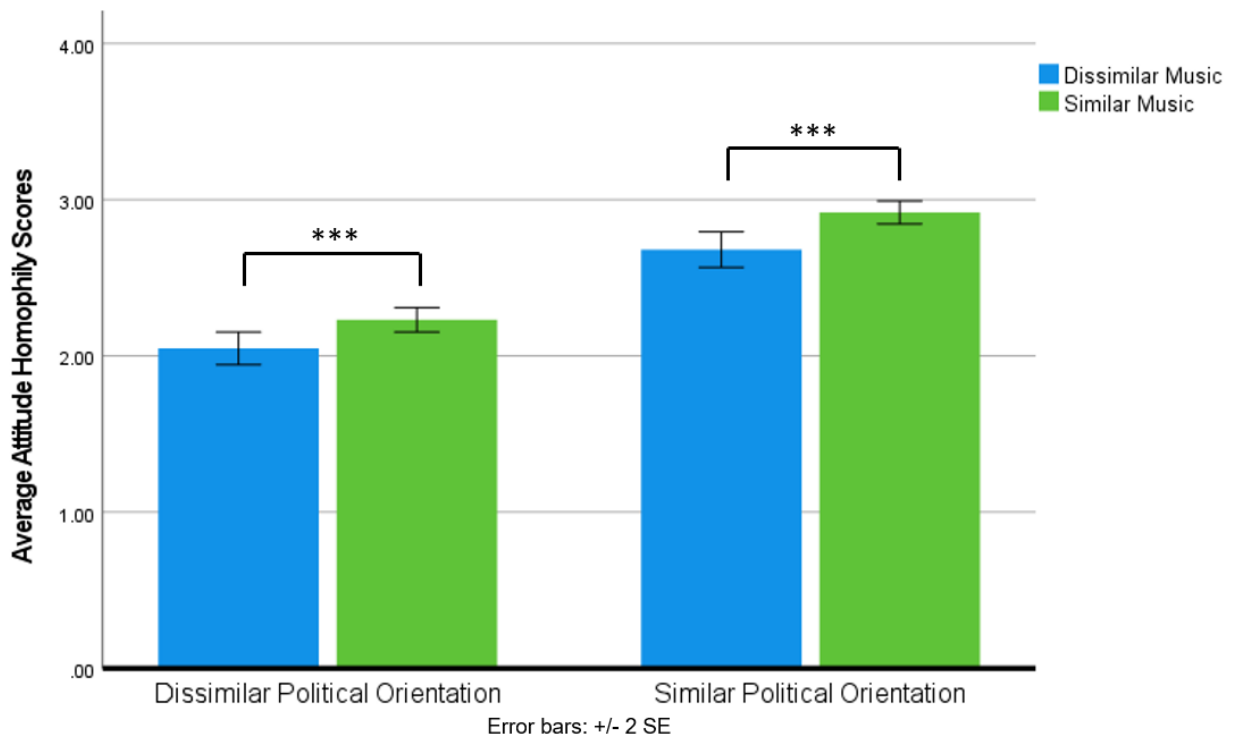* Significant at p < .05
** Significant at p < .01
*** Significant at p < .001

Predicting Social Attraction, Background Homophily, and Attitude Homophily

As in Study 4, hierarchical multiple regression was run to examine the degree to

which perceived musical and political similarity predicted social attraction. The independent

variables in Model 1 were perceived musical similarity and perceived political similarity; the

outcome variable was social attraction towards Kate. In Model 2 an interaction term was

added to examine whether perceived musical similarity and perceived political similarity

interacted to influence social attraction. Model 1 was statistically significant with both independent variables adding to the model (R^2 = .37, $F(2,475)$ = 139.38, p < .001, adjusted R^2 = .37). In model 2 adding the interaction term did not lead to a significant increase in R^2 ($F(3, 474)$ = .84, p = .360). For this reason, only Model 1 is included in the *Table 6* below. The beta-value for perceived political similarity (β = .54) indicates that this variable had more than twice the impact on social attraction than that for perceived musical similarity (β = .23).

A hierarchical regression was also run examining how perceived musical similarity and perceived political similarity influenced attitude homophily scores. Model 1, which included perceived musical similarity and perceived political similarity as independent variables and attitude homophily score as the dependent variable, was statistically significant with both independent variables contributing significantly to the model (R^2 = .62, $F(2,466)$ = 385.38, p < .001, adjusted R^2 = .62). Model 2 included both previously mentioned independent variables as well as an interaction term, however adding the interaction term did not significantly increase R^2 ($F(3, 474)$ = .18, p = .670).

The beta-value for perceived musical similarity indicated that there was an effect of perceived musical similarity on attitude homophily (β = .23). However, the beta value for perceived political similarity (β = .73) was substantially higher, indicating that perceived political similarity had a much larger impact on attitude homophily than perceived musical similarity. Regression coefficients can be found in *Table 6*.

A hierarchical regression was run examining how background homophily scores were influenced by perceived musical similarity and perceived political similarity, which were the independent variables. Model 1 was statistically significant, with both perceived musical similarity and perceived political similarity contributing to the model (R^2 = .27, $F(2,473)$ =

85.36, $p < .001$, adjusted $R^2 = .26$). In Model 2, an interaction term was added, however it did not lead to a significant increase in R^2 ($F(3, 474) = .057$, $p = .811$).

Additionally, the beta-value for perceived musical similarity ($\beta = .22$) was about half the size of that for perceived political similarity ($\beta = .44$), indicating that perceived political similarity had twice the influence on background homophily scores than perceived musical similarity did. Regression coefficients for background homophily can be found in *Table 7*.

Table 7

Regression Coefficients for Perceived Musical and Political Similarity on Each Dependent Variable

	B	95% CI for B		SE B	β	R²	ΔR²
		LL	UL				
Social Attraction							
Model						0.37	0.37
Constant	17.53***	16.82	18.24	0.36			
Political Similarity	0.07***	0.06	0.08	0.01	0.54		
Musical Similarity	0.04***	0.03	0.05	0.01	0.23		
Attitude Homophily							
Model						0.62	0.62
Constant	26.09***	25.01	27.17	0.55			
Political Similarity	0.19***	0.17	0.2	0.01	0.73		
Musical Similarity	0.07***	0.05	0.09	0.01	0.23		
Background Homophily							
Model						0.27	0.27
Constant	20.3***	19.43	21.17	0.44			
Political Similarity	0.07***	0.06	0.08	0.01	0.44		
Musical Similarity	0.04***	0.03	0.05	0.01	0.22		

***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$

Discussion

The goal of the current study was to examine whether social attraction, attitude homophily, and background homophily scores were affected differently when Kate's profile was aligned with stereotypes versus when it was not aligned with stereotypes. Results suggest that alignment with stereotypes did not influence the effect that shared music preference or shared political orientation had on social attraction, attitude homophily, or background homophily. This finding means that we fail to reject the null hypothesis that alignment with stereotypes did not have any influence on social attraction towards Kate. The other results regarding the influence of shared music preference and shared political orientation on each of the dependent variables were similar to those in Studies 4 and 5.

Social Attraction

Results from the three-way ANOVA in Study 6 suggest that alignment with stereotypes did *not* significantly influence social attraction towards Kate. Additionally, the two-way ANOVA run examining music preference similarity and political orientation similarity displayed results similar to Study 5, indicating that shared music preference and shared political orientation appear to influence social attraction independently of one another. Results from the subsequent regression analysis also supports this finding by illustrating that perceived musical similarity and perceived political similarity are independently influencing social attraction. The combined findings from the current study, and Studies 4 and 5 provide meaningful evidence that these two independent variables are influencing social attraction separately.

Attitude Homophily

The three-way ANOVA examining attitude homophily scores also indicates that alignment with stereotypes did not have a significant effect on this dependent variable. The

significant main effect of music preference similarity on attitude homophily suggests that

shared music preference is signaling some information about attitudes. However, the small

effect size in comparison with that for music preference similarity indicates that political

orientation has a much stronger impact on this variable. Additionally, the regression analysis

showed that perceived musical similarity and perceived political similarity also had

independent effects on attitude homophily. This result suggests that perceived music

preference similarity predicts attitude homophily scores, suggesting that when participants

view themselves as similar to Kate musically, they also see themselves as sharing some

attitudes. Overall, these findings reflect what was found in Studies 4 and 5, providing

evidence that similarities in music preference can signal attitudes independent of similarities

in political orientation, even if not as substantially.

Background Homophily

The ANOVA results show that music preference similarity and political orientation

similarity are independently influencing background homophily. Additionally, whether

Kate's profile was aligned with stereotypes did not appear to affect background homophily

scores. Furthermore, the regression analysis provides evidence that perceived musical

similarity also predicts background homophily scores, indicating that Kate's music

preference may be signaling aspects of her background. These findings also reflect those of

Studies 4 and 5, illustrating an independent effect of shared music preference and shared

political orientation on background homophily scores.

General Discussion

The current studies tested whether alignment with stereotypes is an important factor in

predicting social attraction, attitude homophily, and background homophily. The results of

Study 6 indicate that this is likely not the case and combined results from these two studies

suggest that alignment with stereotypes is not an important factor in predicting these variables. Study 6 also replicated all the findings from Studies 4 and 5, making it a beneficial general replication of the central results of the thesis. These findings provide additional evidence for the independent effect of shared music preference and shared political orientation on social attraction, attitude homophily, and background homophily.

One potential limitation in these studies is that information about whether participants perceived Kate to align with stereotypes or not was not collected. Although there is evidence to suggest that stereotypes about what music preferences are popular between liberals and conservatives, both from Studies 1 and 3 and from previously published research (Kristen & Shevy, 2013; Schwär & Middleton, 2017; Shevy, 2008), it is not clear whether participants are conscious of these stereotypes when looking at a target individual. Future research directly asking participants whether they believe a target aligns with stereotypes could shed light on whether these stereotypes influence social attraction in any significant way. Future research addressing these questions is discussed in more detail in the conclusion of this thesis.

Chapter 5 – Music Through COVID-19

In contrast to the studies presented in Chapters 1-6, which looked at how music preferences, as a listener, plays a role in social attraction, the two studies in this chapter focus on how people connect through participation in group music-making, specifically group singing in choirs. These studies examine how the social aspects of making music together appear to be one of the most important elements for creating a fulfilling choir experience. Note that for the purpose of this thesis "group singing" and "choir" are used interchangeably.

In March of in 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic (World Health Organization, 2020). Once the COVID-19 virus began to spread, countries around the world established lockdown protocols which included restricting public gatherings and in-person group socialization. The pandemic, and the resulting inability for groups to meet in person, presented a unique opportunity to ask choir members directly what they missed most about in-person choir participation. Examining choral rehearsals, during lockdown is especially interesting because as choirs moved online in order to continue rehearsing, it becomes possible to explore the differences between this online format and the previous in-person format. While online choir rehearsals may still involve the basic activity of singing, they do not include the social elements of in-person rehearsal such as meeting together, physical contact, or sharing space to sing in. By asking participants about their experiences and what they miss about in-person singing, it may be possible to isolate the social aspects of the choir experience that impart various benefits.

The two studies in this chapter explore how participants felt when they were no longer able to participate in their singing groups in-person. Study 7 compared singing groups with exercise-based groups and other types of groups on how much they missed their group activity, what elements of their group activity they missed, and whether they still felt bonded

to their groups after lockdown began. Study 8 took a more detailed approach, interviewing

members of one choir in East London that attempted to adapt to an online format for

rehearsals in order to get detailed information on how participants felt about the choir, not

being able to sing in person, and the adapted version of rehearsal. Together, these studies

capture two approaches to examining the benefits of singing together, and help expand

understanding of how music facilitates human connection.

The introduction to this thesis discusses research illustrating the social benefits of

singing together, However, because Study 7 includes a comparison of participants' feelings

on no longer being able to participate in a variety of group activities it is important to review

the literature surrounding participation in group activities in general.

Positive Impacts of Group Activities

Research indicates that membership in a group is highly beneficial for well-being,

mental health, self-esteem, and sense of identity (Bat-Chava, 1994; Greenaway et al., 2015;

Haslam et al., 2016; Iyer et al., 2009; Jetten et al., 2015). Several studies conducted in this

area have found that membership in any kind of group, such as a sports team, church

congregation, political party, social club, or exercise class can result in positive outcomes,

such as reduced depression, faster recovery from physical activity, and increased well-being

after a stroke (Cruwys et al., 2013; Haslam et al., 2016; Jetten et al., 2015; Jones & Jetten,

2011; Sani et al., 2012).

In their theoretical review, Correll and Park (2005) note that membership in different

kinds of groups fulfill different, but important, needs for their members. In general, the

published literature suggests that increases to well-being and holistic health are more

pronounced when an activity is done in a group compared to when it is done alone (Bailey,

2006; Stewart & Lonsdale, 2016; Yorks et al., 2017). Studies comparing different kinds of

group activities have found increases in measures of well-being, regardless of the activity

taking place (Lamont & Ranaweera, 2020; Maury & Rickard, 2018, 2022; Pearce et al., 2016;

Stewart & Lonsdale, 2016; Valentine & Evans, 2001). It is possible that the above ideas of

flow or communitas help explain why participating in activities as a group is more beneficial

than participating in the activity alone. One type of activity which appears to impart more

benefits when engaged in as a group as opposed to alone is exercise groups.

Benefits of Group Exercise

Alongside group singing, group exercise is a popular group activity examined in

Study 7. Exercise groups were used as a comparison with singing groups partly because they

also require a degree of coordination and physicality with other group members. This

physical similarity meant that it was possible to look at the distinct elements of *singing*

together in comparison with simply doing a physical activity together. In addition, there has

been extensive evidence for the physical benefits of exercise and participating in exercise

groups including reduced risks for heart disease, diabetes, osteoporosis, Alzheimer's, and

some cancers for adults (Blair et al., 2001; Reiner et al., 2013; Warburton et al., 2006), and

for children and adolescents (Sothern et al., 1999). Research on endorphin release as a result

of physical activity (Farrell et al., 1982) has also provided evidence that it can reduce pain

(Suri et al., 2017) and improve hormonal and metabolic regulation (Goldfarb & Jamurtas,

1997).

Along with the physical benefits, researchers have examined the impact of physical

activity on mental health (Biddle, 2016), including reduced depression and anxiety (Stanton

et al., 2014) even for those with mild symptoms (Tyson et al., 2010). Saxena and colleagues

(2005) published a review of research discussing physical activity to combat mental

disorders. The authors cited evidence that increases in physical activity over time were

correlated with increases in well-being, and discussed the possibility that physical activity

could be effective for helping with depression and anxiety (Saxena et al., 2005). Similar

reviews also found evidence for the positive impact of physical activity on mental health for

general populations (Paluska & Schwenk, 2000), children and adolescents (Biddle & Asare,

2011), and the clinically depressed (Craft & Perna, 2004). These benefits may help explain

why clinicians are recommending the incorporation of physical-activity based treatments for

those with mental health diagnoses (Happell et al., 2011; Richardson et al., 2005).

Membership in an exercise group may also provide benefits to members above and

beyond the activity itself, which may be part of why research on older adults suggests that

they prefer exercise in a group setting over exercising alone (Beauchamp et al., 2007). A

study done by Yorks and colleagues (2017) on the positive impact of exercise for medical

students found that those who participated in group exercise experienced the largest reduction

in stress and increase in quality of life over those who exercised on their own, and those who

did not exercise at all. Research on group exercise interventions for medical issues has

produced results suggesting that some of the positive impacts associated with the group were

based on the social elements (Mack et al., 2017; Midtgaard et al., 2006). This was the case for

cancer patients, who felt a sense of "esprit de corps," (Midtgaard et al., 2006) and those with

osteoporosis, whose feelings of group support promoted overall wellbeing (Mack et al.,

2017). Spink and colleagues (2014) found that feeling of group cohesion, even in

unstructured group exercise, promoted frequency of continued participation in an exercise

program. Results from a study conducted by Plante and colleagues (2001) illustrated that

participants felt calmer after exercising with a partner, as opposed to alone. These findings

indicate the value of group exercise for participants beyond the benefits of physical exercise

and indicate why it is an appropriate group to compare with group singing in the context of

this research.

Group Activities During COVID-19

The research above discusses the various benefits to participation in a group, with a focus on singing groups, although noting that any kind of social group membership is beneficial to overall well-being (Cruwys et al., 2013; Haslam et al., 2008; Jones & Jetten, 2011). It is worth emphasizing that much of the research concerning these activities when they are in the context of a group emphasizes the importance of the social aspect for augmenting or facilitating some of the manifested benefits of the activity itself (Good & Russo, 2021; Schladt et al., 2017; Yorks et al., 2017). It is possible then, that the inability to participate in a group activity as a group may result in more perceived losses for participants than just access to the activity itself. Indeed research studies published early in the pandemic have found that increased feelings of anxiety, depression, fear, and stress were common around the world as a result of the pandemic and subsequent stay-at-home orders (Hamadani et al., 2020; Marroquín et al., 2020; Mazza et al., 2020; Mazza et al., 2020; Rajkumar, 2020; Tull et al., 2020).

A review by Hansen and Howlin (2022) discussed how participation in and engagement with music changed around the world during lockdown. The authors outlined various methods by which individuals began interacting with music more often or in unique formats, such as balcony singing and remote concerts. Their review suggests that music-making in various formats was both a common and seemingly effective coping mechanism for many of the psychosocial hardships people under isolation were experiencing (Hansen & Howlin, 2022), which highlights the potential importance of finding a way to continue meeting with a musical community in some way, in lieu of in-person rehearsals.

Many choirs turned to online formats to continue meeting and singing "together," (Daffern et al., 2021; Falconer, 2020). Research on choirs in Norway and Sweden, asked participants what they missed the most about in-person rehearsals. Most participants selected

"the social component" over other components like voice training, aesthetic experience, or deep breathing (Theorell et al., 2020). Another survey study asked choir participants about their attempts to adapt choir rehearsal during lockdown (Daffern et al., 2021). A notable finding is that participants described the "buzz" they feel when singing together, in person, and how that aspect of choir could not be recreated online (Daffern et al., 2021). The main conclusions from the research on group singing during the pandemic appear to be that something is fundamentally missing when rehearsals are attempted online, and that members feel they are not getting the full experience or benefits by participating in this format.

Some of the notable exercise and sport-related losses as a result of the COVID-19 pandemic were the cancellations of athletic events in the United States (Swanson & Smith, 2020) and other parts of the world (Grix et al., 2021; Wong et al., 2020), as well as the postponement of the Tokyo 2020 Olympics. One study discussing the negative impacts of the inability to participate in physical activity found increases in body image disorders and disordered eating for athletes (Buckley et al., 2021). Grix and colleagues (2021) discussed various impacts of the COVID-19 pandemic on sports, including the loss of spectators, and lack of access for lower socio-economic populations, which could be detrimental for local communities. Other physical activity programs were disrupted during the pandemic such as the loss of fitness therapies for patients with Parkinson's disease, which resulted in substantial reductions in their overall mental health (Shalash et al., 2020). The fact that exercise groups also underwent participation restrictions due to the COVID-19 pandemic added to the rationale for using them as a comparison with singing groups.

Previous studies took place in a laboratory setting, which makes the current study unique in its ability to ask participants about their experiences singing in a more ecologically valid environment. In the context of lockdown measures, many of the aspects of getting

together for any kind of group activity, like meeting in person or simply getting out of the house were altered or removed due to mandated social isolation.

Study 7 – Missing Different Group Activities

The current study compared how much participants in choirs missed their rehearsals with how much members of other types of group activity missed their group meetings. There were three research questions this exploratory study sought to answer. The first asked how much participants missed their group activities. Since the above research illustrates that participation in any self-chosen leisure group can impart benefits onto members (Lonsdale & Day, 2020; Maury & Rickard, 2018, 2022; Stewart & Lonsdale, 2016), there was no a priori hypothesis for which kind of group's participants would miss their group the most. However, if there is a difference in how much singing group members miss their choir in comparison with other group members, it could indicate that singing group members potentially feel more connected to their groups than members of other group activities, highlighting the social connections facilitated by group singing.

The second question asked participants what elements of their groups they missed the most when they were not able to participate in person. Based on the previous research indicating that participants missed the social aspects of group singing the most (Theorell et al., 2020) we hypothesized that more singing group participants would endorse missing physical contact, friendship, and a sense of belonging compared with members of exercise groups and other groups. Finding differences between what singing group members miss compared with what members of other group activities miss could illustrate what it is about in-person music making that is so important to members which are also unique to singing groups.

The third question examined whether people were able to maintain social bonds with their groups after not being able to participate in person. Because of the bonding influence that group singing has (Bailey & Davidson, 2003; Cohen, 2007, 2009; Pearce et al., 2015), we hypothesize that members of singing groups will endorse higher feelings of group bonding even after lockdown measures started, compared to members of other groups. Again, this would illustrate the strong social connections that in-person music-making can promote.

Comparing participants' feelings on what they missed when they were no longer able to participate in their group activities in person allows us to examine potential differences in what music groups provide their members versus what other kinds of groups provide their members.

Method

Two teams of researchers, one from Goldsmiths University London, and the other from the University of Queensland, worked to recruit participants for this study.

Participants

Participants included a global sample of 547 individuals. There was a slight discrepancy in one of the questions between the survey distributed by Goldsmiths University London and the other distributed by the University of Queensland. Thus, for three responses there were only 308 participants, and for one response there were only 239 participants. A power analysis specified that a minimum total sample size of 235 was required to detect a small to medium effect size with a power of 0.8, indicating that the sample size obtained should be sufficient for the analyses below.

Participants were recruited because they reported being a member of a group activity that they were unable to participate in due to the COVID-19 pandemic and resulting lockdown. Social media was used widely for convenience and snowball-style sampling.

Additionally, the participant pool for psychology students at University of Queensland was used to recruit additional participants. Most came from either the United States (139), the United Kingdom, (121) or Australia (346), leaving 20 participants from other countries around the world, including Germany, India, and Canada. Most of the participants were female (406) with 132 identifying as male, and eight identifying as non-binary. The average age was about 37 ($SD = 17.51$), and ranged from 17 to 88.

Procedure

Participants completed a survey which asked about their experiences during the COVID-19 pandemic and subsequent lockdown measures. The first questions focused on lockdown measures where participants lived. Included were questions such as *What is your current social distancing/isolation circumstance?* And *For how long have you been experiencing these circumstances.*

The subsequent questions focused on the group activity in which participants had previously been members of that had been altered or completely cancelled once lockdown began. Participants were asked to select one of eight group categories that best described the activity their group participated in. The eight group categories included were exercise, sports team, crafts, gaming, music-singing, music-instrumental, book club/reading club, dance, and an "other" category where participants could input a more specific activity. The descriptions in this category were examined and sorted into the most appropriate of the other seven categories. Participants were asked to focus on only *one* group to answer the survey, even if they participated in more than one before lockdown started. Participants then answered more detailed questions about their group activity, including: *Describe, in detail, what your group does together (e.g., we warm up, sing for 20 minutes then have a coffee break), What is your expertise level?* And *About how many people are in the group?*

Since participants had eight categories to choose from it was necessary to condense the groups so they could be analyzed more easily according to the main questions of the study. *Exercise* and *sports team* were condensed into an "exercise-based" category, as both involve group physical activity. Participants in *music-instrumental* group were removed from analysis, since the focus of this study was on singing groups. Additionally, *dance* seemed to fall under music and exercise simultaneously, so for the purpose of the current study, participants in this group were excluded. *Music-singing* was the only group that remained unchanged, however the name was shortened to *singing.* The categories which did not fit into the exercise-based category or the singing category (*crafts, gaming, and book club/reading club*) were condensed into an "other" category. *Table 8* displays the demographic information for each group activity.

Table 8

Demographic Information by Group Activity

	Group Activity			Total
	Choir	Exercise	Other	
Age M(SD)	50.20(15.61)	29.30(13.69)	34.15(16.39)	36.95(17.51)
Gender				
Male	29	68	35	132
Female	133	174	99	406
Non-Binary	4	1	3	8
Declined to Respond	0	1	0	1
Total	166	244	137	547
Country				
Australia	68	158	65	291
United Kingdom	35	46	24	105
United States	55	33	41	129
Other	6	7	7	20
Declined to Respond	2	0	0	2
Total	166	244	137	547

The most important questions for the current study focused on how people felt after lockdown started and in-person meetings were no longer possible. Participants were asked to

rate, from one to ten, how much they missed being able to participate in the group. The next

question asked participants to tick the top three elements of their group they missed the most.

These options included *humour, conversation, friendship, synchronous movement with*

others, shared goals, learning new things, sense of achievement, sense of belonging, emotion

regulation, the activity itself, physical contact, or *anything else.*

Finally, the Group Identification Scale (Doosje et al., 1995; Williams et al., 2018) was

included to assess the degrees to which participants felt they identified with their groups. The

scale was included twice, first, in the beginning of the survey when participants were asked to

reflect on their feelings from before lockdown started, and second, towards the end of the

survey, when participants were asked to reflect on their feelings *during* the lockdown.

Results

How much are participants missing their group?

A one-way analysis of covariance (ANCOVA) was run to compare how much

participants endorsed missing their group activity while controlling for the length of time

participants had been members of the group, which is expected to have an impact on feelings

of closeness to a social group (e.g., Pearce et al., 2015). Results showed significant

differences in how much participants were missing their group based on the group activity

they were members of ($F(1, 527) = 10.09$, $p < .001$, $\eta^2 = .041$). A Bonferroni post-hoc test

revealed that singing group members ($M = 8.11$, $SE = 0.16$) missed their groups significantly

more than both exercise groups ($M = 7.57$, $SE = 0.13$) and members of other groups ($M =$

7.04, $SE = 0.17$), illustrated in *Figure 13* below. There was no significant relationship

between length of time spent in the group and the amount participants reported missing their

group ($F(1, 527) = 3.42$, $p = .065$).

Figure 13

Mean Scores for How Much Participants are Missing Their Groups
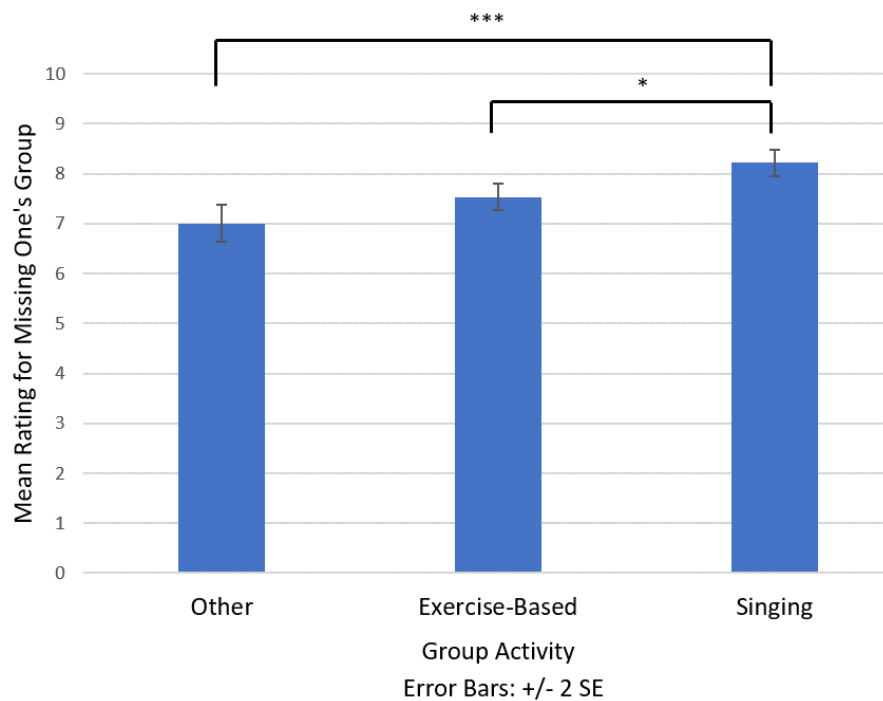
*Significant at the $p < .05$
** Significant at the $p < .01$
*** Significant at the $p < .001$

What do the different types of groups miss?

To compare what elements members of each group activity reported missing, a chi-square test of independence was run on each element individually. For each element, the independent variable was group activity and the dependent variable was the number of participants who endorsed missing that element or not. There was a statistically significant association between group activity and which elements were endorsed as being missed by participants. For example, significantly more singing group members indicated missing synchrony (e.g., moving in time with others (Cohen et al., 2014; Hove & Risen, 2009)) than members of exercise or other groups, (x^2 (1, n = 547) = 103.81, $p < .001$) with a large effect size (Cramer's V = .43). Additionally, significantly more members of singing groups also endorsed missing a sense of belonging (x^2 (1, n = 547) = 6.806, p = .033) however this effect

size was relatively small (Cramer's $V = .11$). Another notable finding is that substantially

fewer participants in other groups reported missing the activity itself (x^2 (1, $n = 547$) = 47.31,

$p < .001$) with a medium to large effect size (Cramer's $V = .29$), which suggests that there is

something else about these groups that members are focused on other than the activity. The

full breakdown of chi-squared analyses can be found in *Table 7* and *Figure 14*. It is important

to note that the chi-square analysis was done on each element independently from the others.

Figure 14

Adjusted Residuals Based on Number of Members Who Endorsed Missing Each Element
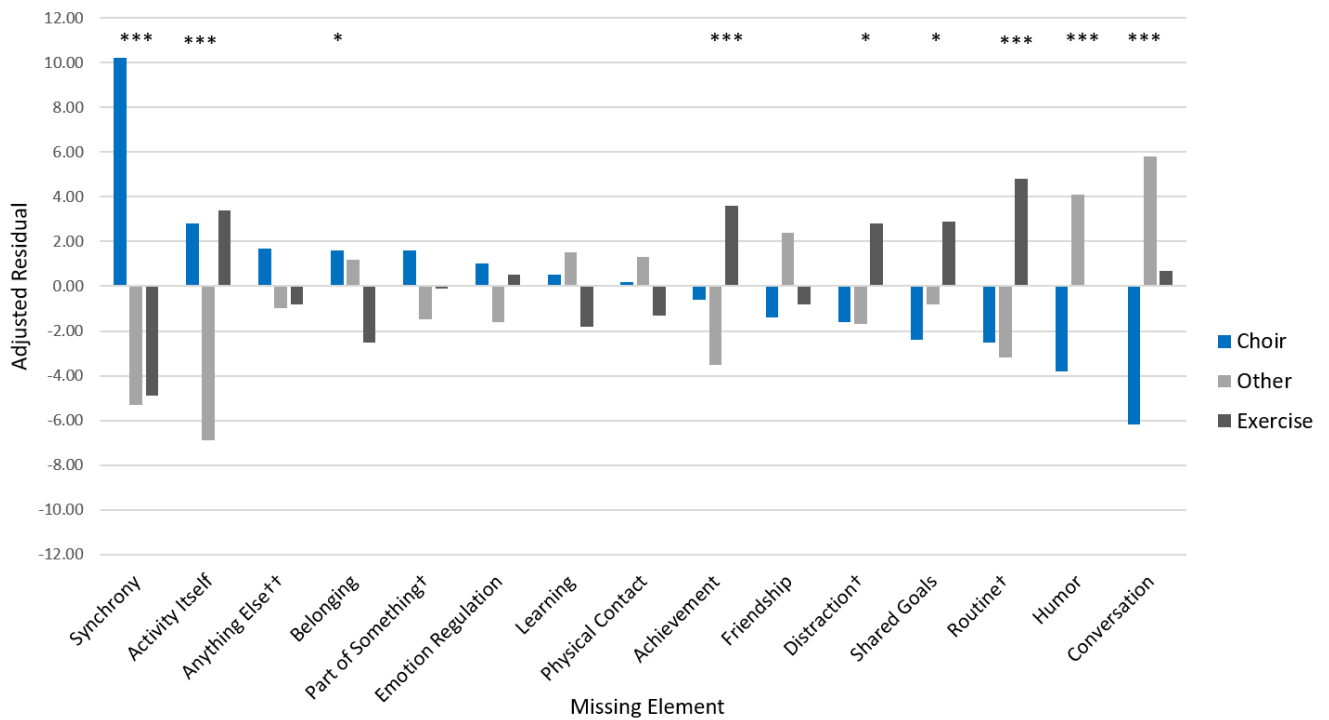
Note. Because the adjusted residual measures the standardized difference between expected
count and actual count for the number of participants who endorsed missing each element,
there are no error bars.
***significant at $p < .001$
**significant at $p < .01$
*significant at $p < .05$
N = 547
†N = 308
††N = 239

Table 9

Chi-Square Test for Independence for Each Group Element

Element	X^2	Cramer's V	Adjusted Residuals		
			Choir	Exercise	Other
Synchrony	106.73***	**0.44**	**10.20**	-4.90	-5.30
Activity Itself	47.31***	**0.29**	2.80	3.40	**-6.90**
Anything Else††	2.76	0.11	1.70	-0.80	-1.00
Belonging	6.06*	**0.11**	1.60	**-2.50**	1.20
Part of Something†	3.72	0.11	1.60	-0.10	-1.50
Emotion Regulation	2.70	0.07	1.00	0.50	-1.60
Learning	3.55	0.08	0.50	-1.80	1.50
Physical Contact	2.17	0.06	0.20	-1.30	1.30
Achievement	16.45***	**0.17**	-0.60	**3.60**	-3.50
Friendship	5.87	0.10	-1.40	-0.80	2.40
Distraction†	7.76*	0.16	-1.60	2.80	-1.70
Shared Goals	9.00*	**0.13**	-2.40	**2.90**	-0.80
Routine†	23.283***	**0.28**	-2.50	**4.80**	-3.20
Humor	22.68***	**0.20**	-3.80	0.00	**4.10**
Conversation	52.47***	**0.31**	-6.20	0.70	**5.80**

*Significant at the $p < .05$
** Significant at the $p < .01$
*** Significant at the $p < .001$
N = 547
†N = 308
††N = 239

Do social bonds sustain?

A one-way ANCOVA was run to examine how much participants felt identified with their groups after the group activity had discontinued in-person participation. The independent variable was group activity and the dependent variable was group identification scores after lockdown had begun. Two covariate variables were included. The first was pre-lockdown group identification scores and the second was the length of time participants had been involved with their group. After adjusting for group identification scores before lockdown and the amount of time participants had spent in the group, there were no significant differences in group identification scores after lockdown began between each of

the three groups ($F(1,413) = 1.12$, $p = .332$). There was a strong relationship between pre-lockdown group identification scores and post-lockdown group identification scores ($F(1,413) = 158.18$, $p < .001$, $\eta^2 = .279$). Additionally, there was no significant relationship between how much time participants had been members of the group and how much they identified with the group after lockdown began ($F(1,413) = 0.46$, $p = .498$). Group means are displayed below in *Figure 15*.

Figure 15

Average Group Identification Score After Lockdown Began, Adjusted for Pre-Lockdown Scores
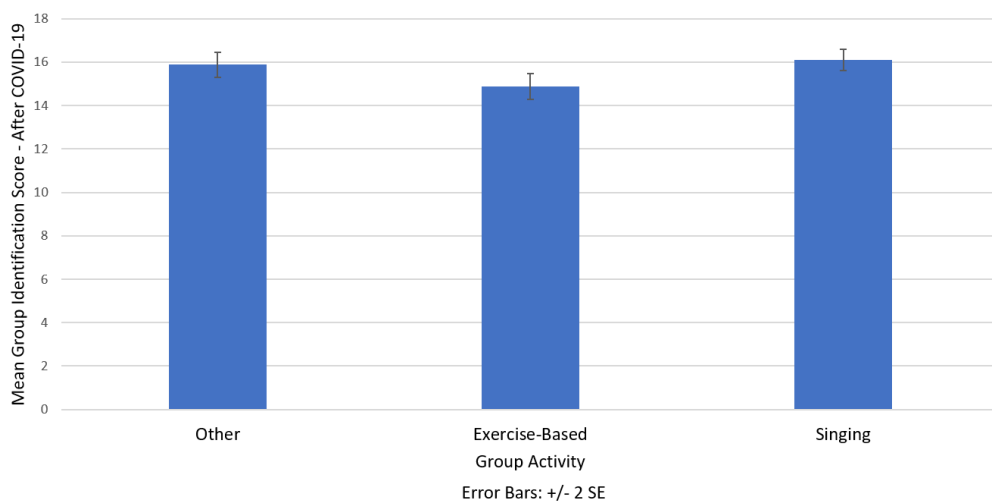
Note: There were no statistically significant differences between how bonded members of different group activities felt after lockdown began.

Discussion

The analysis performed on this data set was intended to answer three main questions. The first asked whether there were any group differences in how much participants endorsed missing their groups. Since groups of various kinds can provide benefits for their members (Cruwys et al., 2013; Haslam et al., 2008; Jones & Jetten, 2011; Stewart & Lonsdale, 2016), which members may miss when unable to participate in person, there was no initial a priori

hypothesis concerning which group members would miss their activity most. The results

indicated that members of singing groups report missing their groups more than members of

exercise groups or other group activities, even when the amount of time participants had been

part of the group was controlled for. While asking participants how much they miss an

activity is not the same as determining how bonded they feel to the group, this finding could

support the possibility that singing together can make individuals feel bonded to one another

faster than other kinds of cooperative activities, reinforcing the findings of Pearce and

colleagues (2015). The finding that members of singing groups missed their groups more than

the other group members illustrates the importance of the social aspects of music making.

The second question asked whether members of different groups endorsed missing

different elements from their original group participation, and what those elements were. We

hypothesized that more singing group members would endorse missing physical contact,

friendship, and a sense of belonging compared to members of exercise groups and other

groups. However, the chi-square analyses indicated that significantly more members of

singing groups endorsed missing synchrony and sense of belonging, thus the hypothesis was

partially supported. However, the finding that participants in singing groups endorsed

missing synchrony substantially more than members of exercise groups and other groups is

worth noting. This result may support the idea that synchronous behavior is a possible

mechanism by which group bonding occurs, which has been suggested by previous

researchers (Cirelli, 2018; Launay et al., 2016; Paladino et al., 2010), especially in the context

of music (Tarr et al., 2014; Weinstein et al., 2016). Marsh and colleagues (2009) discuss

synchrony and cooperative action, and the groups that people may become attuned to when

performing an activity in sync with others. Part of what makes the results of this study so

compelling is the fact that participants are aware that synchrony is a crucial aspect of why

they like participating in this group. Instead of it being an unnoticed part of the structure of

the activity, people seem cognizant that synchronous movement is important to their experience of choir. Participants' feelings of being together in time and space are explored in more detail in Study 8. Participants in the "other groups" category endorsed missing humor and conversation which is understandable since this category included a range of social activities like book clubs, game groups, walking groups, or childcare groups. Those in exercise groups appeared to miss elements more associated with exercise in general, such as goal-setting, achievement, and the routine that surrounds a regularly scheduled fitness class. These differences help illustrate what participants appreciate about their group activities. Furthermore, understanding what it is that individuals miss about being able to participate in person potentially highlights the mechanisms by which group singing imparts benefits on its members. Understanding these mechanisms and the elements of participating in person that convey potential benefits is essential to understanding how music could be used to bring people together.

The final question was whether social bonds with group members were sustained after lockdown began. It was hypothesized that members of singing groups would feel more bonded with their choirs than other group members would feel bonded to their respective groups after lockdown began. This hypothesis was not supported. When participants reflected on group identification at the time of completing the survey, (i.e., after lockdown started), there were no significant differences between the different group types in how much participants felt bonded to the group. The only significant factor that influenced group identification scores after lockdown began was how much participants felt they identified with their groups before lockdown began. The amount of time participants had spent in the group did not influence group identification scores. In their study, Pearce and colleagues (2015) found that there was no significant difference in bonding between participants in the singing condition versus the non-singing condition at the end of seven months. In the current

study, members of all three group activities had been part of their groups for at least 21

months, on average (M = 21.53, SD = 26.18). If this is enough time for group members to

feel connected with one another, it may explain why the amount of time spent in the group

did not have a significant impact on how much they felt they identified with the group. In

other words, it may be the case that once a group member reaches a certain threshold of time

spent as a member of that group, the amount of time spent in the group no longer influences

the degree to which that person identifies with the group. This rationale can help explain why

singing group members did not appear more bonded to their groups than members of the

other two groups, as hypothesized.

One limitation worth noting is that the exercise group was made of participants who

had selected "sports group" or "exercise group" in the beginning of the survey. The

combining of these participants means it is possible that participants were engaging in very

different activities from one another despite being in the same category. The same is the case

for participants who fell into the "other groups" category, which included book clubs,

knitting circles, and gaming groups. This consolidation means that group participation likely

looked different from group to group, and combining them may have meant that some of the

meaningful differences between group activities were lost. Factors like the degree of

commitment to the group activity could have varied between members or groups and may

have influenced the degree to which participants felt bonded to the group. Future research

using more specific criteria for participant membership in various group activity categories

could attempt to replicate the findings of Study 7 to ensure that they reflect true differences in

findings for each type of group activity.

Study 7 answers several questions on how participants felt about their group activities

once they were no longer able to participate in them in person. However, these questions

cannot describe the individual experiences people had during this stressful time. The

following study provides more detail on how participants were thinking and feeling about their group activities by interviewing choir members about their experiences during this time.

Study 8 – When Choir Becomes Online Only

The Study 7 took a broad look at different categories of group activity and compared how much participants missed their group, what they missed, and whether they felt bonded to the group after lockdown began. The current study focuses on a small group of individuals who were members of a community choir in East London and who were no longer able to meet in person during the pandemic lockdown. Because this was an exploratory, qualitative study, we did not have any specific a priori hypotheses. However, the main research question of this study asks "what did participants miss most about singing in-person that they felt could not be replicated in an online rehearsal?" Examining the aspects of group singing that participants miss most when prevented from continuing provides a unique lens through which to examine the aspects of choir participation that hold most value for participants and which might be driving the benefits that group singing imparts.

While there is no concrete hypothesis for this research, it is important to consider some of the researcher's expectations. Based on the previous research described above (Daffern et al., 2021; Theorell et al., 2020), the researchers anticipated that participants would be dissatisfied with the move from in-person music making to rehearsing online, and they may view the online experience negatively. Specifically, it was predicted that participants would find that the online version of their rehearsals would not adequately make up for rehearsing in person, and that there would be several aspects they felt were missing from the experience.

Method

Participants

Participants were all members of one community choir in East London, UK, and were recruited via an email sent out by one of the choir's founders. All participants lived in or near the borough where the choir was located, and ages ranged between 40 and 60. The sample included two men, seven women, and one person who identified as non-binary. Length of choir membership varied from as short as four months to as long as about 13 months (the length the choir had existed). All members interviewed reported being part of the choir for at least a couple of months before the coronavirus pandemic began.

An important aspect of this choir was that it was set up with community grant funding in order to be fully inclusive to all regardless of income. Another feature of this choir is that participants were able to bring their children to rehearsals. The children were invited to join in or to play nearby. This intergenerational format is unique when compared with choirs in the research outlined above, in which all choir members were well into adulthood when the studies were conducted (Joseph et al., 2018; Parker, 2017; Rohwer & Rohwer, 2012; Southcott & Joseph, 2015).

Interview and Procedure

Each participant was interviewed once, and the interviews began about two months after the United Kingdom imposed strict lockdown measures as a result of the COVID-19 pandemic. In place of in-person rehearsals, the choir director was able to put together online rehearsals, using the software Zoom. The online rehearsals took place for at least six weeks before participants were interviewed. Of the ten interviewees, five regularly attended these online rehearsals and five did not attend with any regularity (e.g., tried it once but did not continue for various reasons). The online rehearsals took place at the same time the in-person

rehearsals had, and were arranged such that all members could hear the director and she could hear everyone together, however individual members could not hear each other. This set up was intentional in order to avoid delayed feedback issues. This format means that although participants were able to socialize at the beginning and end of rehearsal, maintain the routine of attending choir, and continue singing, they were unable to hear each others' voices and did not get to interact physically.

A series of interview questions were developed with the intention of discovering which aspects of participation in a community choir in person were missed. The interviews followed a semi-structured format, allowing for a more naturally flowing conversation that lets the interviewer probe deeper to learn from the interviewee (Fontana & Frey, 1994; Kennedy, 2009). A full list of questions used during the interview can be found below in *Appendix 1*. Participants were assigned a number in order to keep their quotes anonymous. After the interviews were completed, participants received credit at local book store as an acknowledgement for their time.

Interviews were transcribed using the Sonix online software. Braun and Clarke's (2006) Thematic Analysis was the guiding principle for interview analysis, as is followed in other music interview research (Lamont et al., 2018; Moss et al., 2018; Reagon et al., 2017). The team of researchers conducting analysis included the principle researcher, who was pursuing a PhD in psychology, as well as a post-doctorate researcher in psychology. First, the interviewer read through all transcripts and developed a set of initial codes which best described the essence of participants' statements. Statements were then grouped with others of similar meaning under overarching themes. These themes were reexamined to by a second coder to ensure that they fit with the coded statements they were intended to capture as well as the data set as a whole. The two coders came together to discuss and refine the themes they assigned to each line of text to verify that they adequately captured the story told by the data.

Themes became more solidified and any unnecessary themes were discarded. This produced about 83 coded statements grouped by four themes which were further divided by several sub-themes discussed below.

Results

Analysis of the interviews revealed four themes (Human Connection, Musical Experience, Need Fulfillment, and Technological Challenges). Human Connection and Musical Experience were both divided by four sub-themes each (*Connecting online, Physical contact, Intergenerational elements, Community socializing,* and *Singing together, Cannot hear others' voices, Singing outside choir, Learning and access*, respectively). Need Fulfillment included two sub-themes, *Mental health and wellbeing,* and *Other benefits*, and Technological Challenges had three subthemes: *Limited experience, Technical difficulties,* and *Other issues*. These themes and subthemes captured both the psychological experiences of choir members, as well participants' thoughts and feelings related to the features and logistics of the choir before and after lockdown began.

Human Connection

Every participant, in one form or another, discussed some of the social elements of participating in a choir. The term *Human connection* was assigned to instances when participants mentioned details about their community, feeling connected with others, or being able to bring their children. Four subthemes emerged out of the data under *Human connection*.

Connecting Online

Participants frequently discussed the nature of meeting with other members of the choir online. There were varying feelings about the experience, but many discussed the positive elements of being able to reconnect with each other. This subtheme included

bittersweet comments participants made about how meeting over video chat was not ideal, but it was better than nothing. This sentiment did not differ much between those who did not participate online and those who did.

Participants who continued online rehearsals.

101—"Seeing them on the internet is, it's not the same, but it's…it's helped a lot"

105—"It's still fun still interacting with each other, but it still is different"

102—"It is like, quite easy to log on, on to the zoom and, you know, see everybody in the group. So, yeah. It's been nice."

Participants who did not continue online rehearsals.

110— "I like the fact at the end, the teacher just checks in with us all."

104—"I liked seeing everyone and kind of catching up."

Physical Contact

Although participants tended to express positive emotions about being able to communicate online, many also mentioned disappointment at not being able to be in physical contact with each other. This disappointment appeared to be especially acute for those who did not continue participating in the online rehearsals, however, those who did continue participating also missed the physical contact.

Participants who continued online rehearsals.

102—"But you do miss the physical. Actually, go into the building and seeing everybody having that chat."

105—"There's a difference because you're not in contact with all those other people properly"

Participants who did not continue online rehearsals.

110—"I've really missed it. I've really missed going there in person and seeing everyone and. You know, just talking to people."

106—"But I think nothing quite beats meeting each other in person."

104—"Yeah, I miss the human factor, real human contact."

Intergenerational Elements

As mentioned, this choir is unique in that it allows participation by both children and adults. The original founders of the choir described this specifically and other interviewees talked about what it was like to bring their children and the effect the choir had on them. Members also mentioned that they loved how children got to participate, and some said they were able to attend the choir *because* they were able to bring their children with them. These comments mostly reflected on the choir before lockdown began, and thus prompted similar responses from those who chose to continue online rehearsals and those who did not.

Participants who continued online rehearsals.

105—"[she] wants to take [my daughter] to a choir and we couldn't find one that would take adults and children…so we decided to make one."

107—" Also, my, my interest in choir and because I kind of knew what the choir is about. So I was interested to the nature of intergenerational aspect of this choir."

Participants who did not continue online rehearsals.

104—"It was a friend of mine who told me about it. And it's because I can bring my daughter with me."

106—"It's phenomenal that my daughter gets to interact with it."

Community socializing

Choir members also mentioned what it felt like to come together as a community, both during lockdown and prior to the pandemic. This subtheme included participants discussing some of the other social aspects of the choir that did not directly relate to missing the in-person sessions, or what it felt like to meet online. Participant comments related to this theme also did not appear to describe different sentiments between those who continued online rehearsals and those who did not.

Participants who continued online rehearsals.

102—"Once it's finished, you get to sit and talk about your week with other people. You get to socialize with others. The children get to interact a bit more with each other."

103— "…being with others and just feeling their support…"

Participants who did not continue online rehearsals.

108—"Wow, what on earth is going on in our world just to kind of come together and connect and sing, you know, it just seems so, like, amazing."

110—" I thought 'Oh, that'll be really good chance to meet others.' And do some singing, and just be part of, feel a bit more of a community."

Musical Experience

The second theme which emerged from the interviews related to the musical experiences of being part of the choir. Participants discussed what it felt like to sing together in person versus on video chat, as well as ways that they incorporated music outside of choir. Three participants mentioned appreciating having access to learning music as well. There were four subthemes which emerged.

Singing together

The subject of singing with others came up for quite a few choir members, usually discussing the feeling of singing in person or with a group. Those who did not continue attending the online rehearsals appeared to be more attached to the nature of singing in a group as the point of getting together, and when the specific element of group singing was taken away it appeared to affect their experience more than for those who simply liked singing. This difference in motivation compared with other participants may indicate why they were less motivated to continue participation online. Whereas for those who continued participating tended to discuss the nature of singing together in general.

Participants who continued online rehearsals.

103—"There is something about…something really empowering about singing together and feeling that sense of connection through the music."

105—"It's not the same…[but]...I am still singing the songs."

Participants who did not continue online rehearsals.

108—"I kind of just wanted to get on with the singing…I didn't want to do all the social stuff"

104—"But I like I like singing, but I don't like singing by myself. I only like singing with other people."

Cannot hear others' voices

Many choir members lamented the fact that participating in the choir via video chat meant that they were unable to properly hear each other singing together. Participants mentioned how the virtual format felt inherently different from singing in person, for some, hearing each other sing is the essence of what singing in a choir is. This was another theme

for which participants appeared to have the same feelings regardless of whether they continued online rehearsals.

Participants who continued online rehearsals.

101—"I've really missed joining in my voice with the other people, that's what I really do miss."

103—"When you hear everyone around you. There is something really powerful about that for me…That I miss because I don't hear everyone."

Participants who did not continue online rehearsals.

106—"Nothing quite beats hearing the sound of the collective voice and for me the sound of collective voice is probably one of the most powerful things. A kind of uh, a visceral experience for me about choir."

104—"It goes pretty well. But obviously, like, you can only hear your voice. You don't hear the people's voices."

Singing outside choir

Choir members also discussed ways that they have incorporated music into their daily lives. For some, this meant singing the songs they had learned in choir with friends or their children, for a couple of members this meant making music in other ways. Both participants who continued online rehearsals and did not continue online rehearsals discussed ways they were bringing music into their lives beyond the choir. One participant who did not continue participating said, "[My partner] picked up the ukulele again and having not played it for a while and I would sing along with him if we found songs that we both wanted to play," (108). A participant who did continue participating mentioned singing with their partner during their

daily routines: "my partner, we both like singing some of the songs quite a lot in the house or when we go out for walks," (103).

Learning and access

Another subtheme captures the access to learning music that was possible because of the choir. Participants mentioned some ups and downs associated with trying to learn music online, but overall, this subtheme captures positive aspects to having access to the choir. Interestingly, this was the only subtheme that did not include comments from participants who did continue participating in online rehearsals. It is possible that participants who did not continue the online rehearsals felt the loss of this access to music more so than those who did.

109—"I found it too difficult to learn new songs virtually."

108—"So It's not just the session itself. It's also just kind of the, the access…to the music I suppose."

Need fulfillment

For some members of the choir, membership helped fulfill needs apart from access to music or connecting with others. This theme was associated with positive feelings and included three subthemes. There was no question which specifically asked about other needs that were fulfilled by being in the choir, so participants tended to volunteer this information freely.

Mental health and wellbeing

A few participants mentioned how membership in the choir had positive impacts on their mental health, and additionally, how not being able to attend in person seemed to diminish that benefit to some degree. While more comments related to this theme came from

participants who did continue attending the online rehearsals, this sentiment was shared by those who did not continue as well.

Participants who continued online rehearsals.

101—"And they do say singing is fantastic for your mental health and all kinds of well-being stuff. But you know, I really notice that."

105—"I definitely lost the boost it gave me. Like, you know, mentally, de-stressing and confidence building and the connection you get with other members."

Participants who did not continue online rehearsals.

108—"It was probably one or two first weeks, like incredibly moving and incredibly, like, important. Kind of at that very point in time for me and for my well-being and my sense of…they were just extremely poignant."

Other benefits

A few members of the choir discussed other positive benefits they felt were due to their membership in the choir. A couple of members mentioned that part of their motivation to join was to do an activity that would have a positive impact on their children. Another member mentioned that the choir was a safe space to be challenged.

Participants who continued online rehearsals.

105—"It gave her a bit of a lift and confidence, and me too."

Participants who did not continue online rehearsals.

109—"I enjoy singing, but I also wanted to do an activity with my child that would support them."

106—"I love the fact that its challenging. I'm having to push my own voice."

Technological challenges

One of the realities of moving any kind of social activity to an online format is the various technical issues that frequently accompany it. For choirs, there is the additional problem of delayed feedback when people try to make music at the same time. Three subthemes highlighting these issues are discussed below.

Limited experience

This subtheme accounted for most of the statements that participants made falling under *Technological challenges.* Choir members discussed parts of singing as a choir that cannot be reproduced via video chatting. This might be because people are not in the same place, or because a video conference does not allow for singing together due to feedback issues. Most of the comments relating to the limited experience of the online rehearsals came from those who continued attending, which may be due to the fact that they had more experiences with the online version to reflect on compared to those who did not continue attending online.

Participants who continued online rehearsals.

107—"And that's all kind of out of the window, with Zoom because there is, it's not really possible and it's not really possible to play music at the same time together because of the latency of this, uh, the sound."

103—"It feels more distant. It feels more…there is a lot less connects (sic). It's more disconnect (sic)."

Participants who did not continue online rehearsals.

104—"So you're just, like, by yourself singing to a computer. So, it's a little bit, a bit limited."

Technical difficulties

A few choir members discussed some of the problems specific to the technology of meeting over any online video chat, including issues with internet speed and the format of a video conference. Both participants who continued online rehearsals and those who did not mentioned some technical difficulties as a drawback. A participant who continued online rehearsals mentioned that "sometimes the technical problems makes (sic) it a little bit annoying to be honest," (107). One participant who did not continue the online rehearsals also said that "sometime Zoom cuts out, sometimes [my] broadband connection's a bit shaky," (110).

Other issues

In addition to technical problems with Zoom, there were other elements of being on a video chat which made the experience less than ideal for some participants. One participant said that *"*they've been doing it on Zoom, but the last couple of weeks I kind of missed it because I was just too tired and I'm just like, it's starting to get too many Zoom all the time," (104). With regards to the intergenerational aspect of the choir, another participant mentioned said that "the kids don't seem very involved in the Zoom sessions," (105).

Discussion

The current study featured a unique set of interviews which captured the thoughts and feelings of ten community choir members after the COVID-19 pandemic and subsequent lockdown prevented their choir from rehearsing in person. This presented the opportunity to hear from participants which aspects of choir they missed the most, and potentially illuminate what parts of choir participation impart the benefits discussed above. Participants' discussions included descriptions of choir participation that are common in the current literature, including its relationship to general wellbeing (Bailey & Davidson, 2003; S. Clift

et al., 2010; Dingle et al., 2013). However, choir members' statements also captured two other phenomena that have been exposed due to the circumstances surrounding trying to participate in choir rehearsal during the COVID-19 pandemic. The first is that meeting online is an inadequate substitute for meeting in person; the second is that some of the benefits that appear to come from group singing do not seem replicable when the choir rehearses online. This is potentially due to the aspects of choir that participants feel are missing in the online version.

Previous studies examining choir participation during the COVID-19 pandemic have highlighted the social component of group singing and the unique feeling that comes from singing in the same physical space (Daffern et al., 2021; Theorell et al., 2020). Although these studies help provide an over-arching sense of what people around the world were feeling with regards to the lack of in-person participation in their choirs during lockdown, this research focuses in on the detailed experiences of members of one choir. It is clear from participant discussions of their experience in the online version of choir that some fundamental aspect of group singing was missing. The in-person choir rehearsals included being able to get together in a shared space, chat with one another before and after rehearsal, maintain a routine, get out of the house, and hear each other's voices while singing. When rehearsals were conducted online, participants were still able to meet socially, maintain the routine of attending rehearsal, and participate in singing, however they were not able to get out of the house, or hear each other's voices. The dissatisfaction with the online experience suggests that some of the benefits imparted by group singing come from the elements of the activity that were missing.

This attitude was somewhat visible in the differences between participants who continued attending an adapted version of the choir, and those who chose not to. For participants who continued attending the online rehearsals, it appears that they were "better

than nothing." However, for those who did not attend the Zoom rehearsals, the sentiment appeared to be that the benefits of meeting did not overcome the drawbacks of doing so online.

Human Connection

It was expected that many participants would say they missed in-person contact and had problems with faulty internet connections—similar complaints have been made by others trying to be social during the pandemic (Morris, 2020; Wolf, 2020). Many participants talked about how nice it was to have some kind of contact with the choir, even if it was online. The statements about the human connections they were able to manage on Zoom were generally positive, both for participants who continued rehearsing online and those who did not. At the same time, however, participants found the lack of physical contact, the hugs and handshakes that people use to greet each other, disappointing. Most of the comments reflecting this loss came from participants who did not continue rehearsing online. It is possible that when they did not see their fellow choir members anymore, online or in person, the loss of physical contact may have felt more potent.

The general sentiment around the social elements of rehearsing online was that the situation was better than nothing, considering the anxiety and uncertainties resulting from the pandemic. Clearly, in circumstances that vastly limited social interaction, people were grateful to see others' faces. A previous comparison of live choirs and virtual choirs on measures of social presence found that those in the virtual choir appeared to be more socially present than those in the live choir (Fancourt & Steptoe, 2019). While these findings may appear to contradict what we have found in Study 8, the virtual choir that researchers recruited participants from was not intended to replace a real choir rehearsal in the way that has been necessary during the COVID-19 pandemic. It is likely that the discrepancy in results

between Fancourt and Steptoe (2019) research and the current study stem from this inherent difference in circumstances. It is interesting that although participants discussed the benefits of being able to socialize with one another, this form of socialization did not seem to make up for the inability to meet in person.

Our findings align with those of Theorell and colleagues (2020) who asked participants in Norway and Sweden to rate what they missed the most about in-person choir rehearsals from a set of choices. The authors found that more participants rated the social component of choir as being missed the most than any of the other choices. The results of Study 8 expand on the social aspects of choir that participants missed the most, and provide more details about why that might be the case, and what it is about singing together in person that is so important to the meaningfulness of the choir.

One feature of this choir, as participants mentioned, is that it was founded with the idea of giving space to children and adults to sing together. Many participants discussed how much they appreciated being able to bring their own children, or having a space to engage with the children of others. Research on intergenerational choirs suggests that participation by younger adults and older adults results in positive feelings, a feeling of bonding, and a more positive perception of the other members (Jang, 2020). This study aligns with the benefits of group singing in general, and expands the contexts in which group singing can produce beneficial results by including choirs that comprise both adults and children. It might be possible for group singing to bind people who are very different from one another. Our findings add to this body of literature and open an avenue for research into implications of group singing as a way to build communities, an idea also proposed by Camlin and colleagues (2020).

Musical Experience

In addition to human connection, participants talked a great deal about the new musical experience of trying to rehearse via Zoom. These sentiments tended to be more negative and included frustrations about how singing at a computer, without being able to hear other members sing, felt very little like in-person rehearsals. Preliminary research on group singing during the pandemic has outlined the adaptations that choirs have made in order to continue rehearsals, including the format used by the choir interviewed in Study 8 (Sills, 2022). The main drawback is that real synchrony between singers is not possible, since they are unable to hear, see, or "feel" the other members. An article by Falconer (2020) discusses how choir members acutely miss being able to hear the voices of the other singers. Qualitative interview studies found similar sentiments which support the current study, and reinforce the necessity of blending voices and auditory feedback to the choir experience (Daffern et al., 2021). Another interview study explicitly discusses the idea that the "sonic experience" of hearing other singers' voices in time and space facilitates *communitas* which then helps imparts the benefits of group singing (Livesey et al., 2012; Specker, 2014). Without the ability to hear one another, participants may not have been getting the immediate feedback from other singers that they are used to. This aspect of in-person choir that was not replicable in the online version seems especially important to the choir experience, since participants mentioned that they missed the feeling of singing together as well as the experience of hearing their voices blend. For those who decided not to continue participating in the online rehearsals, this inability to blend voices may have taken away the most essential part of what they enjoyed about choir rehearsal, such that what was left was no longer worth participating in.

Our research also included participant discussions of how they were working to incorporate music into their lives outside of choir once lockdown began. This phenomenon

suggests that when people were unable to participate in musical activities due to lockdown measures, they will try to seek out other forms of musical expression. This finding aligns with the literature review by Hansen and Howlin (2022) which discussed how interacting with music appeared to be an important coping mechanism during lockdown. The studies they reviewed suggested that people were becoming more involved with music and learning to make music in new ways after lockdown began Hansen and Howlin (2022). Participants in the current study discussed the positivity of being connected to a musical community, and to a professional instructor from whom they could learn. Thus, it appears that in addition to the social parts of choir participation, members truly appreciated the role music played in their lives both before and after lockdown began, such that many may have wanted to maintain a connection to music once in-person choir rehearsals were no longer possible.

Some of the participants who did not continue online rehearsals mentioned that the choir had been a place that provided access to learning music. As the learning process moved from in-person to online, participants mentioned that learning new music was too challenging in the new format. This subtheme was the only one that did not appear to receive comments from participants who *did* continue participating, which suggests that those who continued to participate may not have felt that they had lost the access to music the way those who discontinued might have.

Need Fulfillment

Choir members explicitly mentioned being aware that choir participation has been associated with improved wellbeing. Participants actively discussed some of the benefits they felt when they were able to sing together, including stress reduction, confidence building, or even just a mood "boost." This reinforces previous findings on group singing and well-being (Bailey, 2006; Creech et al., 2013; Daykin et al., 2018; Dingle et al., 2013, 2017), and adds

that choir members themselves appear to be aware of the possible positive outcomes of their

participation in the choir, beyond simply enjoying a fun activity. This finding also

emphasizes the significance of deciding not to continue attending the online rehearsals, as it

illustrates that the boost that came from attending online was likely not enough to encourage

continued participation.

Participants discussed several other benefits to choir participation that did not entirely

fit under the Mental Health and Wellbeing subtheme. These included positive impacts such as

confidence building and having a safe space to be challenged. These sentiments regarding the

benefits of choir participation came from both choir members who continued attending online

rehearsals and those who did not.

Choir projects which have taken place in prisons have illustrated similar positive

effects on participants, noting that incarcerated members expressed how participation

provided a protected space to be vulnerable, more positive feelings of self-worth and self-

esteem, reduced feelings of isolation, increased emotion regulation, and an expanded

worldview (Cohen, 2007; Silber, 2005). While government lockdown protocols and

incarceration are vastly different, both include a degree of societal isolation. That the results

of this study are so positive illustrates the potential for group singing, even online, to be a

uniting force for those who have become isolated due to COVID-19. Projects such as the

Sofa Singers (Sills, 2022) and Eric Whitacre's Virtual Choir (Whitacre, 2023) are at the front

of efforts to bring people out of isolation, into the world of virtual and online singing.

Technical Challenges

As promising as virtual choirs are, however, another major theme that participants

discussed was weaknesses with the online meeting software Zoom. It was clear from

conducting the interviews, as well as participating in other video calls as the pandemic began

that a plethora of difficulties could befall an online rehearsal. Participants discussed technical issues such as weak internet connection and trouble using the software. These comments mostly came from those who continued participation in the online choir, possibly because they were interacting with it more in the context of rehearsal than those who did not continue the online choir. This limitation may come from the fact that ordinary conversation cannot happen in the same way over a video chatting service since we are unable to process body language in the same way, and conversation does not flow as well as it does in person (Morris, 2020; Wiederhold, 2020). These recent observations directly connect to the exhaustion some choir members mentioned feeling in the wake of frequent Zoom calls.

"Zoom fatigue" is the term that has been attributed to the feelings of worry and tiredness many feel after persistent online video conferencing (Daffern et al., 2021; Wiederhold, 2020). For those who work from home and might be video conferencing all day, these feelings of anxiety and tiredness may be compounded, meaning a choir rehearsal on Saturday morning may feel less like a positive activity and more like another source of exhaustion. These findings reinforce the concept of "Zoom fatigue," but also illustrate how each of the themes discussed above are inherently related. Although participants discussed being excited to see each others' faces, doing so via Zoom appears to be inherently tiring, which could limit the benefits normally gained through in-person group singing. Participants also stated that the musical experience is diminished when unable to hear each others' voices. Trying to rehearse via Zoom adds an additional complication by not being able to replicate the facets of in-person communication and singing, restricting the positive outcomes of choir participation. In this case, it appears that the natural flow of conversation and being able to hear and respond to one another vocally is important for a satisfying community choir experience.

Limitations

It is important to consider the limitation that only one choir's experience was included, which also resulted in a relatively small sample size. While these detailed interviews provided insightful information on how members of this specific choir felt, it is not clear the degree to which these findings can be generalized to members of other choirs. However, the results of several recent studies suggest that choirs around the world struggled with similar issues during lockdown and attempts to adapt their choirs in order to continue rehearsing (Daffern et al., 2021; Hansen et al., 2021; Hansen & Howlin, 2022; Theorell et al., 2020; Ziv & Hollander-Shabtai, 2022). This pattern suggests the possibility that members of other choirs around the world had similar sentiments to those interviewed in this study. Although lockdown measures have ended and choirs are no longer limited to only rehearsing online, historical data that might be collected in this area would be useful for providing more insight on how other choir members felt during lockdown.

Conclusions

This research provides an in-depth look at how COVID-19 impacted a small community choir in London. One of the most crucial missing elements of in-person choir appeared to be inability to hear the voices of their fellow members, which seemed especially important to for creating a genuine choir-like atmosphere. Overall, participants appeared to agree that online rehearsals cannot recreate the complex social and emotional experience of singing together. These findings suggest that real-time auditory feedback and the experience of producing vocal sounds in unison with others has a profound effect on those participating. Not only does this seem to be a key element that individuals miss about their choir practice, but it may be essential for group singing to produce the positive impacts that it does. Singing at a computer, alone in one's home does not provide participants with the same auditory response, or the sonic experience that Specker (2017) described, which might be partly why

participants find that version of rehearsal unfulfilling, and could have been one reason why some participants did not continue.

Although these findings may not be generalizable to every choir's experience of the COVID-19 pandemic, they highlight the perceptions of what choir members believe that their musical community provides for them. The current study supports previous literature on the positive benefits of group singing (Bailey & Davidson, 2003, 2005; Dingle et al., 2013), and expands it by emphasizing the nature of music as a social endeavor. It might follow that for choirs to have the beneficial outcomes with which they are associated, this social, in-person atmosphere needs to exist. In other words, without the experience of making music in real time *and* in the physical presence of others making music, some of the positive results do not occur to the same degree. Overall, these findings emphasize the importance of the social aspects of music. (Ornell et al., 2020; Rajkumar, 2020; Tull et al., 2020). I reflect on this intentionally to address the possible emotional effect that living through an unprecedented and historical event might have had on the way I approached data collection. Participants described their experiences of stress, confusion, and anxiety, and because my living circumstances had been turbulent during this time, it was possible for me to empathize with participants during the interview. However, this meant that it was hard to isolate my experience of living through this pandemic from participants' descriptions of their struggles. The blurring of these lines could have facilitated my own emotional context filtering in to the way I interpreted their comments. Alternatively, it is possible that, as with my musical experience, the process of empathizing helped me understand and highlight the facets of my participants' experiences that were the most important during this time.

General Discussion

These two studies highlight the importance of the social aspects of music and show how important connecting through music can be to people. This research also provides insight into how participants feel when they are not able to participate in person, using the opportunity presented by the COVID-19 pandemic to illustrate what members of singing groups miss when unable to participate in person. Study 7 illustrated some of the differences between what choir members miss about in-person rehearsal compared with members of other kinds of group activity. Study 7 also found evidence that members of singing groups missed their in-person rehearsals more than members of other group activities, however they did not appear to be more bonded to their group than other group members were. Study 8 provided a detailed understanding of what choir members miss about in-person rehearsals and explained why online rehearsals did not seem to provide the same experience or benefits. It appears that when all the elements of choir rehearsal are maintained and only the in-person element is missing, participants seem to feel that an essential part of the experience is lost, indicating the importance of the social aspects of music. The insight gained from these studies can help facilitate understanding of how music can be used to bring people together.

Chapter 6 – Conclusions

This chapter summarizes the findings of the thesis, discusses the implications of these results, and examines the limitations and possible future research directions.

Summary of Findings

The research described was intended to answer the questions below:

1. How does music preference influence attraction towards a new person?

    a. Is there a bi-directional link between music preferences and political orientation, such that political orientation can be used to predict music preferences and vice-versa? (Studies 1, 2, and 3)

    b. Does shared music preference influence attraction towards a target independent of an effect of political orientation, or are these variables interacting to influence attraction? (Studies 4 and 5)

    c. If shared music preference can drive attraction independently from political orientation, does this pattern hold even when music preference and political orientation do not conform to stereotypes? (Study 6)

2. What do people miss when they aren't able to engage in in-person group singing due to the COVID-19 pandemic?

    a. Do members of singing groups miss different elements from members of other kinds of groups? (Study 7)

    b. What do choir members miss most about singing together when they are no longer able to do so in person? (Study 8)

The first three studies helped establish the associations participants make about what kinds of people prefer which kinds of music. First, Study 1 established a set of genres that participants consistently associated with either liberal or conservative targets. Study 2 found

that participants' actual music preference and political orientation align with these established associations for many of the genres (e.g. country, religious, indie, alternative, rap/hip-hop, and electronic) however not for all genres (e.g. country and jazz). Finally, Study 3 tested the set of genres in Study 1 and found that participants assumed a target's political orientation based only on the target's music preferences. This study also successfully tested the paradigm of presenting these genres in the format of a social media profile.

In Study 4 perceived musical similarity and perceived political similarity towards the target were used to predict social attraction. The results indicated that these two variables predicted social attraction independently of one another. In other words, perceived musical similarity influenced social attraction even when combined with low perceived political similarity. In Study 5 music preference similarity and political orientation similarity between the participant and the target was manipulated. This study reinforced the findings of Study 4 by showing that music preference similarity and political orientation similarity are influencing social attraction independently. There was also evidence indicating that shared music preference leads to increased feelings of attitude homophily and background homophily, suggesting that music preference can signal these attributes. This possibility is critically discussed below.

Study 6 took these findings a step further by testing whether social attraction is influenced when music preference and political orientation align with the previously established stereotypes versus when they do not. Results indicated that alignment with stereotypes was *not* necessary for social attraction to be influenced, and again, music preference similarity and political orientation similarity were influencing social attraction independently.

Studies 7 and 8 explored another side to the social aspects of music, and provided evidence that the social elements of making music are some of the most important to participants. Study 7 found that participants in singing groups missed their choirs more than other group members missed their group activity. Results of Study 7 also suggest that synchrony might be an important aspect of what choir members value about their groups. Study 8 furthered this evidence by providing detailed accounts of how participants felt when not able to participate in choir rehearsals in person. Participants emphasized how much they missed singing together in person and being able to hear the voices of other members around them. The findings across all eight studies illustrate two of the ways that music helps bring people together, both by facilitating attraction via music preferences and by connecting people through making music together.

Contributions and Implications The Social Benefits of Singing in Person

In addition to promoting attraction and positive feelings towards others (Bakagiannis & Tarrant, 2006; Boer et al., 2011; Launay & Dunbar, 2015; Selfhout et al., 2009) (Bakagiannis & Tarrant, 2006; Boer et al., 2011; Launay & Dunbar, 2015; Selfhout et al., 2009; Studies 4-6), the studies conducted during the COVID-19 pandemic highlight another important way by which music helps people connect. Studies 7 and 8 showed that making music alone does not seem to promote the same benefits that are imparted by making music with others in person. This poses an important question as to why this might be the case. Furthermore, evidence suggests that choir membership can facilitate feelings of bondedness and closeness to others and promote getting to know new people in addition to the other positive outcomes (Bailey & Davidson, 2005; Cross & Morley, 2010; Joseph et al., 2018; Parker, 2017; Rohwer & Rohwer, 2012; Study 8). It is intuitive that bonding through music-making does not occur online the same way it occurs in person, since the individual taking part is not physically present with the other members, and that might hamper any potential

connections. However, the finding that some of the other positive outcomes of the experience might be limited indicates that there might be some mechanism by which group singing promotes these positive outcomes.

As mentioned above, the concept of flow has been introduced to help explain what happens during group singing that can make choir so beneficial (Livesey, et al., 2012). The term Flow has used to describe moments of self-other-merging, where participants seem to be mentally connected in some way, or at least highly absorbed in their collective activity (Hopper, et al., 2010; Walker, 2010). As mentioned above, one participant discussed the feeling that their choir was one organism as opposed to being 20 people (Judd & Pooley, 2014). Researchers have discussed whether this sense of total immersion in the activity of group singing can accurately explain the bonding that occurs, however there is yet to be any conclusive evidence. Additionally, flow theory may also help explain some of the other psychological benefits.

The experience of flow has several main components, including a balance between challenge and skill, clear goals, merging of action and awareness, immediate feedback, lack of distractions, disappearance of self-consciousness, and the activity becomes autotelic, or purposeful in and of itself (Csikszentmihalyi, 1990, 1997). Experiencing a flow state during various activities has been associated with intense enjoyment, self-reported well-being, increased focus (Croom, 2015; Csikszentmihalyi, 1990; Loepthien & Leipold, 2022; Jackson & Marsh, 1996). Research has provided evidence that engagement with music can induce a flow state (Bailey & Davidson, 2002; Diaz, 2011; Harmat, et al., 2021; Keeler, et al., 2015; Silverman & Baker, 2018), which may be associated with increased overall well-being or positive emotions (Lamont, 2012; Loepthien & Leipold; 2021). One study by Walker (2010) additionally illustrated that experiencing flow with others can be more powerful than experiencing flow alone. However, many of the components that make flow a powerful

experience appear to be lost in a context where individuals are rehearsing online, for example feedback and a lack of distractions. Elements of the group singing experience, as well as some of the benefits the choir imparted on its members, also seemed to disappear when choir rehearsals moved online.

Another crucial finding is that it is not necessary for participants to be making music together, simply engaging with music via synchronous tapping or rocking can facilitate positive feelings and closeness between participants (Demos et al., 2012; Stupacher et al., 2017). This finding means that interventions designed to bring people together via music may not require participants to make music together, they only need participants to engage with the music together in some way. Similarly, some research has examined how exposure to music of different cultures can help reduce prejudice towards members of those cultures.

Music as a Possible Method for Bringing People Together

The studies above illustrate how music can help people connect in a couple of valuable ways. The findings from Studies 4-6 show that even when political orientation is different, social attraction can be increased by shared music preferences. This presents the possibility that shared music preferences can bring people together despite other differences. Previous research has examined the capacity for music to help bridge differences between individuals or reduce prejudices. One study exposed Portuguese children to music from Cape Verde to potentially reduce prejudice towards darker-skinned children (Sousa et al., 2005). Analysis comparing pre- and post-test measures of prejudice supported the researchers' hypothesis and indicated that prejudice was significantly reduced for those who were exposed to the Cape Verdean music compared with those who were not (Sousa et al., 2005). A later study by Neto and colleagues (2015) which intentionally built upon the work of Sousa and colleagues (2005) also looked at music and anti-dark-skinned prejudice in a slightly older

group of Portuguese children. Implicit and explicit measures from before and after showed that dark skinned prejudice was significantly reduced. Additionally, these measures were given again 3 months later and 2 years later to find that the effects endured (Neto et al., 2015). These researchers also examined national prejudice in this sample of participants and found prejudice specifically towards Cape Verdean people was reduced however prejudice towards another outgroup, Brazilians, did not change, and positive feelings towards the ingroup also did not change (Neto et al., 2019).

A study looking at white Americans' perceptions of Asians was conducted using music videos to determine whether music could help reduce prejudice towards this group (Case et al., 2021). Researchers found that exposure to an Asian music video increased positive feelings towards Asian people compared with the White music video and the non-musical video (Case et al., 2021). These studies illustrate that music has the capacity to alter how individuals feel about each other. However, all these studies involve programs of actively exposing participants to music of other cultures which might be time-consuming.

The studies in this thesis focused on individual music preferences, as opposed to exposing participants to the music of other cultures. Exposing individuals to music does not necessarily relate to their personal music preferences or the preferences of others. The discrepancy in these methods means that using shared music preferences to facilitate attraction may serve as an additional avenue for bringing together individuals who may see themselves as different from one another. Using shared music preference to bring different people together may serve as an easier or more straightforward starting point, compared with exposing people to new genres of music. This possibility is reinforced by Studies 4 and 5 indicating that shared music preferences can increase positive feelings towards an outgroup (Bakagiannis & Tarrant, 2006).

It is also important to note that the studies in this thesis looked specifically at social attraction, not reduced prejudice or ingroup/outgroup membership. Future research could include these or other measures of positive and negative traits to determine whether participants' views about those who have different political beliefs are altered when they share music preferences. This design could provide more detailed information on participant's perceptions of an individual with whom they share music preferences but not political beliefs.

Overall, the combined evidence that shared music preference can facilitate attraction despite salient differences, paired with the finding that the social aspects of music are essential to group music-making, suggests that music could be an effective mechanism for bringing people together. Future research could examine the degree to which this method could be effective for facilitating bonding or at the very least, positive feelings towards the other participant.

Research on Attraction

In addition to potentially adding to the ways in which music can help bridge differences, Studies 4-6 also contributes to the body of work on similarity and attraction. Several previous studies have found evidence that dissimilar attitudes have a larger influence on social attraction than similar attitudes (Jia & Singh, 2009; Singh et al., 2008; Singh & Ho, 2000; Singh & Teoh, 1999), potentially because they grab more of a participant's attention than similar attitudes do (Jia & Singh, 2009). These findings were reinforced in the literature review by Montoya and Horton (2013) who found that the published literature appears to support a greater influence of dissimilar attitudes on attraction than similar attitudes. Studies 4-6 do not directly compare the degree of influence of similar versus dissimilar attitudes on attraction, however, the independent influence of shared music preference and shared

political orientation on attraction towards Kate presents the possibility that dissimilarity between Kate and the participant in one of these variables is not preventing an increase in attraction when Kate and the participant are similar on a different attribute.

The results of Studies 4-6 align more with the results of Smeaton and colleagues (1989) who tested how attraction towards a target was influenced when the number of attitudes that were presented as similar was varied, while the number of attitudes presented as dissimilar remained constant. The researchers found that attraction towards the target increased as the number of similar attitudes increased, even in the presence of dissimilar attitudes, suggesting that the presence of dissimilar attitudes was not inhibiting the positive relationship between similarity and attraction towards the target.

Part of what the findings from studies 4-6 illustrate is that, depending on the specific attitudes in question, similar and dissimilar attitudes may have different degrees of influence, and may influence attraction independently from one another. This suggests that the influence of similar versus dissimilar attitudes on attraction may not be as straightforward as one having more influence than the other. Additionally, our findings illustrate the influence of similar versus dissimilar attitudes in a more realistic context. The study conducted by Smeaton and colleagues took place in a lab, where participants performed a series of tasks, which is not necessarily representative of real-world experiences. Although the participants recruited for Studies 4-6 took a series of online surveys, the target individual, Kate, was presented using the format of an online social media profile, such as someone might see on a dating app. This means that our findings may have slightly more external validity, and can illustrate the ways that similar and dissimilar attitudes may be influencing attraction in a slightly more realistic context than has been used in the past.

Furthermore, if music preference is influencing social attraction independent of another similar trait, in this case political orientation, it may be that the information processing model is not the best explanation for how music preference facilitates attraction. The information processing model presumes that when individuals know they are similar in one attribute, they assume themselves to be similar in another attribute, which results in attraction. To briefly reiterate, in their review of the underlying mechanisms influencing similarity and attraction, Montoya and Horton (2013) found that most of the published literature supports the information processing model of attraction over the others examined, such as the reinforcement model (Byrne et al., 1966) and the repulsion hypothesis (Rosenbaum, 1986). However, if music preference similarity is not influencing attraction as would be suggested by the information processing model, it might mean that sharing music preference with another person has a unique influence on social attraction, instead of facilitating the assumption of similarity in other attributes which then leads to attraction. These findings suggest that the information processing model may not fit all situations. Our results may not completely contradict the information processing model, however, they may indicate the complexities in the way music preferences signal other attributes as well as facilitate attraction. However, future research comparing other variables would need to explore this further. It may be the case that the information processing model needs to be modified to incorporate these findings.

Music as a Signal

One question this thesis attempted to answer related to the use of music preferences as a signal for other traits. This possibility was discussed in the context of online dating in the literature in Chapter 1. It was suggested by Chan, (2021b) and by Klofstad and colleagues (2013) that individuals may be using non-political information to infer the political orientation of others in an online context. Additionally, Boer and colleagues (2011)

hypothesized that music preference could signal shared values which then mediates the relationship between music preference and social attraction. Studies 1-5 support the idea that music preference may be able to signal certain traits (Lonsdale & North, 2012; Rentfrow et al., 2009; Rentfrow & Gosling, 2006, 2007; Schwär & Middleton, 2017; Shevy, 2008). However, the absence of an interaction between music preference similarity and political orientation similarity on social attraction means that it may not be the case that shared music preference is indirectly influencing social attraction through signaling political orientation. Essentially, we did not find evidence that music preference is primarily signaling values which then facilitate social attraction, as was suggested by Boer and colleagues (2011).

However, although music preference may not facilitate attraction through signaling political orientation, it is still important to critically evaluate the finding that there are attributes which music preferences do appear to be signaling. Studies 4-6 showed that Kate's music preference influenced whether participants felt they had similar attitudes or a similar background to Kate. This finding implies that Kate's music preference conveyed information about her attitudes and background (Studies 4-5). This evidence is important because it indicates that individuals will make assumptions about others based on seemingly trivial or unrelated information. For a participant to take information as seemingly innocuous as music preference and use that to extrapolate other information about that individual, as would be suggested by the information processing model (Montoya & Horton, 2013), it presents the possibility that people can use this kind of information to make both positive and negative assumptions about others.

In the past five to ten years, businesses and workplaces around the world have implemented anti-bias and diversity programs as part of their employee training (Carter et al., 2020; Legate et al., 2023). Typically, these trainings focus on creating friendlier spaces for women, racial minorities, and those with disabilities by highlighting individuals' unconscious

negative biases (Atewologun et al., 2018; Legate et al., 2023). Considering these efforts alongside the findings in Studies 4-6, it is possible that people are using various kinds of information about an individual, from race to gender presentation and possibly even music preferences, to make assumptions about others. While this does not mean it is necessary to include music preferences in an anti-bias training course, it is important to acknowledge the possibility that traits other than race or gender presentation could lead to assumptions about others.

This research shows that individuals may use information to make assumptions about others, however, it does not elaborate on whether these assumed traits increase attraction. The findings of Study 6 indicate that stereotype alignment is not necessary for attraction to result from shared music preferences. In other words, these studies have found support that music preferences can signal other attributes; however, they did not produce evidence for the possibility that the reason sharing music preferences with someone increases social attraction is *because* of the other attributes being signaled, in addition to or instead of the similarity in preference alone. This finding highlights research on stereotypes, and raises the discussion on whether adherence to stereotypes facilitate attraction.

Stereotypes

It is clear from the evidence that stereotypes surrounding music exist (Fried, 2003; Lonsdale & North, 2012; Rentfrow et al., 2009; Rentfrow & Gosling, 2006, 2007). However, as discussed previously, there is very little research on attraction and alignment with stereotypes overall (Chappetta & Barth, 2016, 2022). The results of Studies 1 and 3 provide evidence that these stereotypes are relatively strong and consistent, however the results of Study 6 provide evidence that these stereotypes do not appear to be influencing attraction towards a target. Deeper exploration of stereotypes in other kinds in friendship formation

could also yield important information about the role that stereotypes play in social interactions.

The studies in this thesis, while focused on music preferences, political orientation, and social attraction, touch upon several different subjects and add to the body of research in those areas. Despite these promising applications, this research is not without limitations.

Limitations and Future Directions

One limitation is that although we collected Likert-style data in the form of total scores for each of the dependent variables, we only examined how much participants liked Kate and how similar they believed themselves to be to her. There were no qualitative or quantitative questions asking about what participants thought of Kate, her music preference, her political orientation, or her alignment (or lack thereof) with stereotypes. Since Studies 1-3 provided evidence that stereotypes about music preference and political orientation appear to exist, even though alignment with stereotypes did not appear to influence attraction towards Kate, an interesting future study could examine in more detail what participants think about Kate when she does or does not align with stereotypes. This future study could potentially address several questions, for example: Do participants notice when a target does or does not align with stereotypes? How do participants rate targets with different music preferences and political orientations on various positive and negative traits? Does this differ when a participant does or does not align with stereotypes? This study would focus more on participants' feelings about the targets and less on how attracted the participant is towards the target. Because of the relatively limited research examining attractiveness and stereotypes (Chappetta & Barth, 2016, 2022; Shaffer & Johnson, 1980; Shaffer & Wegley, 1974), this potential future study could constitute an important research contribution.

As in Studies 4-6, participants would be presented with one of the four versions of Kate. Previous studies (e.g., Bakagiannis & Tarrant, 2006; Tian et al., 2021; Ziv et al., 2008) have asked participants to rate targets via lists of positive and negative adjectives (e.g., attractive, intelligent, unfair). Employing a similar measure, in addition to asking how much participants might be attracted to the targets, could provide more detail on how participants feel about Kate's music preferences, political orientation, and her alignment with stereotypes or lack thereof. A final open-ended question could ask participants *What do you think of this person?* to determine whether there are more specific thoughts participants have. This study would provide more detail on how music preferences influence individuals' perceptions of a target, and may help point to why participants like Kate beyond whether they perceive themselves as similar to her. Additionally, this research could help shed light on why alignment with stereotypes did not appear to influence attraction towards Kate. For example, it is possible that Kate's diversion from stereotypes is interpreted as a positive versus a negative, which could increase social attraction towards her. The role that alignment with stereotypes might play on attraction should be further explored.

Another limitation relates to the difficulty in finding large numbers of participants who either liked or disliked a certain genre of music. As illustrated in Study 2, individuals tend to have varying music preference that are not easily captured via survey and there is no guarantee that a sample of participants will have minimum numbers who like or dislike each genre listed. In Study 5 we were able to manipulate which participants went in to each group based on their previously stated music preference and political orientation. However, indie music and country music were chosen, in part, because there were enough liberal and conservative participants who endorsed *liking* indie, and enough liberal and conservative participants who endorsed *disliking* country, with no overlap between the two groups. In a more ideal context, participants who came to a lab, for example, could fill out a form stating

their musical likes and dislikes and then they could be presented with a target that is custom

created to either represent that participant's favorite or least favorite music. While this

method might allow for more control over the details of the target a participant sees, one

drawback to this method is that it could be time-consuming to test as many participants.

It is also essential to discuss the nature of political orientation. Participants were

recruited from Prolific, which gives users the option to self-report their political alignment

with either the left or right side of the political spectrum. It is possible that this binary

spectrum does not capture all the nuances of an individual's political orientation. However,

because participants are able to self-report this attribute, or choose not to, it is likely that

participants would not have placed themselves on this spectrum if they did not believe it

represented their views in some way. It is also important to note that Kate's profile described

her political views by membership in either the Labour or Conservative party. While

alignment with either the left or right side of the political spectrum is not the same as party

affiliation, studies indicate that party alignment is the most powerful determinant of where on

the political spectrum a people position themselves (Arian & Shamir, 1983; Freire, 2008;

Medina, 2015; Peral & Calvo, 2022). Thus, even though participants were selected for their

self-reported alignment on the left or right side of the political spectrum but were comparing

themselves to Kate, whose profile either said she was Labour or Conservative, this

discrepancy likely did not confound the results of the studies in this thesis. Furthermore, these

variables were kept consistent throughout each study where social attraction was examined.

Finally, it is important to note that this thesis only compares music preferences and

political orientation. Research on similarity and attraction has illustrated that similarity in a

variety of traits or attributes can contribute to increased attraction, thus it is not clear that the

results of the studies in this thesis are unique to music preferences. Future research should

consider other variables in order to determine whether music preferences have a unique

ability to facilitate social attraction when compared to political differences over other possible attributes, such as favorite sports team, preferred cuisine, or choice of TV show.

To turn to Studies 7 and 8 it is crucial to acknowledge the effect the global circumstances surrounding the COVID-19 pandemic and subsequent lockdown measures may have had on the results of these studies. Research indicates that feelings of anxiety, depression, and loneliness increased during lockdown (Hamadani et al., 2020; Marroquín et al., 2020; C. Mazza et al., 2020; Tull et al., 2020). It is possible that these increases in negative feelings during lockdown could have contributed to participants' feelings about missing their groups. In other words, even participants who did not feel especially connected to their group activities may have felt the loss of their group activity more acutely because many people lost access to all methods of in-person socialization during this time. This situation could have enhanced participants' feelings about how much they missed their singing groups and what it was they missed the most. It is possible that sentiments about missing human connection and physical contact were being influenced not only by the lack of ability to meet in person for rehearsal, but for many, the lack of ability to meet with anyone. Part of what this observation means is that it is not necessarily possible to differentiate between participant feelings that were specific to missing their singing groups versus how participants were feeling because of all the other lockdown circumstances. While these observations do not invalidate the findings in this thesis it is an influential historical factor to consider when adding these results to the body of research on participation in choir in general.

These findings and observations lead to the possibility for future research. Because of these unprecedented circumstances, and because lockdown orders are no longer in place, the possibility of replicating Studies 7 or 8 exactly as they were conducted above becomes complicated. All of this information considered, a central goal of Studies 7 and 8 was to

understand what is important to people in singing groups, which can be addressed relatively easily, and has been the focus of previous research (Bailey & Davidson, 2005; Camlin et al., 2020; Rohwer & Rohwer, 2012; Theorell et al., 2020). However, similar future studies attempting to understand what participants miss about in-person rehearsals could include moving a choir rehearsal from in-person to online in a "normal" global context. This may present an opportunity to see the degree to which the external pandemic events were influencing individual's feelings about online choir rehearsal. Conducting a similar study outside the context of lockdown may illustrate whether there were any elements of participants' feelings that were augmented due to the pandemic versus those that were a true reflection on no longer being able to rehearse in person. However, replicating this study would likely necessitate creating a community choir with in-person rehearsals, which then moves online after a certain amount of time, which could be time and resource-consuming.

Finally, it is important to note that there was some variance in demographics across the samples used in Studies 1-6. Most of this variance is illustrated by the different age-ranges in participants across the samples. As mentioned in the Pilot Study, one concern was that the sample only included participants from a relatively young age-range. It has been found previously that music preference can be influenced by one's age (North & Hargreaves, 2007a). Thus, the subsequent studies used a larger age-range of participants in order to increase the likelihood that the participants we were drawing from had music preferences that were more varied than just music which is popular for young people. To be more specific, because studies 4-6 required participants who were interested in indie music or country music, we felt that increasing the age range of possible participants in the sample would make it more likely that there would be a sufficient sample of participants who were interested in these genres. Additionally, all participants were recruited from Prolific, and unless certain filters are used any member of the site can be part of a study. This means that it is possible

for a participant of any age to take part in a study for those studies that did not use an age

filter, such as the pilot study. However, since the enjoyment of music is not limited to any

particular age range (North & Hargreaves, 2007b; Purhonen & Heikkilä, 2017; Schäfer &

Sedlmeier, 2009), we did not feel that variance in the age ranges across samples significantly

influenced the results of the research. In other words, it seemed unlikely that the main

findings of the above research would have changed if the age range across samples had been

consistent for studies 1-6.

With regards to gender, the goal for this research was to examine a level of social

attraction between the participant and target based on music preferences and political

orientation. While some studies have manipulated the gender of a target for the purpose of

understanding how individuals perceive that target's music preference, they have not

included the possibility of attraction towards those targets (Fried, 2003; Rentfrow et al., 2009;

Rentfrow & Gosling, 2007). Although the gender of a participant can influence their level of

social attraction towards a target (Jaschinski & Kommers, 2012) for the sake of consistency,

and because gender was not a particular factor of interest in this thesis, only one female target

individual was used for each study.

Conclusions

The studies in this thesis illustrate two ways by which engagement with music can

help people connect socially. The first set of studies illustrated how sharing music

preferences can facilitate attraction even when people are different, and the second set of

studies showed how the social, in-person elements of group singing are essential to creating a

fulfilling musical experience.

While there is a wealth of previous research on music preferences, most of it focuses

on correlations with personality traits or other variables (Bakagiannis & Tarrant, 2006;

Lonsdale & North, 2012; Rentfrow & Gosling, 2007; Tarrant et al., 2001). Additionally, much of the research focusing on music as a mechanism for decreasing prejudice focuses on exposing participants to music of other cultures. The studies in this thesis constitute a new contribution to the literature by illustrating that it is possible for one's own music preferences to facilitate connections with others despite salient differences.

Furthermore, previous literature examining group singing has focused on the benefits of what group singing can provide its members (Bailey & Davidson, 2003; Williams et al., 2018). However, the COVID-19 pandemic presented a unique opportunity which of these benefits participants may miss when they are forced to rehearse online instead of in-person. Studies 7 and 8 illustrated that participants felt the absence of the social aspect of choir rehearsals quite deeply, such when participants were singing online, the experience is not nearly as fulfilling. This finding highlights how essential the social aspect is to music-making.

Music seems to have intimate ties with getting to know others and facilitating attraction. Moreover, the full experience of music-making appears to be somewhat dependent on the in-person involvement that takes place at the same time. Understanding the influence of music on socializing, and vice-versa, is increasingly crucial as people are able to connect faster with one another around the world. These findings can potentially inform ways by which music can bridge certain divides between individuals or groups.

References

Aiello, L. M., Barrat, A., Schifanella, R., Cattuto, C., Markines, B., & Menczer, F. (2012). Friendship prediction and homophily in social media. *ACM Transactions on the Web*, *6*(2), 9:1-9:33. https://doi.org/10.1145/2180861.2180866

Ajzen, I. (1974). Effects of information on interpersonal attraction: Similarity versus affective value. *Journal of Personality and Social Psychology*, *29*, 374–380. https://doi.org/10.1037/h0036002

Ajzen, I. (2012). Values, Attitudes, and Behavior. In S. Salzborn, E. Davidov, & J. Reinecke (Eds.), *Methods, Theories, and Empirical Applications in the Social Sciences* (pp. 33–38). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-18898-0_5

Alford, J. R., Hatemi, P. K., Hibbing, J. R., Martin, N. G., & Eaves, L. J. (2011). The Politics of Mate Choice. *The Journal of Politics*, *73*(2), 362–379. https://doi.org/10.1017/S0022381611000016

Andersen, P. A., & Todd de Mancillas, W. R. (1978). Scales for the measurement of homophily with public figures. *Southern Speech Communication Journal*, *43*(2), 169–179. https://doi.org/10.1080/10417947809372379

Anshel, A., & Kipper, D. A. (1988). The Influence of Group Singing on Trust and Cooperation. *Journal of Music Therapy*, *25*(3), 145–155. https://doi.org/10.1093/jmt/25.3.145

Arian, A., & Shamir, M. (1983). The Primarily Political Functions of the Left-Right Continuum. *Comparative Politics*, *15*(2), 139–158. https://doi.org/10.2307/421673

Atewologun, D., Cornish, T., & Tresh, F. (2018). Unconscious bias training: An assessment of the evidence for effectiveness. *Equality and Human Rights Commission Report Series*.

Attitude. (2022). In *Merriam-Webster Dictionary*. Merriam-Webster Incorperated.

https://www.merriam-webster.com/

Bailey, B. A. (2006). Perceived holistic health effects of three levels of music participation.

Canadian Acoustics, *34*(3), Article 3.

Bailey, B. A., & Davidson, J. W. (2002). Adaptive Characteristics of Group Singing:

Perceptions from Members of a Choir Forhomeless Men. *Musicae Scientiae*, *6*(2),

221–256. https://doi.org/10.1177/102986490200600206

Bailey, B. A., & Davidson, J. W. (2003). Amateur Group Singing as a Therapeutic

Instrument. *Nordic Journal of Music Therapy*, *12*(1), 18–32.

https://doi.org/10.1080/08098130309478070

Bailey, B. A., & Davidson, J. W. (2005). Effects of group singing and performance for

marginalized and middle-class singers. *Psychology of Music*, *33*(3), 269–303.

https://doi.org/10.1177/0305735605053734

Bakagiannis, S., & Tarrant, M. (2006). Can music bring people together? Effects of shared

musical preference on intergroup bias in adolescence. *Scandinavian Journal of*

Psychology, *47*(2), 129–136. https://doi.org/10.1111/j.1467-9450.2006.00500.x

Bat-Chava, Y. (1994). Group Identification and Self-Esteem of Deaf Adults. *Personality and*

Social Psychology Bulletin, *20*(5), 494–502.

https://doi.org/10.1177/0146167294205006

Baym, N. K., & Ledbetter, A. (2009). Tunes That Bind? *Information, Communication &*

Society, *12*(3), 408–427. https://doi.org/10.1080/13691180802635430

Beauchamp, M. R., Carron, A. V., McCutcheon, S., & Harper, O. (2007). Older adults'

preferences for exercising alone versus in groups: Considering contextual congruence.

Annals of Behavioral Medicine, *33*(2), 200–206. https://doi.org/10.1007/BF02879901

Ben-Ner, A., McCall, B. P., Stephane, M., & Wang, H. (2009). Identity and in-group/out-group differentiation in work and giving behaviors: Experimental evidence. *Journal of Economic Behavior & Organization*, *72*(1), 153–170. https://doi.org/10.1016/j.jebo.2009.05.007

Biddle, S. (2016). Physical activity and mental health: Evidence is growing. *World Psychiatry*, *15*(2), 176–177. https://doi.org/10.1002/wps.20331

Biddle, S. J. H., & Asare, M. (2011). Physical activity and mental health in children and adolescents: A review of reviews. *British Journal of Sports Medicine*, *45*(11), 886–895. https://doi.org/10.1136/bjsports-2011-090185

Blair, S. N., Cheng, Y., & Scott Holder, J. (2001). Is physical activity or physical fitness more important in defining health benefits?: *Medicine and Science in Sports and Exercise*, *33*(Supplement), S379–S399. https://doi.org/10.1097/00005768-200106001-00007

Boer, D., & Abubakar, A. (2014). Music listening in families and peer groups: Benefits for young people's social cohesion and emotional well-being across four cultures. *Frontiers in Psychology*, *5*. https://www.frontiersin.org/article/10.3389/fpsyg.2014.00392

Boer, D., Fischer, R., González Atilano, M. L., de Garay Hernández, J., Moreno García, L. I., Mendoza, S., Gouveia, V. V., Lam, J., & Lo, E. (2013). Music, identity, and musical ethnocentrism of young people in six Asian, Latin American, and Western cultures. *Journal of Applied Social Psychology*, *43*(12), 2360–2376. https://doi.org/10.1111/jasp.12185

Boer, D., Fischer, R., Strack, M., Bond, M. H., Lo, E., & Lam, J. (2011). How Shared Preferences in Music Create Bonds Between People: Values as the Missing Link.

Personality and Social Psychology Bulletin, *37*(9), 1159–1171.

https://doi.org/10.1177/0146167211407521

Breakwell, G. M., Smith, J. A., & Wright, D. B. (2012). *Research Methods in Psychology*

(4th ed.). Sage Publications.

Bruchmann, K., Koopmann-Holm, B., & Scherer, A. (2018). Seeing beyond political

affiliations: The mediating role of perceived moral foundations on the partisan

similarity-liking effect. *PLOS ONE*, *13*(8), e0202101.

https://doi.org/10.1371/journal.pone.0202101

Buckley, G., Hall, L., Lassemillante, A.-C., & Belski, R. (2021). *Disordered Eating &*

Body Image of Current and Former Athletes in a Pandemic—What Can We Learn

From COVID-19 to Support Athletes Through Transitions? [Preprint]. In Review.

https://doi.org/10.21203/rs.3.rs-145763/v1

Byrne, D. (1961a). Interpersonal attraction and attitude similarity. *The Journal of Abnormal*

and Social Psychology, *62*(3), 713–715. https://doi.org/10.1037/h0044721

Byrne, D. (1961b). Interpersonal Attraction as a Function of Affiliation Need and Attitude

Similarity. *Human Relations*, *14*(3), 283–289.

https://doi.org/10.1177/001872676101400305

Byrne, D., & Clore, G. L. (1966). Predicting interpersonal attraction toward strangers

presented in three different stimulus modes. *Psychonomic Science*, *4*(6), 239–240.

https://doi.org/10.3758/BF03342271

Byrne, D., & Griffitt, W. (1973). *Interpersonal Attraction*. 20.

Byrne, D., Griffitt, W., & Golightly, C. (1966). Prestige as a factor in determining the effect

of attitude similarity-dissimilarity on attraction. *Journal of Personality*, *34*(3), 434–

444. https://doi.org/10.1111/j.1467-6494.1966.tb01725.x

Byrne, D., London, O., & Reeves, K. (1968). The effects of physical attractiveness, sex, and

    attitude similarity on interpersonal attraction1. *Journal of Personality*, *36*(2), 259–

    271. https://doi.org/10.1111/j.1467-6494.1968.tb01473.x

Byrne, D., & Nelson, D. (1964). Attraction as a function of attitude similarity-dissimilarity:

    The effect of topic importance. *Psychonomic Science*, *1*(1–12), 93–94.

    https://doi.org/10.3758/BF03342806

Byrne, D., & Nelson, D. (1965a). Attraction as a linear function of proportion of positive

    reinforcements. *Journal of Personality and Social Psychology*, *1*(6), 659–663.

    https://doi.org/10.1037/h0022073

Byrne, D., & Nelson, D. (1965b). The effect of topic importance and attitude similarity-

    dissimilarity on attraction in a multistranger design. *Psychonomic Science*, *3*(1–12),

    449–450. https://doi.org/10.3758/BF03343226

Byrne, D., & Nelson, D. (1965c). The effect of topic importance and attitude similarity-

    dissimilarity on attraction in a multistranger design. *Psychonomic Science*, *3*(1–12),

    449–450. https://doi.org/10.3758/BF03343226

Byrne, D., Nelson, D., & Reeves, K. (1966). Effects of consensual validation and invalidation

    on attraction as a function of verifiability. *Journal of Experimental Social Psychology*,

    2(1), 98–107. https://doi.org/10.1016/0022-1031(66)90009-6

Byrne, D., & Rhamey, R. (1965). Magnitude of positive and negative reinforcements as a

    determinant of attraction. *Journal of Personality and Social Psychology*, *2*(6), 884–

    889. https://doi.org/10.1037/h0022656

Byrne, D., Young, R. K., & Griffitt, W. (1966). The reinforcement properties of attitude

    statements. *Journal of Experimental Research in Personality*, *1*, 266–276.

Camlin, D. A., Daffern, H., & Zeserson, K. (2020). Group singing as a resource for the

    development of a healthy public: A study of adult group singing. *Humanities and*

Social Sciences Communications, *7*(1), Article 1. https://doi.org/10.1057/s41599-020-00549-0

Caprara, G. V., Schwartz, S., Capanna, C., Vecchione, M., & Barbaranelli, C. (2006). Personality and Politics: Values, Traits, and Political Choice. *Political Psychology*, *27*(1), 1–28. https://doi.org/10.1111/j.1467-9221.2006.00447.x

Caprara, G., & Zimbardo, P. (2004). Personalizing Politics: A Congruency Model of Political Preference. *The American Psychologist*, *59*, 581–594. https://doi.org/10.1037/0003-066X.59.7.581

Carter, E. R., Onyeador, I. N., & Lewis, N. A. (2020). Developing & delivering effective anti-bias training: Challenges & recommendations. *Behavioral Science & Policy*, *6*(1), 57–70. https://doi.org/10.1177/237946152000600106

Case, T., Gim, H., Gahler, H., & Harwood, J. (2021). For the love of music: Changing Whites' stereotypes of Asians with mediated intergroup musical contact. *Journal of International and Intercultural Communication*, *0*(0), 1–19. https://doi.org/10.1080/17513057.2021.1985590

Chan, L. S. (2021a). Looking for politically like-minded partners: Self-presentation and partner-vetting strategies on dating apps. *Personal Relationships*, *28*(3), 703–720. https://doi.org/10.1111/pere.12375

Chan, L. S. (2021b). Looking for politically like-minded partners: Self-presentation and partner-vetting strategies on dating apps. *Personal Relationships*, *28*(3), 703–720. https://doi.org/10.1111/pere.12375

Chappetta, K. C., & Barth, J. M. (2016). How gender role stereotypes affect attraction in an online dating scenario. *Computers in Human Behavior*, *63*, 738–746. https://doi.org/10.1016/j.chb.2016.06.006

Chappetta, K. C., & Barth, J. M. (2022). How gender role stereotypes affect attraction in an online dating scenario: A replication and extension. *Journal of Social and Personal Relationships*, 02654075221090494. https://doi.org/10.1177/02654075221090494

Clift, S., Hancox, G., Morrison, I., Hess, B., Kreutz, G., & Stewart, D. (2010). Choral singing and psychological wellbeing: Quantitative and qualitative findings from English choirs in a cross-national survey. *Journal of Applied Arts & Health*, *1*(1), 19–34. https://doi.org/10.1386/jaah.1.1.19/1

Clift, S. M., & Hancox, G. (2001). The perceived benefits of singing: Findings from preliminary surveys of a university college choral society. *Journal of the Royal Society for the Promotion of Health*, *121*(4), 248–256. https://doi.org/10.1177/146642400112100409

Cohen, E., Mundry, R., & Kirschner, S. (2014). Religion, synchrony, and cooperation. *Religion, Brain & Behavior*, *4*(1), 20–30. https://doi.org/10.1080/2153599X.2012.741075

Cohen, M. L. (2007). Explorations of Inmate and Volunteer Choral Experiences in a Prison-Based Choir. *Australian Journal of Music Education*, 13.

Cohen, M. L. (2009). Choral Singing and Prison Inmates: Influences of Performing in a Prison Choir. *Journal of Correctional Education (1974-)*, *60*(1), 52–65.

Collier, J. R. (2016). *Political identity & online dating: A mixed-methods approach to understanding political identity expression* [M.A., The University of North Carolina at Chapel Hill]. http://www.proquest.com/docview/1806112373/abstract/1D26FBDAE19D40CDPQ/1

Condon, J., & Crano, W. (1988). Inferred Evaluation and the Relation Between Attitude Similarity and Interpersonal Attraction. *Journal of Personality and Social Psychology*, *54*, 789–797. https://doi.org/10.1037//0022-3514.54.5.789

Coombs, R. H. (1966). Value Consensus and Partner Satisfaction among Dating Couples. *Journal of Marriage and Family*, *28*(2), 166–173. https://doi.org/10.2307/349275

Correll, J., & Park, B. (2005). A Model of the Ingroup as a Social Resource. *Personality and Social Psychology Review*, *9*(4), 341–359. https://doi.org/10.1207/s15327957pspr0904_4

Corrigall, K. A., & Schellenberg, E. G. (2015). Liking music: Genres, contextual factors, and individual differences. In J. P. Huston, M. Nadal, F. Mora, L. F. Agnati, & C. J. C. Conde (Eds.), *Art, Aesthetics, and the Brain* (pp. 263–284). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199670000.003.0013

Craft, L. L., & Perna, F. M. (2004). The Benefits of Exercise for the Clinically Depressed. *Primary Care Companion to The Journal of Clinical Psychiatry*, *6*(3), 104–111.

Creech, A., Hallam, S., McQueen, H., & Varvarigou, M. (2013). The power of music in the lives of older adults. *Research Studies in Music Education*, *35*(1), 87–102. https://doi.org/10.1177/1321103X13478862

Cross, I., & Morley, I. (2010). *The evolution of music: Theories, definitions and the nature of the evidence*. 22.

Cruwys, T., Dingle, G. A., Haslam, C., Haslam, S. A., Jetten, J., & Morton, T. (2013). Social group memberships protect against future depression, alleviate depression symptoms and prevent depression relapse | Elsevier Enhanced Reader. *Social Science & Medicine*, *98*, 179–186. https://doi.org/10.1016/j.socscimed.2013.09.013

Curry, TimothyJ., & Kenny, DavidA. (1974). The effects of perceived and actual similarity in values and personality in the process of interpersonal attraction. *Quality and Quantity*, *8*(1). https://doi.org/10.1007/BF00205863

Daffern, H., Balmer, K., & Brereton, J. (2021). Singing Together, Yet Apart: The Experience

of UK Choir Members and Facilitators During the Covid-19 Pandemic. *Frontiers in*

Psychology, *12*. https://doi.org/10.3389/fpsyg.2021.624474

Davies, M. B., & Hughes, N. (2014). *Doing a successful research project: Using qualitative*

or quantitative methods. Bloomsbury Publishing.

Daykin, N., Mansfield, L., Meads, C., Gray, K., Golding, A., Tomlinson, A., & Victor, C.

(2021). The role of social capital in participatory arts for wellbeing: Findings from a

qualitative systematic review. *Arts & Health*, *13*(2), 134–157.

https://doi.org/10.1080/17533015.2020.1802605

Daykin, N., Mansfield, L., Meads, C., Julier, G., Tomlinson, A., Payne, A., Grigsby Duffy,

L., Lane, J., D'Innocenzo, G., Burnett, A., Kay, T., Dolan, P., Testoni, S., & Victor,

C. (2018). What works for wellbeing? A systematic review of wellbeing outcomes for

music and singing in adults. *Perspectives in Public Health*, *138*(1), 39–46.

https://doi.org/10.1177/1757913917740391

Demos, A. P., Chaffin, R., Begosh, K. T., Daniels, J. R., & Marsh, K. L. (2012). Rocking to

the beat: Effects of music and partner's movements on spontaneous interpersonal

coordination. *Journal of Experimental Psychology: General*, *141*(1), 49–53.

https://doi.org/10.1037/a0023843

Denzin, N. K., Lincoln, Y. S., Giardina, M. D., & Cannella, G. S. (2023). *The Sage*

Handbook of Qualitative Research. Sage Publications.

Dingle, G. A., Brander, C., Ballantyne, J., & Baker, F. A. (2013). 'To be heard': The social

and mental health benefits of choir singing for disadvantaged adults. *Psychology of*

Music, *41*(4), 405–421. https://doi.org/10.1177/0305735611430081

Dingle, G. A., Williams, E., Jetten, J., & Welch, J. (2017). Choir singing and creative writing

>   enhance emotion regulation in adults with chronic mental health conditions. *British

>   Journal of Clinical Psychology*, *56*(4), 443–457. https://doi.org/10.1111/bjc.12149

Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived Intragroup Variability as a Function

>   of Group Status and Identification. *Journal of Experimental Social Psychology*, *31*(5),

>   410–436. https://doi.org/10.1006/jesp.1995.1018

Dunlop, W. L., & Beauchamp, M. R. (2011). Does similarity make a difference? Predicting

>   cohesion and attendance behaviors within exercise group settings. *Group Dynamics:

>   Theory, Research, and Practice*, *15*(3), 258–266. https://doi.org/10.1037/a0023642

Duriez, B. (2003). Religiosity and Conservatism Revisited: Relating a New Religiosity

>   Measure to the Two Main Conservative Political Ideologies. *Psychological Reports*,

>   *92*(2), 533–539. https://doi.org/10.2466/pr0.2003.92.2.533

Dys, S. P., Schellenberg, E. G., & McLean, K. C. (2017). Musical Identities, Music

>   Preferences, and Individual Differences. In R. MacDonald, D. J. Hargreaves, & D.

>   Miell (Eds.), *Handbook of Musical Identities* (pp. 247–266). Oxford University Press.

>   https://doi.org/10.1093/acprof:oso/9780199679485.003.0014

Falconer, E. (2020, August 19). Missing Voices and New Connections: Online Community

>   Choir Singing during COVID 19. *Discover Society*.

>   https://archive.discoversociety.org/2020/08/19/missing-voices-and-new-connections-

>   online-community-choir-singing-during-covid-19/

Fancourt, D., & Steptoe, A. (2019). Present in Body or Just in Mind: Differences in Social

>   Presence and Emotion Regulation in Live vs. Virtual Singing Experiences. *Frontiers

>   in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00778

Farrell, P. A., Gates, W. K., Maksud, M. G., & Morgan, W. P. (1982). Increases in plasma

>   beta-endorphin/beta-lipotropin immunoreactivity after treadmill running in humans.

Journal of Applied Physiology, *52*(5), 1245–1249.

https://doi.org/10.1152/jappl.1982.52.5.1245

Fontana, A., & Frey, J. (1994). Interviewing: The art of science. In *Handbook of Qualitative Research* (Vol. 22, pp. 361–376). Sage Publications.

Fox, W. S., & Williams, J. D. (1974). Political Orientation and Music Preferences Among College Students. *Public Opinion Quarterly*, *38*(3), 352. https://doi.org/10.1086/268171

Freire, A. (2008). Party Polarization and Citizens' Left—Right Orientations. *Party Politics*, *14*(2), 189–209. https://doi.org/10.1177/1354068807085889

Fried, C. (2003). Stereotypes of music fans: Are rap and heavy metal fans a danger to themselves or others? *Journal of Media Psychology*, *8*(3), 27.

Frith, S. (1981). *Sound Effects: Youth, Leisure, and the Politics of Rock "n" Roll*. Pantheon Books.

Gick, M. L. (2011). Singing, health and well-being: A health psychologist's review. *Psychomusicology: Music, Mind and Brain*, *21*(1–2), 176–207. https://doi.org/10.1037/h0094011

Goldfarb, A., & Jamurtas, T. (1997). Beta-endorphin response to exercise. An update. *Sports Medicine (Auckland, N.Z.)*, *24*, 8–16.

Golightly, C., & Byrne, D. (1964). Attitude Statements as Positive and Negative Reinforcements. *Science*, *146*(3645), 798–799. https://doi.org/10.1126/science.146.3645.798

Good, A., & Russo, F. A. (2021). Changes in mood, oxytocin, and cortisol following group and individual singing: A pilot study. *Psychology of Music*, 030573562110426. https://doi.org/10.1177/03057356211042668

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, *96*(5), 1029–1046. https://doi.org/10.1037/a0015141

Greenaway, K. H., Haslam, S. A., Cruwys, T., Branscombe, N. R., Ysseldyk, R., & Heldreth, C. (2015). From "we" to "me": Group identification enhances perceived personal control with consequences for health and well-being. *Journal of Personality and Social Psychology*, *109*(1), 53. https://doi.org/10.1037/pspi0000019

Grix, J., Brannagan, P. M., Grimes, H., & Neville, R. (2021). The impact of Covid-19 on sport. *International Journal of Sport Policy and Politics*, *13*(1), 1–12. https://doi.org/10.1080/19406940.2020.1851285

Hamadani, J. D., Hasan, M. I., Baldi, A. J., Hossain, S. J., Shiraji, S., Bhuiyan, M. S. A., Mehrin, S. F., Fisher, J., Tofail, F., Tipu, S. M. M. U., Grantham-McGregor, S., Biggs, B.-A., Braat, S., & Pasricha, S.-R. (2020). Immediate impact of stay-at-home orders to control COVID-19 transmission on socioeconomic conditions, food insecurity, mental health, and intimate partner violence in Bangladeshi women and their families: An interrupted time series. *The Lancet Global Health*, *8*(11), e1380–e1389. https://doi.org/10.1016/S2214-109X(20)30366-1

Hansen, N. Chr., & Howlin, C. (2022). *Music in times of COVID-19*.

Hansen, N. Chr., Treider, J. M. G., Swarbrick, D., Bamford, J. S., Wilson, J., & Vuoskoski, J. K. (2021). A Crowd-Sourced Database of Coronamusic: Documenting Online Making and Sharing of Music During the COVID-19 Pandemic. *Frontiers in Psychology*, *12*. https://www.frontiersin.org/article/10.3389/fpsyg.2021.684083

Happell, B., Platania-Phung, C., & Scott, D. (2011). Placing physical activity in mental health care: A leadership role for mental health nurses. *International Journal of Mental Health Nursing*, *20*(5), 310–318. https://doi.org/10.1111/j.1447-0349.2010.00732.x

Harwood, J. (2017). Music and Intergroup Relations: Exacerbating Conflict and Building

    Harmony through Music. *Review of Communication Research*, *5*, 1–34.

Haslam, C., Cruwys, T., Haslam, S. A., Dingle, G., & Chang, M. X.-L. (2016). Groups 4

    Health: Evidence that a social-identity intervention that builds and strengthens social

    group membership improves mental health. *Journal of Affective Disorders*, *194*, 188–

    195. https://doi.org/10.1016/j.jad.2016.01.010

Haslam, C., Holme, A., Haslam, S. A., Iyer, A., Jetten, J., & Williams, W. H. (2008).

    Maintaining group memberships: Social identity continuity predicts well-being after

    stroke. *Neuropsychological Rehabilitation*, *18*(5–6), 671–691.

    https://doi.org/10.1080/09602010701643449

Hewstone, M., Rubin, M., & Willis, H. (2002). *Intergroup Bias*.

Hill, C. T., & Stull, D. E. (1981). Sex differences in effects of social and value similarity in

    same-sex friendship. *Journal of Personality and Social Psychology*, *41*(3), 488–502.

    https://doi.org/10.1037/0022-3514.41.3.488

Hilton, J., & von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology*, *47*, 237–

    271. https://doi.org/10.1146/annurev.psych.47.1.237

Hirsh, J. B., DeYoung, C. G., Xu, X., & Peterson, J. B. (2010). Compassionate Liberals and

    Polite Conservatives: Associations of Agreeableness With Political Ideology and

    Moral Values. *Personality and Social Psychology Bulletin*, *36*(5), 655–664.

    https://doi.org/10.1177/0146167210366854

Hove, M. J., & Risen, J. L. (2009). It's All in the Timing: Interpersonal Synchrony Increases

    Affiliation. *Social Cognition; New York*, *27*(6), 949–960.

    http://dx.doi.org/10.1521/soco.2009.27.6.949

Huber, G. A., & Malhotra, N. (2017). Political Homophily in Social Relationships: Evidence

    from Online Dating Behavior. *The Journal of Politics*, *79*(1), 269–283.

    https://doi.org/10.1086/687533

Iyer, A., Jetten, J., Tsivrikos, D., Postmes, T., & Haslam, S. A. (2009). The more (and the

    more compatible) the merrier: Multiple group memberships and identity compatibility

    as predictors of adjustment after life transitions. *British Journal of Social Psychology*,

    48(4), 707–733. https://doi.org/10.1348/014466608X397628

Jang, S. (2020). Intergenerational Choir: A Qualitative Exploration of Lived Experiences of

    Older Adults and Student Music Therapists. *Journal of Music Therapy*, *57*(4), 406–

    431. https://doi.org/10.1093/jmt/thaa012

Jaschinski, C., & Kommers, P. (2012). Does beauty matter? The role of friends'

    attractiveness and gender on social attractiveness ratings of individuals on Facebook.

    International Journal of Web Based Communities, *8*(3), 389–401.

    https://doi.org/10.1504/IJWBC.2012.048060

Jetten, J., Branscombe, N. R., Haslam, S. A., Haslam, C., Cruwys, T., Jones, J. M., Cui, L.,

    Dingle, G., Liu, J., Murphy, S., Thai, A., Walter, Z., & Zhang, A. (2015). Having a

    Lot of a Good Thing: Multiple Important Group Memberships as a Source of Self-

    Esteem. *PLOS ONE*, *10*(5), e0124609. https://doi.org/10.1371/journal.pone.0124609

Jia, L., & Singh, R. (2009). Asymmetrical attention allocation to dissimilar and similar

    attitudes. *Journal of Experimental Social Psychology*, *45*(6), 1259–1265.

    https://doi.org/10.1016/j.jesp.2009.07.012

Jones, J. M., & Jetten, J. (2011). Recovering From Strain and Enduring Pain: Multiple Group

    Memberships Promote Resilience in the Face of Physical Challenges. *Social

    Psychological and Personality Science*, *2*(3), 239–244.

    https://doi.org/10.1177/1948550610386806

Joseph, D., Page-Shipp, R., & Niekerk, C. van. (2018). Singing and spirituality in a South

    African male voice group. *International Journal of Community Music*, *11*(1), 21–38.

    https://doi.org/10.1386/ijcm.11.1.21_1

Judd, M., & Pooley, J. A. (2014). The psychological benefits of participating in group singing

    for members of the general public. *Psychology of Music*, *42*(2), 269–283.

    https://doi.org/10.1177/0305735612471237

Kaplan, M. F., & Anderson, N. H. (1974). Information integration theory and reinforcement

    theory as approaches to interpersonal attraction. *Journal of Personality and Social*

    Psychology, *28*(3), 301. https://doi.org/10.1037/h0035112

Kennedy, M. C. (2009). The Gettin' Higher Choir: Exploring culture, teaching and learning

    in a community chorus. *International Journal of Community Music*, *2*(2), 183–200.

    https://doi.org/10.1386/ijcm.2.2-3.183_1

Klofstad, C. A., McDermott, R., & Hatemi, P. K. (2012). Do bedroom eyes wear political

    glasses? The role of politics in human mate attraction. *Evolution and Human*

    Behavior, *33*(2), 100–108. https://doi.org/10.1016/j.evolhumbehav.2011.06.002

Klofstad, C. A., McDermott, R., & Hatemi, P. K. (2013). The Dating Preferences of Liberals

    and Conservatives. *Political Behavior*, *35*(3), 519–538.

    https://doi.org/10.1007/s11109-012-9207-z

Knobloch, S., Vorderer, P., & Zillmann, D. (2000). Der Einfluß des Musikgeschmacks auf

    die Wahrnehmung möglicher Freunde im Jugendalter. [The impact of music

    preferences on the perception of potential friends in adolescence.]. *Zeitschrift Für*

    Sozialpsychologie, *31*(1), 18–30. https://doi.org/10.1024/0044-3514.31.1.18

Knutsen, O. (1995). Value orientations, political conflicts and left-right identification: A

    comparative study. *European Journal of Political Research*, *28*(1), 63–93.

    https://doi.org/10.1111/j.1475-6765.1995.tb00487.x

Kreutz, G. (2014). *Does Singing Facilitate Social Bonding? 6*(2), 10.

Kristen, S., & Shevy, M. (2013). A comparison of German and American listeners' extra musical associations with popular music genres. *Psychology of Music*, *41*(6), 764–778. https://doi.org/10.1177/0305735612451785

Kuchenbrandt, D., van Dick, R., Koschate, M., Ullrich, J., & Bornewasser, M. (2014). More than music! A longitudinal test of German–Polish music encounters. *International Journal of Intercultural Relations*, *40*, 167–174. https://doi.org/10.1016/j.ijintrel.2013.11.008

Lamont, A., Murray, M., Hale, R., & Wright-Bevans, K. (2018). Singing in later life: The anatomy of a community choir. *Psychology of Music*, *46*(3), 424–439. https://doi.org/10.1177/0305735617715514

Lamont, A., & Ranaweera, N. A. (2020). Knit One, Play One: Comparing the Effects of Amateur Knitting and Amateur Music Participation on Happiness and Wellbeing. *Applied Research in Quality of Life*, *15*(5), 1353–1374. https://doi.org/10.1007/s11482-019-09734-z

Lastinger, D. L. (2011). The Effect of Background Music on the Perception of Personality and Demographics. *Journal of Music Therapy*, *48*(2), 208–225. https://doi.org/10.1093/jmt/48.2.208

Launay, J., & Dunbar, R. I. M. (2015). Playing with Strangers: Which Shared Traits Attract Us Most to New People? *PLOS ONE*, *10*(6), e0129688. https://doi.org/10.1371/journal.pone.0129688

Lawrence, B. S., & Shah, N. P. (2020). Homophily: Measures and Meaning. *Academy of Management Annals*, *14*(2), 513–597. https://doi.org/10.5465/annals.2018.0147

Legate, N., Weinstein, N., Graham, L., & Plater, M. (2023). Anti-bias training and perceived force climate: Links with prejudiced attitudes in United Kingdom policing. *Journal of*

Community & Applied Social Psychology, *33*(4), 929–939.

https://doi.org/10.1002/casp.2682

Livesey, L., Morrison, I., Clift, S., & Camic, P. (2012). Benefits of choral singing for social

and mental wellbeing: Qualitative findings from a cross-national survey of choir

members. *Journal of Public Mental Health*, *11*(1), 10–26.

https://doi.org/10.1108/17465721211207275

Lonsdale, A. J. (2021). Musical taste, in-group favoritism, and social identity theory: Re-

testing the predictions of the self-esteem hypothesis. *Psychology of Music*, *49*(4),

817–827. https://doi.org/10.1177/0305735619899158

Lonsdale, A. J., & Day, E. R. (2020). Are the psychological benefits of choral singing unique

to choirs? A comparison of six activity groups. *Psychology of Music*, *49*(5), 1–20.

https://doi.org/10.1177/0305735620940019

Lonsdale, A. J., & North, A. C. (2009). Musical Taste and Ingroup Favouritism. *Group

Processes & Intergroup Relations*, *12*(3), 319–327.

https://doi.org/10.1177/1368430209102842

Lonsdale, A. J., & North, A. C. (2012). Musical taste and the representativeness heuristic.

Psychology of Music, *40*(2), 131–142. https://doi.org/10.1177/0305735611425901

Luther, L., Benkenstein, M., & Rummelhagen, K. (2016). Enhancing patients' hospital

satisfaction by taking advantage of interpersonal similarity. *Journal of Retailing and

Consumer Services*, *30*, 50–58. https://doi.org/10.1016/j.jretconser.2015.12.002

Mack, D. E., Gunnell, K. E., Wilson, P. M., & Wierts, C. (2017). Well-Being in Group-Based

Exercise Classes: Do Psychological Need Fulfillment and Interpersonal Supports

Matter? *Applied Research in Quality of Life*, *12*(1), 89–102.

https://doi.org/10.1007/s11482-016-9454-y

Marroquín, B., Vine, V., & Morgan, R. (2020). Mental health during the COVID-19 pandemic: Effects of stay-at-home policies, social distancing behavior, and social resources. *Psychiatry Research*, *293*, 113419. https://doi.org/10.1016/j.psychres.2020.113419

Marshall, S. R., & Naumann, L. P. (2018). What's your favorite music? Music preferences cue racial identity. *Journal of Research in Personality*, *76*, 74–91. https://doi.org/10.1016/j.jrp.2018.07.008

Maury, S., & Rickard, N. (2018). A Comparison of the Effects of Short-term Singing, Exercise, and Discussion Group Activities on the Emotional State and Social Connectedness of Older Australians. *Music & Science*, *1*, 1–18. https://doi.org/10.1177/2059204318800607

Maury, S., & Rickard, N. (2022). The benefits of participation in a choir and an exercise group on older adults' wellbeing in a naturalistic setting. *Musicae Scientiae*, *26*(1), 144–171. https://doi.org/10.1177/1029864920932633

Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 Pandemic: Immediate psychological responses and associated factors. *International Journal of Environmental Research and Public Health*, *17*(9), 3165.

Mazza, M. G., De Lorenzo, R., Conte, C., Poletti, S., Vai, B., Bollettini, I., Melloni, E. M. T., Furlan, R., Ciceri, F., Rovere-Querini, P., & Benedetti, F. (2020). Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors. *Brain, Behavior, and Immunity*, *89*, 594–600. https://doi.org/10.1016/j.bbi.2020.07.037

McCroskey, J. C., & McCain, T. A. (1974). The measurement of interpersonal attraction. *Speech Monographs*, *41*(3), 261–266. https://doi.org/10.1080/03637757409375845

Mccroskey, J. C., Richmond, V. P., & Daly, J. A. (1975). The Development of a Measure of

   Perceived Homophily in Interpersonal Communication. *Human Communication*

   Research, *1*(4), 323–332. https://doi.org/10.1111/j.1468-2958.1975.tb00281.x

McCroskey, L., McCroskey, J., & Richmond, V. (2006). Analysis and Improvement of the

   Measurement of Interpersonal Attraction and Homophily. *Communication Quarterly*,

   54(1), 1–31. https://doi.org/10.1080/01463370500270322

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a Feather: Homophily in

   Social Networks. *Annual Review of Sociology*, *27*, 415–444.

Medina, L. (2015). Partisan supply and voters' positioning on the left–right scale in Europe.

   Party Politics, *21*(5), 775–790. https://doi.org/10.1177/1354068813509513

Michaud, K. E. H., Carlisle, J. E., & Smith, E. R. A. N. (2009). The Relationship between

   Cultural Values and Political Ideology, and the Role of Political Knowledge. *Political*

   Psychology, *30*(1), 27–42. https://doi.org/10.1111/j.1467-9221.2008.00679.x

Midtgaard, J., Rorth, M., Stelter, R., & Adamsen, L. (2006). The group matters: An

   explorative study of group cohesion and quality of life in cancer patients participating

   in physical exercise intervention during treatment. *European Journal of Cancer Care*,

   15(1), 25–33. https://doi.org/10.1111/j.1365-2354.2005.00616.x

Miranda, D., & Gaudreau, P. (2018). Music and cultural prejudice reduction: A review.

   Musicae Scientiae, 102986491880233. https://doi.org/10.1177/1029864918802331

Montoya, R. M., & Horton, R. S. (2013). A meta-analytic investigation of the processes

   underlying the similarity-attraction effect. *Journal of Social and Personal*

   Relationships, *30*(1), 64–94. https://doi.org/10.1177/0265407512452989

Morris, B. (2020, May 27). Why Does Zoom Exhaust You? Science Has an Answer. *Wall*

   Street Journal. https://www.wsj.com/articles/why-does-zoom-exhaust-you-science-

   has-an-answer-11590600269

Moss, H., Lynch, J., & O'Donoghue, J. (2018). Exploring the perceived health benefits of

    singing in a choir: An international cross-sectional mixed-methods study.

    Perspectives in Public Health, *138*(3), 160–168.

    https://doi.org/10.1177/1757913917739652

Neto, F., da Conceicao Pinto, M., & Mullet, E. (2015). Can music reduce anti-dark-skin

    prejudice? A test of a cross-cultural musical education programme—Félix Neto,

    Maria da Conceiçao Pinto, Etienne Mullet, 2016. *Psychology of Music*, *44*(3), 338–

    398.

Neto, F., Pinto, M. da C., & Mullet, E. (2019). Can music reduce national prejudice? A test of

    a cross-cultural musical education programme. *Psychology of Music*, *47*(5), 747–756.

    https://doi.org/10.1177/0305735618774867

North, A. C., & Hargreaves, D. J. (1999). Music and Adolescent Identity. *Music Education

    Research*, *1*(1), 75–92. https://doi.org/10.1080/1461380990010107

North, A. C., & Hargreaves, D. J. (2007a). Lifestyle correlates of musical preference: 1.

    Relationships, living arrangements, beliefs, and crime. *Psychology of Music*, *35*(1),

    58–87. https://doi.org/10.1177/0305735607068888

North, A. C., & Hargreaves, D. J. (2007b). Lifestyle correlates of musical preference: 2.

    Media, leisure time and music. *Psychology of Music*, *35*(2), 179–200.

    https://doi.org/10.1177/0305735607070302

North, A. C., & Hargreaves, D. J. (2007c). Lifestyle correlates of musical preference: 3.

    Travel, money, education, employment and health. *Psychology of Music*, *35*(3), 473–

    497. https://doi.org/10.1177/0305735607072656

North, A. C., Hargreaves, D. J., & O'Neill, S. A. (2000). The importance of music to

    adolescents. *British Journal of Educational Psychology*, *70*(2), 255–272.

    https://doi.org/10.1348/000709900158083

Ornell, F., Schuch, J. B., Sordi, A. O., & Kessler, F. H. P. (2020). "Pandemic fear" and

    COVID-19: Mental health burden and strategies. *Brazilian Journal of Psychiatry*,

    42(3), 232–235. https://doi.org/10.1590/1516-4446-2020-0008

Pallant, J. (2016). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*

    Program (6th ed.). McGraw-Hill Education.

Paluska, S. A., & Schwenk, T. L. (2000). Physical Activity and Mental Health. *Sports*

    Medicine, *29*(3), 167–180. https://doi.org/10.2165/00007256-200029030-00003

Parker, E. C. (2017). A Phenomenology of One Southeastern African American Church

    Choir. *Bulletin of the Council for Research in Music Education*, *212*, 57–74.

    https://doi.org/10.5406/bulcouresmusedu.212.0057

Pearce, E., Launay, J., & Dunbar, R. I. M. (2015). The ice-breaker effect: Singing mediates

    fast social bonding. *Royal Society Open Science*, *2*(10), 1–9.

    https://doi.org/10.1098/rsos.150221

Pearce, E., Launay, J., MacCarron, P., & Dunbar, R. I. M. (2017). Tuning in to others:

    Exploring relational and collective bonding in singing and non-singing groups over

    time. *Psychology of Music*, *45*(4), 496–512.

    https://doi.org/10.1177/0305735616667543

Pearce, E., Launay, J., Machin, A., & Dunbar, R. I. M. (2016). Is Group Singing Special?

    Health, Well-Being and Social Bonds in Community-Based Adult Education Classes.

    Journal of Community & Applied Social Psychology, 26(6), 518–533.

    https://doi.org/10.1002/casp.2278

Peral, E. B., & Calvo, R. L. (2022). Political Parties Beat Them All. Partisanship as the Key

    Factor Explaining Self-Placement on the Left-Right Scale: Evidence from Spain: La

    hegemonía de los partidos políticos. El partidismo como factor clave que explica la

    autoubicación en la escala izquierda-derecha: evidencia desde España. *Revista*

Española de Investigaciones Sociologicas, *179*, 21–38.

https://doi.org/10.5477/cis/reis.179.21

Perkins, R., Mason-Bertrand, A., Fancourt, D., Baxter, L., & Williamon, A. (2020). How

Participatory Music Engagement Supports Mental Well-being: A Meta-Ethnography.

Qualitative Health Research, *30*(12), 1924–1940.

https://doi.org/10.1177/1049732320944142

Peterson, J. B., & Christenson, P. G. (1987). Political orientation and music preference in the

1980s. *Popular Music and Society*, *11*(4), 1–17.

https://doi.org/10.1080/03007768708591293

Phillips, C. J. (2014). *The role of political similarity in romantic relationships* [Ph.D., The

University of North Carolina at Chapel Hill].

http://www.proquest.com/docview/1549966874/abstract/5CA31913B2A34A14PQ/1

Piurko, Y., Schwartz, S. H., & Davidov, E. (2011). Basic Personal Values and the Meaning

of Left-Right Political Orientations in 20 Countries. *Political Psychology*, *32*(4), 537–

561. https://doi.org/10.1111/j.1467-9221.2011.00828.x

Plante, T. G., Coscarelli, L., & Ford, M. (2001). Does exercising with another enhance the

stress-reducing benefits of exercise. *International Journal of Stress Management*, 8–

201.

Purhonen, S., & Heikkilä, R. (2017). Food, music and politics: The interweaving of culinary

taste patterns, 'highbrow' musical taste and conservative attitudes in Finland. *Social

Science Information*, *56*(1), 74–97. https://doi.org/10.1177/0539018416675072

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature.

Asian Journal of Psychiatry, *52*, 102066. https://doi.org/10.1016/j.ajp.2020.102066

Reagon, C., Gale, N., Dow, R., Lewis, I., & Deursen, R. van. (2017). Choir singing and
health status in people affected by cancer. *European Journal of Cancer Care*, *26*(5),
1–10. https://doi.org/10.1111/ecc.12568

Reiner, M., Niermann, C., Jekauc, D., & Woll, A. (2013). Long-term health benefits of
physical activity – a systematic review of longitudinal studies. *BMC Public Health*,
13(1), 813. https://doi.org/10.1186/1471-2458-13-813

Rentfrow, P. J., & Gosling, S. D. (2003). The do re mi's of everyday life: The structure and
personality correlates of music preferences. *Journal of Personality and Social
Psychology*, *84*(6), 1236–1256. https://doi.org/10.1037/0022-3514.84.6.1236

Rentfrow, P. J., & Gosling, S. D. (2006). Message in a Ballad: The Role of Music
Preferences in Interpersonal Perception. *Psychological Science*, *17*(3), 236–242.
https://doi.org/10.1111/j.1467-9280.2006.01691.x

Rentfrow, P. J., & Gosling, S. D. (2007). The content and validity of music-genre stereotypes
among college students. *Psychology of Music*, *35*(2), 306–326.
https://doi.org/10.1177/0305735607070382

Rentfrow, P. J., McDonald, J. A., & Oldmeadow, J. A. (2009). You Are What You Listen To:
Young People's Stereotypes about Music Fans. *Group Processes & Intergroup
Relations*, *12*(3), 329–344. https://doi.org/10.1177/1368430209102845

Richardson, C. R., Faulkner, G., McDevitt, J., Skrinar, G. S., Hutchinson, D. S., & Piette, J.
D. (2005). Integrating Physical Activity Into Mental Health Services for Persons With
Serious Mental Illness. *Psychiatric Services*, *56*(3), 324–331.
https://doi.org/10.1176/appi.ps.56.3.324

Rohwer, D., & Rohwer, M. (2012). How participants envision community music in Welsh
men's choirs. *Research and Issues in Music Eductation*, *10*(1), 14.

Rosenbaum, M. E. (1986). The repulsion hypothesis: On the nondevelopment of

relationships. *Journal of Personality and Social Psychology*, *51*(6), 1156–1166.

https://doi.org/10.1037/0022-3514.51.6.1156

Sanal, A. M., & Gorsev, S. (2014). Psychological and physiological effects of singing in a

choir. *Psychology of Music*, *42*(3), 420–429.

https://doi.org/10.1177/0305735613477181

Sani, F., Herrera, M., Wakefield, J. R. H., Boroch, O., & Gulyas, C. (2012). Comparing

social contact and group identification as predictors of mental health. *British Journal

of Social Psychology*, *51*(4), 781–790. https://doi.org/10.1111/j.2044-

8309.2012.02101.x

Saxena, S., Van Ommeren, M., Tang, K. C., & Armstrong, T. P. (2005). Mental health

benefits of physical activity. *Journal of Mental Health*, *14*(5), 445–451.

https://doi.org/10.1080/09638230500270776

Schäfer, T., & Sedlmeier, P. (2009). From the functions of music to music preference.

Psychology of Music, *37*(3), 279–300. https://doi.org/10.1177/0305735608097247

Schladt, T. M., Nordmann, G. C., Emilius, R., Kudielka, B. M., de Jong, T. R., & Neumann,

I. D. (2017). Choir versus Solo Singing: Effects on Mood, and Salivary Oxytocin and

Cortisol Concentrations. *Frontiers in Human Neuroscience*, *11*, 1–9.

https://doi.org/10.3389/fnhum.2017.00430

Schwär, G. H., & Middleton, J. R. (2017). Music fan personality stereotyping in a sample of

South African young adults. *Journal of Psychology in Africa*, *27*(1), 27–32.

https://doi.org/10.1080/14330237.2016.1268285

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical

advances and empirical tests in 20 countries. *Advances in Experimental Social

Psychology*.

Schwartz, S. H., Caprara, G. V., & Vecchione, M. (2010). Basic Personal Values, Core

    Political Values, and Voting: A Longitudinal Analysis. *Political Psychology*, *31*(3),

    421–452. https://doi.org/10.1111/j.1467-9221.2010.00764.x

Selfhout, M. H. W., Branje, S. J. T., ter Bogt, T. F. M., & Meeus, W. H. J. (2009). The role of

    music preferences in early adolescents' friendship formation and stability. *Journal of*

    Adolescence, *32*(1), 95–107. https://doi.org/10.1016/j.adolescence.2007.11.004

Shaffer, D. R., & Johnson, R. D. (1980). Effects of occupational choice and sex-role

    preferences on the attractiveness of competent men and women1. *Journal of*

    Personality, *48*(4), 505–519. https://doi.org/10.1111/j.1467-6494.1980.tb02382.x

Shaffer, D. R., & Wegley, C. (1974). Success orientation and sex-role congruence as

    determinants of the attractiveness of competent women. *Journal of Personality*, *42*,

    586–600. https://doi.org/10.1111/j.1467-6494.1974.tb00695.x

Shalash, A., Roushdy, T., PhD, M., Dawood, N., Abushady, E., Elrassas, H., Helmi, A., &

    Hamid, E. (2020). Mental Health, Physical Activity, and Quality of Life in

    Parkinson's Disease During COVID -19 Pandemic. *Movement Disorders*, *35*, 1007–

    1009. https://doi.org/10.1002/mds.28134

Shevy, M. (2008). Music genre as cognitive schema: Extramusical associations with country

    and hip-hop music. *Psychology of Music*, *36*(4), 477–498.

    https://doi.org/10.1177/0305735608089384

Silber, L. (2005). Bars behind bars: The impact of a women's prison choir on social harmony.

    Music Education Research, *7*(2), 251–271.

    https://doi.org/10.1080/14613800500169811

Sills, J. (2022). *The Sofa Singers*. The Sofa Singers. https://www.thesofasingers.com

Singh, R. (1973). Attraction as a Function of Similarity in Attitudes and Personality

    Characteristics. *The Journal of Social Psychology*, *91*, 87–95.

    https://doi.org/10.1080/00224545.1973.9922650

Singh, R., & Ho, S. Y. (2000). Attitudes and attraction: A new test of the attraction, repulsion

    and similarity-dissimilarity asymmetry hypotheses. *British Journal of Social*

    Psychology, *39*(2), 197–211. https://doi.org/10.1348/014466600164426

Singh, R., Lin, P. K. F., Tan, H. L., & Ho, L. J. (2008). Evaluations, Attitude Similarity, and

    Interpersonal Attraction: Testing the Hypothesis of Weighting Interference Across

    Responses. *Basic and Applied Social Psychology*, *30*(3), 241–252.

    https://doi.org/10.1080/01973530802375052

Singh, R., & Tan, L. S. C. (1992). Attitudes and attraction: A test of the similarity-attraction

    and dissimilarity-repulsion hypotheses. *British Journal of Social Psychology*, *31*(3),

    227–238. https://doi.org/10.1111/j.2044-8309.1992.tb00967.x

Singh, R., & Teoh, J. B. P. (1999). Attitudes and attraction: A test of two hypotheses for the

    similarity-dissimilarity asymmetry. *British Journal of Social Psychology*, *38*(4), 427–

    443. https://doi.org/10.1348/014466699164257

Smeaton, G., Byrne, D., & Murnen, S. K. (1989). The repulsion hypothesis revisited:

    Similarity irrelevance or dissimilarity bias? *Journal of Personality and Social*

    Psychology, *56*(1), 54–59. https://doi.org/10.1037/0022-3514.56.1.54

Snyder, M., Campbell, B. H., & Preston, E. (1982). Testing Hypotheses about Human

    Nature: Assessing the Accuracy of Social Stereotypes. *Social Cognition*, *1*(3), 256–

    272. https://doi.org/10.1521/soco.1982.1.3.256

Solomon, S., & Knafo-Noam, A. (2012). Value similarity in adolescent friendships.

    Friendships: Types, Cultural, Psychological and Social Aspects, 197–218.

Sothern, M. S., Loftin, M., Suskind, R. M., Udall, J. N., & Blecker, U. (1999). The health

    benefits of physical activity in children and adolescents: Implications for chronic

    disease prevention. *European Journal of Pediatrics*, *158*(4), 271–274.

Sousa, M. D. R., Neto, F., & Mullet, E. (2005). Can music change ethnic attitudes among

    children? *Psychology of Music*, *33*(3), 304–316.

    https://doi.org/10.1177/0305735605053735

Southcott, J., & Joseph, D. (2015). Singing in La Voce Della Luna Italian women's choir in

    Melbourne, Australia. *International Journal of Music Education*, *33*(1), 91–102.

    https://doi.org/10.1177/0255761414546244

Specker, S. (2017). Sounding the Social: The sonic dimension of communal bonding through

    choral participation. *PlatForum*, *5*.

Specker, S. K. (2014). Communities of Song: Collective Musical Participation and Group

    Singing Experiences In Victoria, BC. *The Arbutus Review*, *5*(1), 62–90.

    https://doi.org/10.18357/ar.speckersk.512014

Spink, K. S., Ulvick, J. D., Crozier, A. J., & Wilson, K. S. (2014). Group cohesion and

    adherence in unstructured exercise groups. *Psychology of Sport and Exercise*, *15*(3),

    293–298. https://doi.org/10.1016/j.psychsport.2013.11.008

Stanton, R., Happell, B., & Reaburn, P. (2014). The mental health benefits of regular physical

    activity, and its role in preventing future depressive illness. *Nursing: Research and*

    Reviews, *4*, 45. https://doi.org/10.2147/NRR.S41956

Stewart, N. A. J., & Lonsdale, A. J. (2016). It's better together: The psychological benefits of

    singing in a choir. *Psychology of Music*, *44*(6), 1240–1254.

    https://doi.org/10.1177/0305735615624976

Stringer, O. (2017). *The Sound of Politics: An Examination of Political Orientations and*

    Musical Preferences Among College Aged Adults.

Stupacher, J., Wood, G., & Witte, M. (2017). Synchrony and sympathy: Social entrainment

with music compared to a metronome. *Psychomusicology: Music, Mind, and Brain*,

27(3), 158–166. https://doi.org/10.1037/pmu0000181

Suri, M., Sharma, R., & Saini, N. (2017). Neuro-Physiological Correlation Between Yoga,

Pain and Endorphins. *Adapted Physiological Education and Yoga*, *2*(9), 18–34.

Swanson, R., & Smith, A. B. (2020). COVID-19 and the cutting of college athletic teams.

Sport in Society, *23*(11), 1724–1735. https://doi.org/10.1080/17430437.2020.1804106

Tarrant, M., North, A. C., & Hargreaves, D. J. (2001). Social Categorization, Self-Esteem,

and the Estimated Musical Preferences of Male Adolescents. *The Journal of Social

Psychology*, *141*(5), 565–581. https://doi.org/10.1080/00224540109600572

Tekman, H. G., & Hortaçsu, N. (2002a). Music and social identity: Stylistic identification as

a response to musical style. *International Journal of Psychology*, *37*(5), 277–285.

https://doi.org/10.1080/00207590244000043

Tekman, H. G., & Hortaçsu, N. (2002b). Music and social identity: Stylistic identification as

a response to musical style. *International Journal of Psychology*, *37*(5), 277–285.

https://doi.org/10.1080/00207590244000043

Theorell, T., Kowalski, J., Theorell, A. M. L., & Horwitz, E. B. (2020). Choir Singers

Without Rehearsals and Concerts? A Questionnaire Study on Perceived Losses From

Restricting Choral Singing During the Covid-19 Pandemic. *Journal of Voice*, 1–9.

https://doi.org/10.1016/j.jvoice.2020.11.006

Thomsson, K. M., & Vostroknutov, A. (2017). Small-world conservatives and rigid liberals:

Attitudes towards sharing in self-proclaimed left and right. *Journal of Economic

Behavior & Organization*, *135*, 181–192. https://doi.org/10.1016/j.jebo.2017.01.023

Tian, L., Alaei, R., & Rule, N. O. (2021). Appearance Reveals Music Preferences.

    Personality and Social Psychology Bulletin, 01461672211048291.

    https://doi.org/10.1177/01461672211048291

Tull, M. T., Edmonds, K. A., Scamaldo, K. M., Richmond, J. R., Rose, J. P., & Gratz, K. L.

    (2020). Psychological Outcomes Associated with Stay-at-Home Orders and the

    Perceived Impact of COVID-19 on Daily Life. *Psychiatry Research*, *289*, 113098.

    https://doi.org/10.1016/j.psychres.2020.113098

Tyson, P., Wilson, K., Crone, D., Brailsford, R., & Laws, K. (2010). Physical activity and

    mental health in a student population. *Journal of Mental Health*, *19*(6), 492–499.

    https://doi.org/10.3109/09638230902968308

Valentine, E., & Evans, C. (2001). The effects of solo singing, choral singing and swimming

    on mood and physiological indices. *British Journal of Medical Psychology*, *74*(1),

    115–120. https://doi.org/10.1348/000711201160849

Van Deth, J. W., & Geurts, P. A. t. m. (1989). Value orientation, left-right placement and

    voting. *European Journal of Political Research*, *17*(1), 17–34.

    https://doi.org/10.1111/j.1475-6765.1989.tb00179.x

Vuoskoski, J. K., & Eerola, T. (2011). The role of mood and personality in the perception of

    emotions represented by music. *Cortex*, *47*(9), 1099–1106.

    https://doi.org/10.1016/j.cortex.2011.04.011

Warburton, D. E. R., Nicol, C., & Bredin, S. (2006). Health benefits of physical activity: The

    evidence. *Canadian Medical Association Journal*, *174*(6), 801–809.

    https://doi.org/10.1503/cmaj.051351

Whitacre, E. (2023). *Eric Whitacre's Virtual Choir*. Eric Whitacre.

    https://ericwhitacre.com/the-virtual-choir

Wiederhold, B. K. (2020). Connecting Through Technology During the Coronavirus Disease 2019 Pandemic: Avoiding "Zoom Fatigue." *Cyberpsychology, Behavior, and Social Networking*, *23*(7), 437–438. https://doi.org/10.1089/cyber.2020.29188.bkw

Williams, E., Dingle, G. A., & Clift, S. (2018). A systematic review of mental health and wellbeing outcomes of group singing for adults with a mental health condition. *European Journal of Public Health*, *28*(6), 1035–1042. https://doi.org/10.1093/eurpub/cky115

Wilson, M. S. (2004). Values and Political Ideology: Rokeach's Two-Value Model in a Proportional Representation Environment. *New Zealand Journal of Psychology*, *33*(3), 155–162.

Wolf, C. R. (2020, May 14). Virtual Platforms Are Helpful Tools but Can Add to Our Stress | Psychology Today. *Psychology Today*. https://www.psychologytoday.com/us/blog/the-desk-the-mental-health-lawyer/202005/virtual-platforms-are-helpful-tools-can-add-our-stress

Wong, A. Y.-Y., Ling, S. K.-K., Louie, L. H.-T., Law, G. Y.-K., So, R. C.-H., Lee, D. C.-W., Yau, F. C.-F., & Yung, P. S.-H. (2020). Impact of the COVID-19 pandemic on sports and exercise. *Asia-Pacific Journal of Sports Medicine, Arthroscopy, Rehabilitation and Technology*, *22*, 39–44. https://doi.org/10.1016/j.asmart.2020.07.006

World Health Organization. (2020). *WHO Director-General's opening remarks at the media briefing on COVID-19—11 March 2020*. https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

Yorks, D. M., Frothingham, C. A., & Schuenke, M. D. (2017). Effects of Group Fitness Classes on Stress and Quality of Life of Medical Students. *Journal of Osteopathic Medicine*, *117*(11), e17–e25. https://doi.org/10.7556/jaoa.2017.140

Young, O. A., Willer, R., & Keltner, D. (2013). "Thou shalt not kill": Religious

fundamentalism, conservatism, and rule-based moral processing. *Psychology of*

Religion and Spirituality, *5*(2), 110–115. https://doi.org/10.1037/a0032262

Zillmann, D., & Bhatia, A. (1989). Effects of Associating with Musical Genres on

Heterosexual Attraction. *Communication Research*, *16*(2), 263–288.

https://doi.org/10.1177/009365089016002005

Ziv, N., & Hollander-Shabtai, R. (2022). Music and COVID-19: Changes in uses and

emotional reaction to music under stay-at-home restrictions. *Psychology of Music*,

50(2), 475–491. https://doi.org/10.1177/03057356211003326

Ziv, N., Sagi, G., & Basserman, K. (2008). The effect of looks and musical preference on

trait inference. *Psychology of Music*, *36*(4), 463–476.

https://doi.org/10.1177/0305735607086050

Appendix 1: Survey Questions from Study 1

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Please indicate the side of the political spectrum you lean more towards.
- Left
- Right

How old are you? _____

Please think about British people your age who are politically more conservative. Now, think about what music you believe they prefer and rank the following genres with the first being the most popular among young conservatives and the last being the least popular among young conservatives.
- Pop
- Classical
- Rock
- Indie
- Rap/Hip-hop
- Country
- Chart Music/Top 40
- Alternative
- Blues
- Folk
- Jazz
- Heavy Metal
- Religious
- Sound Tracks
- Electronic
- Soul

Please think about British people your age who are politically more conservative. Now, think about what music you believe they prefer and rank the following artists/groups with the first being the most popular among young conservatives and the last being the least popular among young conservatives.
- Green Day
- Eminem
- Stormzy
- Ed Sheeran
- Coldplay
- Arctic Monkeys
- The 1975
- Beethoven

Please think about British people your age who are politically more liberal. Now, think about what music you believe they prefer and rank the following genres with the first being the most popular among young liberals and the last being the least popular among young liberals.

- Pop
- Classical
- Rock
- Indie
- Rap/Hip-hop
- Country
- Chart Music/Top 40
- Alternative
- Blues
- Folk
- Jazz
- Heavy Metal
- Religious
- Sound Tracks
- Electronic
- Soul

Please think about British people your age who are politically more liberal. Now, think about what music you believe they prefer and rank the following artists/groups with the first being the most popular among young liberals and the last being the least popular among young liberals.

- Green Day
- Eminem
- Stormzy
- Ed Sheeran
- Coldplay
- Arctic Monkeys
- The 1975
- Beethoven

Appendix 2: Survey Questions from Study 2

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Age How old are you? _____

Please tick all of the genres below that you enjoy:
- Pop
- Classical
- Rock
- Indie
- Rap/Hip-hop
- Country
- Chart Music/Top 40
- Alternative
- Blues
- Folk
- Jazz
- Heavy Metal
- Religious
- Sound Tracks
- Electronic
- Soul

Please indicate the degree to which you like the following genres of music:

	Genre	I don't like it at all	I don't like it	I like it a little	I like it a lot
1	Alternative	1	2	3	4
2	Religious	1	2	3	4
3	Rap/Hip-Hop	1	2	3	4
4	Country	1	2	3	4
5	Indie	1	2	3	4
6	Electronic	1	2	3	4
7	Classical	1	2	3	4
8	Jazz	1	2	3	4

Please fill in any other genres/artists you like to listen to.

_____

How important to you is music?:

- Very important
- Important
- Neither important nor unimportant
- Unimportant
- Very unimportant

Appendix 3: Survey Questions from Study 3

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Please type in your age in years: _____

Please examine the social media profile and answer the questions below.

(Participants were randomly directed to one of the following two photos):

Do you think Kate is . . .

	Very liberal	Very conservative
Please slide the pointer.		

Appendix 4: Survey Questions from Study 4

Please examine the social media profile and answer the questions below.

(Participants were randomly directed to one of the following four photos):

Please indicate how much you agree with the following statements about Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	I think she could be a friend of mine.	4	3	2	1
2	I would like to have a friendly chat with her.	4	3	2	1
3	It would be difficult to meet and talk with her.*	4	3	2	1

4	We could never establish a personal friendship with each other.*	4	3	2	1
5	She just wouldn't fit in to my circle of friends.*	4	3	2	1
6	She would be pleasant to be with.	4	3	2	1
7	She is sociable with me.	4	3	2	1
8	I would not like to spend time socializing with this person.*	4	3	2	1
9	I could become close friends with her.	4	3	2	1
10	She is easy to get along with.	4	3	2	1
11	She is unpleasant to be around.*	4	3	2	1
12	This person is not very friendly.*	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person thinks like me.	4	3	2	1
2	This person doesn't behave like me.*	4	3	2	1
3	This person is different from me.*	4	3	2	1
4	This person shares my values.	4	3	2	1
5	This person is like me.	4	3	2	1
6	This person treats people like I do.	4	3	2	1
7	This person doesn't think like me.*	4	3	2	1
8	This person is similar to me.	4	3	2	1
9	This person doesn't share my values.*	4	3	2	1
10	This person behaves like me.	4	3	2	1
11	This person is unlike me.*	4	3	2	1
12	This person doesn't treat people the way I do*	4	3	2	1
13	This person has thoughts and ideas that are similar to mine.	4	3	2	1
14	This person expresses attitudes different from mine.*	4	3	2	1
15	This person has a lot in common with me.	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person is from a social class similar to mine.	4	3	2	1
2	This person's status is different from mine.*	4	3	2	1
3	This person is from an economic situation different from mine.*	4	3	2	1
4	This person's background is similar to mine.	4	3	2	1
5	This person's status is like mine.	4	3	2	1
6	This person is from a social class different from mine.*	4	3	2	1
7	This person is from an economic situation like mine.	4	3	2	1
8	This person's background is different from mine.*	4	3	2	1
9	This person and I come from a similar geographic region.	4	3	2	1
10	This person's life as a child was similar to mine.	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Please type in your age in years: _____

How similar do you think Kate's political ideology is to your own?

                          Not similar at all   Very similar

()

How similar do you think Kate's music preference is to your own?

                          Not similar at all   Very similar

()

Please specify the top three genres of music you enjoy listening to.

_____

Please indicate the side of the political spectrum you lean more towards.

- Left
- Right

Appendix 5: Survey Questions from Study 5

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Please type your age in years: _____

Please indicate the ethnicity you identify with (choose all that apply):
- White/Caucasian
- Asian
- Pacific Islander
- Black/Caribbean
- Middle Eastern
- Central or South American

Please examine the social media profile and answer the questions below.

(Participants were randomly directed to one of the following four photos):

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to country music and I'm super active in my local Conservative party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to indie music and I'm super active in my local Conservative party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to country music and I'm super active in my local Labour party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to indie music and I'm super active in my local Labour party.

Please indicate how much you agree with the following statements about Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	I think she could be a friend of mine.	4	3	2	1
2	I would like to have a friendly chat with her.	4	3	2	1
3	It would be difficult to meet and talk with her.*	4	3	2	1
4	We could never establish a personal friendship with each other.*	4	3	2	1
5	She just wouldn't fit in to my circle of friends.*	4	3	2	1
6	She would be pleasant to be with.	4	3	2	1
7	She is sociable with me.	4	3	2	1
8	I would not like to spend time socializing with this person.*	4	3	2	1
9	I could become close friends with her.	4	3	2	1

10	She is easy to get along with.	4	3	2	1
11	She is unpleasant to be around.*	4	3	2	1
12	This person is not very friendly.*	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person thinks like me.	4	3	2	1
2	This person doesn't behave like me.*	4	3	2	1
3	This person is different from me.*	4	3	2	1
4	This person shares my values.	4	3	2	1
5	This person is like me.	4	3	2	1
6	This person treats people like I do.	4	3	2	1
7	This person doesn't think like me.*	4	3	2	1
8	This person is similar to me.	4	3	2	1
9	This person doesn't share my values.*	4	3	2	1
10	This person behaves like me.	4	3	2	1
11	This person is unlike me.*	4	3	2	1
12	This person doesn't treat people the way I do*	4	3	2	1
13	This person has thoughts and ideas that are similar to mine.	4	3	2	1
14	This person expresses attitudes different from mine.*	4	3	2	1
15	This person has a lot in common with me.	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person is from a social class similar to mine.	4	3	2	1
2	This person's status is different from mine.*	4	3	2	1
3	This person is from an economic situation different from mine.*	4	3	2	1
4	This person's background is similar to mine.	4	3	2	1
5	This person's status is like mine.	4	3	2	1
6	This person is from a social class different from mine.*	4	3	2	1
7	This person is from an economic situation like mine.	4	3	2	1
8	This person's background is different from mine.*	4	3	2	1
9	This person and I come from a similar geographic region.	4	3	2	1
10	This person's life as a child was similar to mine.	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate the side of the political spectrum you lean more towards.
- Left
- Right

Please rank the following genres in the order you prefer them (even if none are your favourite/least favourite overall).

_____ Jazz (1)
_____ Rap/hip Hop (2)
_____ Indie (3)
_____ Classical (4)
_____ Religious (5)
_____ Alternative (6)
_____ Electronic (7)
_____ Country (8)

Favorite Music Please indicate your favorite kind(s) of music:

_____

How important to you is music?:
- Very important
- Important
- Neither important nor unimportant
- Unimportant
- Very unimportant

Do you think Kate is . . .

	Very liberal	Very conservative
Please slide the pointer. ()		

How similar is Kate's music taste to your own?
- Very similar
- Somewhat similar
- Not similar
- Not similar at all

Appendix 6: Survey Questions from Study 6

Please examine the social media profile and answer the questions below.

(Participants were randomly directed to one of the following four photos):

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to country music and I'm super active in my local Conservative party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to indie music and I'm super active in my local Conservative party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to country music and I'm super active in my local Labour party.

Kate, 24

I'm a little shy at first but I warm up to people quickly. I love to read especially outside (I also love book suggestions if you have any!) I'm really in to indie music and I'm super active in my local Labour party.

Please indicate how much you agree with the following statements about Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	I think she could be a friend of mine.	4	3	2	1
2	I would like to have a friendly chat with her.	4	3	2	1
3	It would be difficult to meet and talk with her.*	4	3	2	1
4	We could never establish a personal friendship with each other.*	4	3	2	1
5	She just wouldn't fit in to my circle of friends.*	4	3	2	1
6	She would be pleasant to be with.	4	3	2	1
7	She is sociable with me.	4	3	2	1
8	I would not like to spend time socializing with this person.*	4	3	2	1
9	I could become close friends with her.	4	3	2	1
10	She is easy to get along with.	4	3	2	1
11	She is unpleasant to be around.*	4	3	2	1
12	This person is not very friendly.*	4	3	2	1

    * Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person thinks like me.	4	3	2	1
2	This person doesn't behave like me.*	4	3	2	1
3	This person is different from me.*	4	3	2	1
4	This person shares my values.	4	3	2	1
5	This person is like me.	4	3	2	1
6	This person treats people like I do.	4	3	2	1
7	This person doesn't think like me.*	4	3	2	1
8	This person is similar to me.	4	3	2	1
9	This person doesn't share my values.*	4	3	2	1
10	This person behaves like me.	4	3	2	1
11	This person is unlike me.*	4	3	2	1
12	This person doesn't treat people the way I do*	4	3	2	1
13	This person has thoughts and ideas that are similar to mine.	4	3	2	1
14	This person expresses attitudes different from mine.*	4	3	2	1
15	This person has a lot in common with me.	4	3	2	1

* Indicates questions that are reverse-scored.

Please indicate how much you agree with the following statements about how similar you are to Kate. If you are unsure, please give your best guess.

	Question	Strongly Agree	Agree	Disagree	Strongly Disagree
1	This person is from a social class similar to mine.	4	3	2	1
2	This person's status is different from mine.*	4	3	2	1
3	This person is from an economic situation different from mine.*	4	3	2	1
4	This person's background is similar to mine.	4	3	2	1
5	This person's status is like mine.	4	3	2	1
6	This person is from a social class different from mine.*	4	3	2	1
7	This person is from an economic situation like mine.	4	3	2	1
8	This person's background is different from mine.*	4	3	2	1
9	This person and I come from a similar geographic region.	4	3	2	1
10	This person's life as a child was similar to mine.	4	3	2	1

* Indicates questions that are reverse-scored.

How similar do you think Kate's politics are to your own?

Very dissimilar   Very similar

()

How similar do you think Kate's music preference is to your own?

Very dissimilar   Very similar

()

Please indicate the gender you identify with:
- Male
- Female
- Non-Binary
- Not Listed Above

Please type in your age in years: _____

Please indicate the side of the political spectrum you lean more towards.
- Left
- Right

Please tick all of the genres below that you enjoy:
- Pop
- Classical
- Rock
- Indie
- Rap/Hip-hop
- Country
- Chart Music/Top 40
- Alternative
- Blues
- Folk
- Jazz
- Heavy Metal
- Religious
- Sound Tracks
- Electronic
- Soul

Please tick all of the genres below that you do *not* enjoy:
- Pop
- Classical
- Rock
- Indie
- Rap/Hip-hop
- Country
- Chart Music/Top 40
- Alternative
- Blues
- Folk
- Jazz
- Heavy Metal
- Religious
- Sound Tracks
- Electronic
- Soul

Please indicate the degree to which you like the following genres of music:

	Genre	I don't like it at all	I don't like it	I like it a little	I like it a lot
1	Alternative	1	2	3	4
2	Religious	1	2	3	4
3	Rap/Hip-Hop	1	2	3	4
4	Country	1	2	3	4
5	Indie	1	2	3	4
6	Electronic	1	2	3	4
7	Classical	1	2	3	4
8	Jazz	1	2	3	4

Please fill in any other genres/artists you like to listen to.

_____

How important to you is music?:
- Very important
- Important
- Neither important nor unimportant
- Unimportant
- Very unimportant

Appendix 7: Survey Questions from Study 7

Information about your group BEFORE COVID-19:

This section will ask you some questions about the nature of a group activity you have been involved with BEFORE COVID-19 (e.g., gym, choir, knitting circle, dance, book club, sporting team, etc.). Even if you are involved in multiple groups, please select just one group activity you are involved in for the following questions.
Which of the following group activities are you regularly involved in? Please pick one, even if you are involved in multiple types of groups:

- Exercise
- Sports Team
- Crafts
- Gaming
- Music Making (Singing)
- Music Making (Instrumental)
- Book Club/Reading Club
- Dance
- Other, please specify:

For how many months have you been part of this group? _____

	To what extent would you agree with the following statements about your group BEFORE the COVID-19 pandemic?	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	I identified with others in the group.	1	2	3	4	5
2	I saw myself as a member of the group.	1	2	3	4	5
3	I was pleased to be a member of the group.	1	2	3	4	5
4	I felt strong ties with others in the group.	1	2	3	4	5
5	I shared my feelings with others in the group.	1	2	3	4	5
6	I provided emotional support to others in the group.	1	2	3	4	5
7	I made a contribution to the group.	1	2	3	4	5
8	I received support from others in the group.	1	2	3	4	5
9	Bing part of the group gave me a sense of achievement.	1	2	3	4	5
10	Being part of the group gave me self-esteem.	1	2	3	4	5
11	I was close and connected to other people in the group.	1	2	3	4	5
12	I would speak my mind in the group.	1	2	3	4	5
13	I had control over my activities in the group.	1	2	3	4	5
14	Being part of the group gave my life meaning.	1	2	3	4	5

Rate how much you are missing this group (click on and slide the pointer below to make your rating):

1   2   3   4   5   6   7   8   9   10

Please indicate three things you are missing most about this group:

- Humour
- Conversation
- Friendship
- Synchronous movement with others (e.g. coordinating movement or sounds)
- Shared goals
- Learning new things
- Sense of achievement
- Sense of belonging
- Emotion regulation (e.g. relieve stress)
- The activity itself
- Physical contact (e.g. hugging or shaking hands)
- Anything else: _____

	To what extent would you agree with the following statements about your group AFTER the COVID-19 pandemic?	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	I identified with others in the group.	1	2	3	4	5
2	I saw myself as a member of the group.	1	2	3	4	5
3	I was pleased to be a member of the group.	1	2	3	4	5
4	I felt strong ties with others in the group.	1	2	3	4	5
5	I shared my feelings with others in the group.	1	2	3	4	5
6	I provided emotional support to others in the group.	1	2	3	4	5
7	I made a contribution to the group.	1	2	3	4	5
8	I received support from others in the group.	1	2	3	4	5
9	Bing part of the group gave me a sense of achievement.	1	2	3	4	5
10	Being part of the group gave me self-esteem.	1	2	3	4	5
11	I was close and connected to other people in the group.	1	2	3	4	5
12	I would speak my mind in the group.	1	2	3	4	5
13	I had control over my activities in the group.	1	2	3	4	5
14	Being part of the group gave my life meaning.	1	2	3	4	5

Appendix 8: Interview Questions for Study 8

How old are you?

What gender do you identify with?

What ethnicity do you identify with?

What is your current relationship status?

How long have you been a member of the choir?

What originally prompted you to join?

Have you missed being able to participate in the choir?

What is it in particular that are you missing?

How do you feel as though this has manifested itself? (Earworms, dreams, daydreams, loneliness, etc.)

I'm aware that your choir director offered some rehearsals over zoom, I'm going to ask you about that in the next few questions. But apart from possibly taking part in those, have you undertaken any other behaviors of activities to try to fill the gap left from not attending rehearsals?

Have you been able to participate in the "Zoom Rehearsals" which have taken place in recent weeks?

Did you feel like it was a successful rehearsal?

How did the zoom rehearsals compare with the regular rehearsals?

Was there anything in particular you liked or disliked about the zoom rehearsals compared with the regular sessions?

Do you intend to continue participating in the choir once life "returns to normal?"

What other group activities do you participate in (repeat questions for this second group)?

Please rate the importance to you of being part of (and this other activity) on a scale from 1-5 with one being not very important, two being somewhat important, three being moderately important, four being very important, and five being extremely important.

Would you be okay with me following up with you in the future?

Appendix 9: Approved Ethics Forms

Status: Approved

Student: Olivia Jewell (ojewe001@gold.ac.uk)

Academic Year: 2019-2020

Project Type: PhD/MPhil Project

Project Title: How Loss of In-Person Group Interaction Has Impacted Feelings of Social Connection With Groups

Supervisor: Lauren Stewart (lstew009@gold.ac.uk)

Does your project use ONLY secondary or simulated data (no additional data are collected): No

1) Will you describe the main experimental procedures to participants in advance, so that they are informed about what to expect?	Yes
2) Will you make it clear to participants that this is a student project?	Yes
3) Will you tell participants that their participation is voluntary?	Yes
4) Will you obtain written/online consent for participation?	Yes
5) If the research is observational, will you ask participants for their consent to being observed?	N/A
6) Will you tell participants that they may withdraw from the research at any time and for any reason?	Yes
7) With questionnaires, will you give participants the option of omitting questions they do not want to answer?	Yes
8) Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	Yes
9) Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?	Yes
10) Will your project comply with General Data Protection Regulation (GDPR)?	Yes
11) Will your project involve deliberately misleading participants in any way?	No
12) Are you asking any questions of sensitive or potentially upsetting content?	No
13) Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes, give details below and state what you will tell participants to do if they should experience any problems (e.g. who they can contact for help).	No
14) Does your project involve work with animals?	No

15) Do participants fall into any of the following special groups? If they do, please refer to BPS guidelines and other relevant documents. **Note that you may**	Children (under 18 years of age)	No
	People with learning or communication difficulties	No
	Patients	No
	People in custody	No

also need to obtain satisfactory CRB clearance (or equivalent for overseas students).	People engaged in illegal activities (e.g. drug-taking)	No

Are you collecting data online? Yes

Link to survey/test:

https://goldpsych.eu.qualtrics.com/jfe/preview/SV_8ADFIIpQYfh8z9X?Q_SurveyVersionID=current&Q_CHL=preview

Login details (if required): N/A

For questions 1 to 9 above, describe how you will meet these criteria on-line. For example, for question 4, instead of written consent, participants must confirm that they are 18 or over and tick on-line to agree to participate, or agree to participate by proceeding to the next page; for question 7, there should be an option of skipping individual questions.

Q1:	The study description is included on the Participant Information Sheet.
Q2:	The information about this being a student project is included on the Participant Information Sheet in the section about what the data will be used for.
Q3:	As part of the Participant Information Sheet, participants will be notified that their participation is voluntary.
Q4:	Yes, the first part of the online survey will include a list of questions asking whether the participant consents to being part of the study.
Q5:	Participants will not be observed as part of the study.
Q6:	Yes, as part of the consent form, participants will be notified that they are free to withdraw at any time, with no consequences.
Q7:	Participants will be allowed to skip the main study questions, however they will not be able to skip the age affirmation question.
Q8:	The Participant Information Sheet specifies that participant data will be kept fully confidential.
Q9:	A participant Debrief will be the last page of the survey and is attached here.

A. I consider that this project has no significant ethical implications to be brought before the Departmental Ethics Committee: Yes

B. I consider that this project may have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations: No

Purpose of project and its academic rationale:

Previous research has demonstrated that belonging to a group (e.g., choir, craft circle, exercise class, book club, etc) is generally good for health and wellbeing but the psychosocial processes that link group memberships with health and wellbeing are somewhat unclear. Currently with COVID-19

social distancing measures in place globally, we have an opportunity to examine this relationship between group activities and health from the perspective of what's missing now that you're unable to meet face-to-face. This anonymous survey has 4 sections asking about: a) demographic information, b) information about your group BEFORE COVID-19, c) missing your group and ways you may have adapted your group activity to account for social distancing DURING COVID-19, and d) your health and wellbeing. The survey is expected to take about 15 minutes to complete.

Some of the data will be used by Olivia Jewell as a part of the requirement of doctoral dissertation at Goldsmiths University of London, under the supervision of Dr. Jacques Launay and Professor Lauren Stewart. Likewise, some of the data collected in this study will be used by Grace Draper as a part of the requirement for the Bachelor of Arts (Honours) degree at the University of Queensland, under the supervision of Associate Professor Genevieve Dingle.

Brief description of methods and measurements:

Participants will be asked to complete an anonymous online survey including questions about the nature of a group activity, what they miss about their group and the ways they may have adapted their group to account for social distancing. Additionally, measures of physical and emotional health under the circumstances of COVID-19 pandemic will be explored. The survey is being conducted as part of a larger project between the University of Queensland and Goldsmiths University of London.

Participants: recruitment methods, number, age, gender, exclusion/inclusion criteria:

Participants will be recruited via social networks and the University of Queensland's student participation system. There are no specific plans to exclude anyone from participating in the study

Consent and participant information arrangements, debriefing:

The Debrief, Participant Information Sheet (PIS), GDPR, and Consent form are attached. Each of these documents will be featured on the survey software, Qualtrics, as part of the survey so participants have the opportunity to read them. The consent form is a direct screen clip from Qualtrics so it is clear what participants will be looking at.

Please note that the Participant Information Sheet was completed in concert with our colleagues at the University of Queensland, Brisbane. For this reason, the information sheet contains contact and ethics information for both Goldsmiths and U Queensland in order to ensure that the PIS that participants view on Qualtrics is identical to what we have submitted to our respective ethics committees.

Additionally, the question asking for confirmation that our participants are 18 years of age or older is at the bottom of the PIS so that we can have the survey terminate automatically if a participant does not confirm that they are at least 18 years old.

A clear but concise statement of the ethical considerations raised by the project and how you intend to deal with them:

N/A as form is not "B" type.

Estimated start date: 25/04/2020

Estimated end date: 31/07/2020

Status: Approved

Student: Olivia Jewell (ojewe001@gold.ac.uk)

Academic Year: 2019-2020

Project Type: PhD/MPhil Project

Project Title: How Social Isolation is Impacting Feelings of Connection in Community Choirs

Supervisor: Lauren Stewart (lstew009@gold.ac.uk)

Does your project use ONLY secondary or simulated data (no additional data are collected): No

1) Will you describe the main experimental procedures to participants in advance, so that they are informed about what to expect?		Yes
2) Will you make it clear to participants that this is a student project?		Yes
3) Will you tell participants that their participation is voluntary?		Yes
4) Will you obtain written/online consent for participation?		Yes
5) If the research is observational, will you ask participants for their consent to being observed?		N/A
6) Will you tell participants that they may withdraw from the research at any time and for any reason?		Yes
7) With questionnaires, will you give participants the option of omitting questions they do not want to answer?		Yes
8) Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?		Yes
9) Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?		Yes
10) Will your project comply with General Data Protection Regulation (GDPR)?		Yes
11) Will your project involve deliberately misleading participants in any way?		No
12) Are you asking any questions of sensitive or potentially upsetting content?		No
13) Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes, give details below and state what you will tell participants to do if they should experience any problems (e.g. who they can contact for help).		No
14) Does your project involve work with animals?		No
15) Do participants fall into any of the following special groups? If they do, please refer to BPS guidelines and other relevant documents. **Note that you may also need to obtain satisfactory CRB clearance (or equivalent for overseas students).**	Children (under 18 years of age)	No
	People with learning or communication difficulties	No
	Patients	No
	People in custody	No
	People engaged in illegal activities (e.g. drug-taking)	No

Are you collecting data online? No

Link to survey/test:

Login details (if required):

For questions 1 to 9 above, describe how you will meet these criteria on-line. For example, for question 4, instead of written consent, participants must confirm that they are 18 or over and tick on-line to agree to participate, or agree to participate by proceeding to the next page; for question 7, there should be an option of skipping individual questions.

Q1:	-
Q2:	-
Q3:	-
Q4:	-
Q5:	-
Q6:	-
Q7:	-
Q8:	-
Q9:	-

A. I consider that this project has no significant ethical implications to be brought before the Departmental Ethics Committee: Yes

B. I consider that this project may have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations: No

Purpose of project and its academic rationale:

The rationale for conducting these interviews is to expand our knowledge on the massive and unprecedented changes taking place around the world as a result of the novel corona virus. As individuals are being asked or forced to stay at home, their ability to participate in group activities has essentially vanished, this study seeks to understand how that has impacted the members of those group activities, which will hopefully help shed light on what those activities were providing it's members beyond access to the activity itself. Specifically, the purpose of this study is to get an understanding of how social isolation due to COVID-19 has impacted people who are involved in community choirs, as well as the needs those community choirs fill for its members.

Brief description of methods and measurements:

This study will consist of a one-time interview asking participants about their experience of no longer being able to attend Hackney One Voice choir rehearsals. Interview questions are attached. While the main focus of the study will be on the interview, participants will be asked if they are willing to be contacted for follow-up in the future.

Participants: recruitment methods, number, age, gender, exclusion/inclusion criteria:

Participants will be members of the Hackney One Voice community choir. This choir is open to the community, so members range in ages from 18 to 70. My goal is to interview at least 20 members. There are no specific plans to exclude any members of the choir from participating in the study.

Consent and participant information arrangements, debriefing:

Consent, Debrief, Participant Information, GDPR, and Interview questions are attached to this form. Please note that while the study is not "online," interviews will take place via Zoom and the consent,

debrief, and participant information will be sent to the participant electronically. Interviews will be recorded and these recordings will be kept on a password-protected flash drive with the primary supervisor.

I would like to note additionally, that because my main supervisor, Lauren Stewart, is in the Hackney One Voice community choir, the supervisor who will be listed on the Participant Information Sheet and Debrief is my secondary supervisor, Keon West. This is to ensure there is no bias on the part of participants being aware that Lauren is part of the research team.

A clear but concise statement of the ethical considerations raised by the project and how you intend to deal with them:

N/A as form is not "B" type.

Estimated start date: 15/04/2020

Estimated end date: 30/05/2020

Status: Approved

Student: Olivia Jewell (ojewe001@gold.ac.uk)

Academic Year: 2019-2020

Project Type: PhD/MPhil Project

Project Title: The Impact of Music Taste and Political Ideology on Social Attraction

Supervisor: Lauren Stewart (lstew009@gold.ac.uk)

Does your project use ONLY secondary or simulated data (no additional data are collected): No

1) Will you describe the main experimental procedures to participants in advance, so that they are informed about what to expect?	Yes	
2) Will you make it clear to participants that this is a student project?	Yes	
3) Will you tell participants that their participation is voluntary?	Yes	
4) Will you obtain written/online consent for participation?	Yes	
5) If the research is observational, will you ask participants for their consent to being observed?	N/A	
6) Will you tell participants that they may withdraw from the research at any time and for any reason?	Yes	
7) With questionnaires, will you give participants the option of omitting questions they do not want to answer?	Yes	
8) Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	Yes	
9) Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study)?	Yes	
10) Will your project comply with General Data Protection Regulation (GDPR)?	Yes	
11) Will your project involve deliberately misleading participants in any way?	No	
12) Are you asking any questions of sensitive or potentially upsetting content?	No	
13) Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If Yes, give details below and state what you will tell participants to do if they should experience any problems (e.g. who they can contact for help).	No	
14) Does your project involve work with animals?	No	
15) Do participants fall into any of the following special groups? If they do, please refer to BPS guidelines and other relevant documents. **Note that you may also need to obtain satisfactory CRB clearance (or equivalent for overseas students).**	Children (under 18 years of age)	No
	People with learning or communication difficulties	No
	Patients	No
	People in custody	No
	People engaged in illegal activities (e.g. drug-taking)	No

Are you collecting data online? Yes

Link to survey/test: https://goldpsych.eu.qualtrics.com/jfe/form/SV_50W5IwmBacK53vv, https://goldpsych.eu.qualtrics.com/jfe/form/SV_8eTRKhlLOSbZvKZ

Login details (if required):

For questions 1 to 9 above, describe how you will meet these criteria on-line. For example, for question 4, instead of written consent, participants must confirm that they are 18 or over and tick on-line to agree to participate, or agree to participate by proceeding to the next page; for question 7, there should be an option of skipping individual questions.

Q1:	The study description is included on the Participant Information Sheet.
Q2:	The information about this being a student project is included on the Participant Information Sheet in the section about what the data will be used for.
Q3:	As part of the Participant Information Sheet, participants will be notified that their participation is voluntary.
Q4:	Yes, the first part of the online survey will include a list of questions asking whether the participant consents to being part of the study.
Q5:	Participants will not be observed as part of the study.
Q6:	Yes, as part of the consent form, participants will be notified that they are free to withdraw at any time, with no consequences.
Q7:	Participants will be allowed to skip the main study questions, however they will not be able to skip the age affirmation question.
Q8:	The Participant Information Sheet specifies that participant data will be kept fully confidential.
Q9:	A participant Debrief will be the last page of the survey and is attached here.

A. I consider that this project has no significant ethical implications to be brought before the Departmental Ethics Committee: Yes

B. I consider that this project may have ethical implications that should be brought before the Departmental Ethics Committee, and/or it will be carried out with children or other vulnerable populations: No

Purpose of project and its academic rationale:

This project is a two-part study consisting of an initial exploratory collection of stimuli, and a secondary survey which will use said stimuli to examine how similarities in musical preferences relate to social liking, especially when competing with potential differences in political ideology.

The exploratory survey is designed to collect possible musical genres, artists, and songs who young political liberals believe are popular for young political conservatives in Britain. Once these genres, artists, and songs have been collected, they will be included as part of "target profiles" which participants in the main study will be asked to look at.

Overall, the goal is to test the possible mechanism behind why musical taste seems to indicate social attraction, by comparing it with social attraction associated with similarities in political ideology.

Please note that we will need to have the information from the exploratory survey before we can fully complete the main study survey.

Brief description of methods and measurements:

This initial exploratory study will briefly ask participants what kind of music they believe Politically Conservative British Youth (roughly ages 18-25) listen to. The question will be open-ended, and participants will be asked to list up to three artists, songs, or genres believed to be stereotypical music choices for Politically Conservative British Youth. Once we have collected several different songs, genres, and/or artists, these will be included in the main study.

The main study will also be a survey where participants will see several different gender-matched "target profiles" (modeled like the profiles one might see on Tinder), which will feature information about the target person, including their political orientation, musical preference, and an unrelated detail, such as preference for dogs over cats. The participants will be asked to rate how much they like the target person based on the information on this profile.

Participants: recruitment methods, number, age, gender, exclusion/inclusion criteria:

Participants for both the exploratory survey and the main study will be recruited from the website Prolific, with the goal of 50 and 200 participants, respectively. Via the Prolific website, only participants who fit the following criteria will be recruited for the study: politically liberal, between ages 18-25, heterosexual, Caucasian, and grew up in Britain.

Consent and participant information arrangements, debriefing:

The Debrief and Consent form are attached. Please note that they have both been written for the research project as a whole and will thus be included in both the exploratory survey and the main study. The Participant Information Sheets are also attached. Since the format of the surveys is slightly different, there is one each for the exploratory survey and main study. The GDPR is also attached.

Each of these documents will be featured on the survey software, Qualtrics, as part of the survey so participants have the opportunity to read them.

A clear but concise statement of the ethical considerations raised by the project and how you intend to deal with them:

N/A as form is not "B" type.

Estimated start date: 05/02/2020

Estimated end date: 29/02/2020