



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### The social functions of music

**Citation for published version:**

MacDonald, R 2021, The social functions of music: Communication, Wellbeing, Art, Ritual, Identity and Social networks (C- WARIS). in A Creech, DA Hodges & S Hallam (eds), *Routledge International Handbook of Music Psychology in Education and the Community*. 1 edn, Routledge International Handbooks, Routledge, London, pp. 5-21. <https://doi.org/10.4324/9780429295362>

**Digital Object Identifier (DOI):**

[10.4324/9780429295362](https://doi.org/10.4324/9780429295362)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Peer reviewed version

**Published In:**

Routledge International Handbook of Music Psychology in Education and the Community

**Publisher Rights Statement:**

This is an Accepted Manuscript of a book chapter published by Routledge in Routledge International Handbook of Music Psychology in Education and the Community on 27 May 2021, available online: <https://www.routledge.com/Routledge-International-Handbook-of-Music-Psychology-in-Education-and-the-Creech-Hodges-Hallam/p/book/9780367271800#>

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



# The Social Functions of Music: Communication, Wellbeing, Art, Ritual, Identity and Social Networks (C-WARIS)

Raymond MacDonald

Orchid ID: 00000-0002-9748-4480

## Abstract

This chapter outlines the social function of music, emphasising music as a universally accessible, social phenomenon. I propose five categories and one overarching caveat represented by the acronym *C-WARIS* (Communication, Wellbeing, Art, Ritual, Identity and Social Networks). The primary social function of music is *communication*. Music is utilised in maintaining and enhancing wellbeing and as a pleasurable art form. It functions universally with within religious, spiritual and ceremonial activities. Music also functions as a resource in establishing and maintaining identities and social networks. Reciprocal determinism (Bandura, 1986) and social identity theory (Turner & Reynolds 2010) are used to offer overarching theoretical contexts for these mechanisms.

## Introduction

*We are the same. There is no difference anywhere in the world. People are people. They laugh, cry, feel, and love, and music seems to be the common denomination that brings us all together. Music cuts through all boundaries and goes right to the soul.*

*Willie Nelson*

We are all musical and music is universal; these are not glib assertions, but well-evidenced conclusions drawn by researchers from across the academic spectrum. Music is universally accessible and universally available. Everyone can communicate using music and everyone can be moved by experiencing music, regardless of environmental or health factors (MacDonald et al, 2012). These observations lead us to ask a very basic question: *what are the functions of music?* While the quote above from Willie Nelson (Nelson & McMurtry, 2003, p. 119) may seem just another glib generalisation, there are several points of interest for us in terms of the aims of this chapter. Willie Nelson signals music's universal presence and its distinction as a unique and separate channel of communication, quite separate from other channels (e.g., language, visual). In saying music "goes right to the soul", he draws on the observation that music can invoke powerful emotions and deep memories; it can help bring people together and unite us in a collective activity. These are not anodyne blandishments, but suggest that underlying music's power to communicate are significant social, psychological and musical processes that combine in unique and important ways to help give music its meaning.

41 If music is universal what type of role does it have in society? Music is woven into  
42 the fabric of our lives, inextricably linked to a host of social and psychological functions that  
43 help define what it means to be human (MacDonald & Wilson, 2020). The following chapter  
44 focuses on the functions of music in society. These include medical and health functions,  
45 everyday functions such as mood maintenance, the artistic and aesthetic role of music, and  
46 its spiritual and ceremonial functions.

47

## 48 C-WARIS

49

50 In this chapter I propose five broad categories and one overarching caveat that  
51 summarises the social function of music. These are represented by the acronym **C-WARIS**  
52 **(fig 1)**.

53

54

55 -----  
55 Insert Figure 1 C-WARIS: The Social Functions of Music about here  
56 -----

56

57

### 58 **Communication**

59 The one overarching caveat is that the primary social function of music is *communication* -  
60 **C**. Its communicative prowess is utilised across the following domains: **W** – Wellbeing, **A** –  
61 Art, **R** – Ritual, **I** – Identity and **S** – Social Networks. Music’s communicative functions and its  
62 effects have been an interest for writers for millennia (Patel, 2008; Rousseau, 1988).  
63 Pythagoras, along with other Greek philosophers, believed that music had medicinal effects  
64 related to its acoustic properties and specific relationships with Greek Gods (Horden, 2000).  
65 These ideas focused upon psychoacoustic features and how particular instruments, songs  
66 intervals or note clusters could produce specific effects for listeners. This approach draws  
67 clear causal links between structural features of music and particular psychological affects  
68 and remains influential within contemporary research and popular culture. Cook (1959)  
69 presented a detailed analysis of how listeners may perceive emotion in classical music with  
70 reference to various structural features while Juslin (2019) offered a comprehensive  
71 overview of musical communication and emotion with particular emphasis upon structural  
72 aspects.

73 In addition to structural aspects being important, researchers have also highlighted  
74 the importance of social and cultural factors when discussing music’s communicative  
75 properties (Blacking, 1973; Clayton, 2016; Farnsworth, 1969; Groarke & Hogan, 2019;  
76 Hargreaves & North, 1997; Koelsch, 2013; MacDonald et al., 2017; Merriam, 1964; Turino,  
77 2008). These authors show that the importance of music is partly due to the ways in which it  
78 can be flexibly utilised in countless social contexts. Huron (2006) presented evidence to  
79 account for tonality’s expressive qualities. This includes leading tones creating a feeling of  
80 yearning, final chords generating a feeling of closure, Picardy 3rds lending an element of  
81 surprise, and so on. Merriam (1964) in a landmark text, *The Anthropology of Music*, outlined

82 ten functions of music in society covering such aspects as emotions, aesthetics, notation,  
83 embodiment and ceremonies. Farnsworth (1969) also emphasised the important social  
84 function of music while integrating structural aspects.

85 This argument is further developed by Blacking (1973) who moved the debate  
86 beyond the acoustic and structural by stating that “*universals of music must not be sought in*  
87 *immanent structures such as melodic or rhythmic components, but in the behaviours*  
88 *associated with sound phenomena*” (p. 34). In pointing towards behaviours related to  
89 musical engagement, Blacking (1973) emphasised the social and psychological importance  
90 of musical engagement. David Hargreaves and Adrian North published two texts which also  
91 investigated the importance of music within society. The first in 1997, *The Social Psychology*  
92 *of Music*, explored the social situations in which music is created, performed and heard. This  
93 theme was developed in their book *The Social and Applied Psychology of Music*, which  
94 focused upon educational, technological and creative issues for those engaged with music.  
95 Koelsch (2013) presented an overview of social functions of music linking key psychological  
96 and cognitive processes with neurological and social process. This paper highlighted a  
97 number of neurological and cognitive aspects underpinning the social function of music. He  
98 also showed how particular parts of the brain, related to social engagement, are stimulated  
99 when listening to music (Steinbeis & Koelsch, 2008). These publications have contributed to  
100 our understanding of how music functions in society by proposing a nuanced interplay  
101 between social contexts and the acoustic properties of music. Thus, a substantial body of  
102 literature demonstrates how both structural aspects and social contexts are important to  
103 consider when discussing the function of music. Our engagement with music is  
104 characterised by flexibly incorporating cultural, acoustic and neurological components,  
105 while functioning as a social and pleasurable channel of communication. There is  
106 considerable debate as to the relationship between structural features and social context  
107 when attempting to understand how music communicates (McDermott et al., 2016). Cross  
108 (2005) refers to this interaction of structure and social factors as music’s *floating*  
109 *intentionality* (p.36). A very simple, almost clichéd, but easy to understand way to highlight  
110 this argument is the assertion that music in a minor key conveys sad emotions while music  
111 in a major key conveys happy emotions. In this example music conveys sadness as a result of  
112 the acoustic properties (rhythm, harmony, melody). Thus, one possible social function of  
113 music is to communicate emotions via musical structural and acoustic properties (Juslin &  
114 Sloboda, 2010). It is however difficult to convey specific subtle and/or complex emotions  
115 through this type of mechanism. It is not possible to signify the complex emotion of *joyful*  
116 *schadenfreude* using only melody, rhythm or indeed via any purely musical means. What is  
117 clear is that music conveys meaning as a result of culturally contextualised listening.  
118 Repeated listening and pairing of social events, social rituals with particular types of music,  
119 can create learned meanings. Music in minor tonalities used in opera, film, theatre and  
120 ceremonies may create a learned response to particular types of music. Therefore, learning  
121 and enculturation also facilitates emotional responses to music (Jentschke, 2016; North,  
122 Hargreaves & McKendrick, 1997).

123           The third mechanism is an associative mechanism. Here a piece of music achieves  
124 particular meaning because it is heard at important moments, or is repeatedly playing  
125 during particular periods (e.g., a summer holiday). Music playing in a café when a  
126 declaration of eternal love is made may become seared into the consciousness of young  
127 lovers. Resultantly, if AC/DC's *Highway to Hell* is playing at that moment it could  
128 subsequently evoke happy romantic feelings for the couple regardless of the structural or  
129 cultural associations of this music. The associative mechanism overrides structural or  
130 cultural features and, for this couple, *Highway to Hell* evokes romantic feelings of love,  
131 commitment and loyalty, even if musically the song says otherwise. This effect was pithily  
132 termed the *Darling they're playing our tune* effect by John B. Davies in one of the first books  
133 to explore the psychology of music (Davies, 1978).

134           A key feature here is that the structural, cultural and associative mechanisms are not  
135 mutually exclusive. They can all function together to different degrees and this contributes  
136 to music's unique communicative power, distinctiveness and social functions. For example,  
137 you may have had a particularly bad week and are feeling low on a Friday night. Perhaps you  
138 are listening to Mozart's *Requiem* and have it playing loudly through your apartment.  
139 Mozart's *Requiem* has structural features that make it sad—lots of minor intervals  
140 combined with slow underlying rhythm. It also has cultural associations that make it sad—  
141 funerals, death, and so on. There is no doubt it is a sad piece of music. However, for the  
142 sake of argument, let's say as well as feeling sad, you have bought a big pizza, a bottle of  
143 wine and a lottery ticket. When you check the internet for the winning numbers while  
144 eating pizza, drinking your wine and listening to your structurally and culturally-derived sad  
145 music, you discover that you have won 134 million Euros in the Intergalactic lottery and in  
146 that moment the sad music now takes on a whole new meaning because it instantly  
147 becomes reconditioned as happy music. Therefore, whenever you hear Mozart's *Requiem*  
148 for the rest of your life you will instantly be transported back to the moment you won 134  
149 million Euros and Mozart's *Requiem* now becomes happy music for you.

150  
151 Figure 2 displays these processes.

152  
153 -----  
154 Insert Figure 2: Three Mechanisms for Meaning in Musical Communication.  
155 -----

156  
157  
158  
159           While the basic structural, cultural and associative processes of musical  
160 communication may function cross culturally, the assumption that similar music may mean  
161 the same cross culturally is problematic since music is utilised in different ways, with  
162 different social rituals, scales and instruments globally (Campbell, 1997; Jacoby &  
163 McDermott, 2017). This flexibility of meaning also signals that music is a separate and

164 distinct channel of communication. It shares certain features with other channels of  
165 communication like natural language (it has a syntax and it has phonemes), however  
166 semantically music is more ambiguous, more fluid in its meaning and that is what gives  
167 music much of its power as a distinct channel of communication *par excellence*. This  
168 ambiguity of meaning has been termed a *floating intentionality*, signalling the complex  
169 relationship between structural cultural and associative aspects (Cross, 2005). The nature of  
170 musical communication means that while specific semantic ideas such as “would you like to  
171 visit the art gallery at 3pm?” cannot be communicated, deep and profound abstract ideas,  
172 thoughts and emotions can be.

### 173 **Music and Wellbeing – W**

174 One particularly important social function of music is how it is used for maintaining and  
175 enhancing wellbeing. For example, every time we select a piece of music for listening, we  
176 make a number of important psychological assessments about how we are feeling, if we  
177 want to enhance or change that mood and what music will help us reach these  
178 psychological goals. Issues such as, is there anybody else who will listen to this music and if  
179 so do I care what they think, influence our choice of music. Importantly, in these situations  
180 we choose music to enhance or modify our mood. Thus, in many respects we can consider  
181 this type of musical engagement, a sort of informal self-medicated therapy with a specific  
182 aim of enhancing wellbeing. This is one of the primary functions of music—to enhance how  
183 we feel and modern technological advances mean we can now have instant access to an  
184 infinite array of music (Brancatisano & Thompson, 2019). Crucially, we can select music to  
185 serve particular social and psychological functions with ease, meaning we are very  
186 sophisticated and highly nuanced consumers of music. This function of music, in mood  
187 maintenance, enhancement and change, can operate in many ways. For example, the  
188 selection of music for listening via personal listening devices. In these instances, music is  
189 used to meet very particular psychological needs via a number of sophisticated but very  
190 efficient music psychological process. How do I feel right now, how will I feel in five minutes,  
191 how do I want to feel in ten minutes? What music will help me to achieve these goals? Do I  
192 want to change the mood I am in? Do I want to enhance this mood? Am I wanting to rid  
193 myself of this “blue” feeling or do I want to explore it further? Do I want to cheer myself up?  
194 What music can I select to meet these psychological goals? We are expert in selecting music  
195 to meet these particular psychological goals and even if we are not consciously aware of  
196 these processes we engage in them continually. Similar processes are at play when we  
197 select music to listen to with others. What sort of mood do I want to create in the kitchen—  
198 am I dancing around the kitchen with a friend while cooking? Am I selecting music for a  
199 romantic dinner for two or a family meal? Do I want to impress my friends with my  
200 sophisticated taste? Are we having a frivolous post dinner chat? This type of social and  
201 psychological analysis is fundamental to selecting music and matching particular music for  
202 particular social and cultural needs. We are all very good at this type of music psychology  
203 work; in other words, we are all very good music psychologists. Music listening is always  
204 about more than just music. Thus, in many ways one of the primary functions of music it to

205 provide a means of enhancing situations. This could be internal situations—that is, our  
206 mood or social situations having friends around for drinks. This type of use of music is  
207 explicitly related to music listening. When we are listening to music we are engaged in a  
208 host of psychological, social and musical functions.

209         Throughout history music played an important social role in being involved in healing  
210 and medical practises (Horden, 2000). Music, both listening and participating, has been  
211 implicated in health practices since antiquity. The modern profession of music therapy has  
212 over 100 years of research investigating the process and outcomes of music interventions  
213 that have applied specific uses of music to enhance health and wellbeing. Music therapy  
214 involves trained therapists working in explicitly health care contexts to use music to achieve  
215 non-musical goals, that is, psychological, social, or cultural. An important point here is that  
216 therapists have produced evidence to outline numerous possible ways in which musical  
217 engagement can provide social and psychological benefits. Although music therapists can  
218 work in explicitly clinical contexts, the basic foundations of music therapy are drawn from  
219 observations that underpin music’s use in society. For example, music’s meaning is  
220 ambiguous and the ambiguity of meaning that is inherent in music means that it can have  
221 subjective and profound effects that can be life enhancing (Cross, 2005; Hargreaves et al.,  
222 2005). Community music, while not explicitly involved in clinical applications of music and  
223 usually focused upon increasing access to creative activities for people who may have been  
224 denied access to music activities, also uses health objectives as secondary goals for this  
225 involvement in music (Bartleet & Higgins, 2018). For example, weekly drum circles or choir  
226 activities organised by community musicians can have profound positive effects upon  
227 participants and also point towards the social function of music. These activities utilise  
228 music’s inherently social, accessible, universal, and ambiguous aspects.

229         The modern profession of music therapy is predicated upon a particularly deep and  
230 comprehensive understanding of the relationship between music and health and wellbeing  
231 (Belgrave & Kim, 2020). This includes drawing the distinction between music listening and  
232 active musical participation. Music therapy is defined by a focus upon clinical relationships  
233 with an emphasis upon a therapeutic alliance between client and therapist. However, recent  
234 advances emphasise that music therapy functions in many community settings as well. Also,  
235 community music interventions often have health and wellbeing as an objective. While the  
236 primary function of community music may be to enhance access to musical activities for  
237 individuals who may have had limited access to music, a stated secondary goal for  
238 community music may include enhanced wellbeing (Bartleet & Higgins, 2018). For example,  
239 the recent explosion of interest around community choirs is a good example. In these  
240 instances, the aim may well be to bring people together to explore creativity via singing,  
241 possibly with an emphasis upon people who may have no previous experience or lack  
242 confidence. However, while the aim is firmly upon participation and music engagement, a  
243 stated secondary aim may be to enhance communication skills or confidence. A key issue  
244 here is that music listening and music performance are used world-wide to help enhance  
245 health and wellbeing both in terms of music therapy and community music settings and also

246 in less formal contexts. Therefore, the links between musical engagement and wellbeing are  
247 clear, explicit and universal.

248 One important point for consideration when discussing the social functions of music  
249 is that music in and of itself is neither good or bad. The urge to proselytise about the  
250 benefits of music, from an evidence-based perspective notwithstanding, can often lead to  
251 the assumption that all musical engagement is good but of course, given the power of  
252 music, we must consider situations where music listening can in fact be detrimental socially  
253 and psychologically. For example, an individual with mental health problems may use a  
254 particular piece or pieces of music to accompany excessive and automatic negative thinking  
255 (Miranda et al, 2012). Here, music may provide a social context that perpetuates or even  
256 intensifies depressive symptoms. Many musicians as a result of pressures to maintain  
257 musical careers suffer psychological and mental health problems and these need to be  
258 recognised and possibly preventative strategies such as music education during training can  
259 alleviate these potentialities. Music has also been used in social contexts to invoke negative  
260 emotions, such as playing opera or devices that emit a high-pitched tone, in an attempt to  
261 stop teenagers from loitering in particular public spaces. Music has also been used in  
262 conflict situations as a form of torture. In 1989, when the U.S. army in Panama was trying to  
263 remove Gen. Noriega from his sanctuary in the Vatican's diplomatic mission, loud rock  
264 music was played from large speakers (Windsor, 2019).

#### 265 **Music and Art – A**

266 In attempting to explore music's role within society we often neglect one primary reason for  
267 music's existence: Music is fun. When Stephen Pinker (2007) claimed music was nothing  
268 more than "auditory cheesecake", a simple hedonistic pleasure, he provoked a furore of  
269 responses from commentators quick to claim, with evidence, that music was more, much  
270 more, than auditory cheesecake. We enjoy music and it brings us pleasure and joy in so  
271 many ways. This primary function is one reason why it is universal and why it reaches far  
272 into many aspects of our life and has a multitude of other functions and implications.  
273 However, we should not forget that it is, at its heart, a deeply enjoyable activity and here  
274 we can concur with Pinker even if he failed to grasp the wider significance of musical  
275 engagement.

276 The fun inherent in musical engagement (both listening and performing) has partly  
277 motivated music's aesthetic social function as a pleasurable artform and cultural activity  
278 throughout history. This observation leads us to ask: what is music? When trying to  
279 delineate the functions of music it is worth attempting to outline what type of phenomenon  
280 can have universal and multitudinous significance. Sound can be viewed as a primary  
281 component of music and categories such as rhythm, melody, pitch and timbre are also often  
282 utilised to further aid definition (Wallin et al., 2000). However, as this chapter, indeed this  
283 book quite emphatically demonstrates, one of the key functions of music is to engender  
284 collective social engagement. Indeed, music is defined by its social context. Stop reading,  
285 listen to the sounds that surround you for 3 seconds. Let's say we record the sounds and call  
286 the new composition "the impossible beauty of spontaneous environmental sounds". This is



287 not just a pretentious art experiment but a demonstration of how music is defined by its  
288 social context. The claim that music must have conventional rhythmic or melodic qualities,  
289 as numerous text book and dictionary definitions of music state, misses the way in which  
290 music is socially constructed. It is impossible to define music by structural means. John  
291 Cage's seminal composition *4min.33* which consisted of 4 minutes 33 seconds of silence  
292 (apart from ambient sounds like wind or outside noises) demonstrated that music need not  
293 have any conventional melody or rhythm (Gann, 2011). The piece has become iconic, posing  
294 an interesting existential quandary as silence became iconic. The key point here is that  
295 silence can be music in terms of how it is placed within a social context. Thus, all music is by  
296 definition social and uniting us in a collective endeavour (e.g., listening to the nature of  
297 silence) is one of the primary functions of music. Music brings us together, to listen  
298 together, to play together and to exist together (DeNora, 2000; Mazzola et al., 2020).  
299 Musical engagement not only facilitates but necessitates a type of collectivity that is quite  
300 unique. While the precise nature of music can be viewed as a social construction, it is quite  
301 clear that music exists as a pleasurable artform in a universal and accessible manner.

### 302 **Music and Ritual – R**

303 Music has been an integral part of religious ceremonies, ancient healing practices, rituals  
304 and rites of passage for millennia (Dissanayake, 2006). Marriages, funerals, birthdays, state  
305 ceremonies, and institutional events all involve music (Durkheim, 1968; Koen, 2011).  
306 Moreover, one of the most widespread roles music has within society is its role within  
307 religious and spiritual ceremonies (Clayton, 2016). This includes rituals that involve altered  
308 states of consciousness such as trance and possession (Becker, 2004; Friedson, 1996; Racy,  
309 2003; Roseman, 1991 Rouget, 1985). Ethnomusicology has made considerable contributions  
310 to understanding the way music functions in blending and merging with social practices, and  
311 sometimes dance and other artforms, to form important social ritual (Nettl, 1983; Pettan &  
312 Titon, 2016). In one example, within native North American traditions, improvised music is  
313 incorporated into religious social rituals involving altered states of consciousness (Nettl &  
314 Russell, 2008). Music and dance are of vital importance to the indigenous people of  
315 Australia. Aboriginal culture utilises music and dance in such a way that they are woven into  
316 everyday life and are also part of key ceremonies and rituals called *corroborees* (Bradley &  
317 Mackinlay, 2007). *Songlines* depicts journeys across vast swathes of Australia and tells  
318 stories of the *Creation and Dreamtime* (Richards, 2017). Sometimes one particular member  
319 of a group, *The Songman*, has responsibility for creating songs to describe current events  
320 and also for singing traditional songs passed down through generations (Bradley &  
321 Mackinlay, 2007). In his ground-breaking book, *How Musical is Man*, John Blacking (1973)  
322 elegantly shows how everybody within the Venda community in Africa is musical and how  
323 music and dance play an integral part of daily life.

324 Whether within Christian churches or Hindu Temples, Sufi celebrations or countless  
325 other spiritual gatherings, music as a social practice provides a sound track and a  
326 relationship with spirituality, ceremony and rites of passage. This is one of music's key roles  
327 within society (MacDonald & Wilson, 2020). There are two ways in which music can function

328 within these ceremonies. One is as a backdrop, a kind of sound track to provide  
329 “appropriate” musical accompaniment to the ceremony. However, a second is to function  
330 as an extra channel of communication facilitating and enhancing the spiritual relationship  
331 that participants feel with the spiritual deities. In these contexts, the music is not just a  
332 soundtrack but a fundamental part of the relationship each person feels with their god,  
333 deity or spiritual guide.

#### 334 **Music and identity – I**

335 Another important social function of music is the development, maintenance and  
336 negotiation of identity through musical engagement. Music is a key marker of our identity  
337 and a psychological resource utilised in shaping our constantly evolving sense of who we are  
338 (MacDonald et al., 2017). Identity is an issue of fundamental concern for modern society in  
339 terms of how we all navigate our lives (Colmas, 2019; Giddens, 2001. Socioeconomic  
340 situations notwithstanding, contemporary life necessitates many more decisions about how  
341 we want to live. In previous times the path our lives took would have been mapped out by  
342 our gender, our locality, our family history and our educational background but now  
343 decisions about sexuality, career, cultural tastes, or where we live are much more open to  
344 choice and discussion and music has a part to play in negotiating these fundamental identity  
345 issues. A number of ethnomusicology studies demonstrate the role of that music with  
346 within identity processes cross culturally (Koskoff, 1989; Moisala & Diamond 2000; Stokes  
347 1994; Sugarman, 1997).

348 Music is an important psychological resource in how we signal to the world who we  
349 are (MacDonald et al., 2002; Stokes,1994). We all have a musical identity. Everyone has  
350 musical preferences which can merge with friendship groups, places we socialise, clothes  
351 we wear, websites we visit, and how we choose to spend our time (Kumar & Akash, 2020).  
352 Thus, our musical tastes play an important social role in helping to shape how we see  
353 ourselves and how we project ourselves to the world. These types of identity processes can  
354 be conceptualised as *Music in Identities*, that is how we use music as a psychological and  
355 social resource to help shape personality (MacDonald et al., 2002). For example, there is  
356 evidence to suggest that music is one of the most important recreational activities that  
357 young people engage with (Zimman & Gan, 1997). Musical tastes and preferences are  
358 important makers of identity for young people during adolescence as they develop  
359 distinctive personalities and actively seek ways to establish a sense of self that is unique and  
360 distinctive from others around them such as parents and teachers (Tarrant et al., 2002).  
361 While this is particularly important for young people, it remains important throughout our  
362 lives as we use our musical tastes to shape our identities (Greenberg & Rentfrow, 2017).

363 Another key way in which music helps shapes our identity and thus plays an  
364 important social role is in what way we see ourselves as musical. These types of identities  
365 processes can be considered *Identities in Music* (MacDonald et al., 2002). We all have a  
366 sense of our musical skills whether that is as a professional musician “I am a drummer in a  
367 jazz band” or as someone less experienced “I play guitar with my family”. Indeed, even  
368 assertions like “I am tone deaf” or “I am not musical” construct and project a type of

369 musical identity and are markers of personality. Importantly, our sense of identity in music  
370 may not be linked to our technical skills in music but rather may be related to important  
371 social influences and experiences we have. On the one hand, Trevarthen (2002) has shown  
372 how the earliest communication between a new born baby and their carer is musical. These  
373 cooing and babbling interactions are rhythmic and melodic musical improvisations forming a  
374 crucial part of the earliest and most important bonding relationship in life—between a baby  
375 and parents. This also provides further evidence for the assertion that *we are all musical*  
376 since we all used music to bond with our parents. The patterns of interaction laid down in  
377 the early weeks and months of life influence identities across the life span and has an  
378 important musical element. Therefore, one of the social functions of music is to aid the  
379 bonding process between babies and their parents.

380 On the other hand, people can also view themselves as non-musical, using phrases  
381 such “tone-deaf”, “I’m not from not from a musical family”. Indeed, it has been reported  
382 that up to 15% of the population will self-report as tone deaf at any one time (Wise &  
383 Sloboda, 2008). However, tone deafness in terms of not being able to recognise the  
384 difference between tones is exceptionally rare. The ability to take turns in a conversation  
385 relies upon the ability to discriminate between tones so in this sense virtually no one is tone  
386 deaf. This highlights the socially constructed nature of identities in music. Indeed, many  
387 people claim not to be musical based upon an early negative experience of music. Often,  
388 people will claim to be tone deaf or not have a musical gene and recount an early negative  
389 experience of music as evidence for this claim. Often, they will say I wanted to play an  
390 instrument at school or wanted to join the choir but in order gain access to the choir or  
391 instrumental lessons I was required to sit a test. The typical story continues, I did not  
392 perform well at this test, I failed and the teacher suggested I join the football team or the  
393 netball team instead. The reason for recounting this story is that people can take this early  
394 non-contingency experience of music, this early failure, and internalise this experience as  
395 evidence for being non-musical.

396 This belief can last decades and often leads people not to engage with music when  
397 they would like to. However, being able to play a musical instrument is like other skills, such  
398 as driving a car, and involves advanced motor coordination. If you want to learn to drive a  
399 car you need to know where to put your hands, your feet, how to hold the steering wheel  
400 and control the various levers and buttons on the dashboard. In a same way learning to play  
401 to a musical instrument involves knowing where to place your hands on the fretboard of a  
402 guitar or on the keyboard of a piano. While many people will claim not to have a music gene  
403 or come from a musical family, it sounds frankly ridiculous to claim that you don’t come  
404 from a family of drivers or you don’t have the driving gene, yet similar basic skills are  
405 required for both these tasks. Let’s take another example, how does a baby learn to walk?  
406 Baby starts to crawl, receives lots of encouragement from family, lots of positive  
407 reinforcement, manages to stand for the first time, more clapping and cheering, perhaps  
408 baby fails over, but still more clapping and cheering and positive reinforcement. Then finally  
409 with lots and lots of encouragement and help and positive reinforcement baby takes first

410 steps and starts to walk and is well on their way. Let us say we use the musical example  
411 from above here and when baby falls over parents say, “oh well you don’t have the walking  
412 gene you are not from a family of walkers, perhaps you should just not bother trying and sit  
413 over here”. This sounds ridiculous but in many ways that is what happens in musical terms.  
414 Thus, our musical identities as musicians, professional, amateur or even as non-musical  
415 serve an important social function in marking who we are and how we relate to the world  
416 around us.

#### 417 **Music and social networks – S**

418 Music plays an important role in friendship groups, both for young people and throughout  
419 the life span, influencing with whom and where people socialise (DeNora, 2000; Schäfer &  
420 Eerola, 2020). For young people in particular, fashion, socialising, internet activity and  
421 friendship groups influence, and are influenced by, music tastes and choices. Music exists as  
422 a means of extending and facilitating social bonds and a means of being together and  
423 communicating without necessarily using language. For example, an audience sharing a  
424 concert constitutes group communication even if members of the audience do not talk to  
425 each other in order to feel part of a group experiencing an event. Also, conversations before  
426 and after a concert regarding what will be performed and how the music was received and  
427 even issues relating where to meet and what to wear all form part of the way in which  
428 music helps shape and maintain our social networks. These types of discourse are crucial  
429 aspects of the over musical communication process and how we talk about music influences  
430 how we hear music. Music facilitates a type of social communication, functioning as a  
431 distinctive channel of communication drawing people into shared experiences in ways in  
432 which words, spoken language, cannot. Music can also play a particularly important role  
433 within migrant and diasporic communities helping to maintain and develop group identities  
434 (Clayton, 2016; Shelemay, 1998; Slobin, 1993, 2003; Turino, 1993). Other forms of group  
435 experiences can facilitate this type of communication, however, music is a universally  
436 accessible communicative medium that is both emotional and ambiguous in how it  
437 functions and can therefore facilitate this type of social bonding.

438 A second way in which music can function to facilitate social networks is via active  
439 music making (Finnegan, 2002). Here the functions of music may be quite different from  
440 music listening. Performing music in a group, whether in a basement room of a student  
441 house or the front of a church or standing on a street corner facilitates a deindividuation, a  
442 merging of the self within a group and a collectively that no other activity can inculcate in  
443 quite the same way. This is primarily because music is a unique and distinctive channel of  
444 communication. One important factor to bear in mind here is that it does not matter at  
445 what level the music is performed. Similar psychological processes operate whether the  
446 musicians are collectively performing as part of the Berlin Philharmonic Orchestra or a rock  
447 band in a garage or a nursery group improvising together. Music provides a site of social  
448 cohesion, a place to unite and be together, to develop a collective identity that can be  
449 transformative and create a unique social collective space where we can forge new  
450 identities, new connections and develop individually and socially.

451 The unique type of communicative process at play when we engage in musical  
452 activities is a possible reason why music has an important social function (Nattiez, 1990). For  
453 example, music engagement affords simultaneous communication between many people at  
454 once (Pothulaki et al., 2012). If six people attempt to converse with each other at the same  
455 time, with everybody speaking at once, comprehension is impossible. However, when six  
456 people play music together, be that improvised or notated, it is possible for sophisticated  
457 and profound communication to take place between all six people simultaneously. This type  
458 of distributed creativity and distributed identity are crucial aspects of the social functions of  
459 music. As we perform music together identity and creative processes are distributed across  
460 the group and these distributed processes are motivating factors for individuals to engage in  
461 music activities. Thus, group communication via performance activities involving distributed  
462 creativity can create social and psychological bonds within a music group (MacGlone &  
463 MacDonald, 2017).

#### 464 **Theoretical considerations**

465 Are there any overarching theoretical ideas that might bind these observations together?  
466 Theoretical approaches would need to be flexible enough to encapsulate the many diverse  
467 situations we have explored in this chapter but also sufficiently robust to offer a convincing  
468 analysis. Albert Bandura's (1986) concept of reciprocal determinism offers one such  
469 possibility. In this approach Bandura proposed that within any given situation,  
470 environmental, behavioural and personal variables all interact reciprocally to influence and  
471 help explain unfolding events. For example, in our ethnomusicological examples, music  
472 functions within a social situation to influence people's behaviour. This behaviour  
473 resultantly influences the ongoing social situation. A key point here is that the behaviours,  
474 social situations, and indeed personality factors, all reciprocally influence each other. This  
475 situation may then influence an individual's self-esteem or view of themselves as musical or  
476 otherwise and therefore could influence the sort of situations in which they might  
477 themselves in the future. Thus music, social situations and identity variables are all  
478 reciprocally influencing each other. Figure 3 summarises a hypothetical fictional weekly  
479 community choir. The choir takes place in the upstairs room of a local pub on a Wednesday  
480 night and this constitutes the *situation*. The choir is organised in such a way that members  
481 come to together and sing classic pop songs under the direction of a designated leader.  
482 These features represent the types of *behaviours* taking place within the *situation*. The third  
483 aspect of the reciprocal deterministic framework is *personality* components of the  
484 participants. For example, an individual who lacks confidence in music but has always  
485 wanted to try singing may attend for a few weeks, taking full part and contributing to all the  
486 activities. They may experience enhanced confidence in singing (self-efficacy) which may  
487 generalise to enhanced confidence socially at the choir and in other situations. Thus, the  
488 situation, behaviour and personality factors are all reciprocally influencing each other.

489

490

491

492 -----  
493 Insert **Figure 3: Reciprocal deterministic explanation of musical engagement about here**  
494 -----

495  
496 Social Identity theory and self-categorisation theory provide another conceptual framework  
497 which helps explain the ways in which music has important social functions (Turner &  
498 Reynolds, 2010). In this context, music helps create and maintain social bonds and groups.  
499 The liking for a particular musician, group or genre, or participation in a type of musical  
500 activity can be a defining aspect of friendship groups. Young people who share a liking for  
501 contemporary hip hop, may wear similar style of clothing, socialise in similar places, attend  
502 concerts together and develop a language and social norms that are related to their music  
503 preferences. In this way an “in-group” is formed. The in-group is defined by a liking for a  
504 particular style of music. Of course, the converse can also be true in that out-groups are also  
505 created in relation to the in-group. The out-group may constitute people who do not like a  
506 particular type of music (the type preferred by the in-group) or like alternative styles of  
507 music. These types of social and psychological processes also function across the life span.  
508 So, a liking for classical music and its resultant behaviour expectations and norms can be a  
509 defining aspect of friendship groups for adults and the same with jazz or folk or any type of  
510 music or indeed music in general. In this way music is functioning socially to help form and  
511 maintain bonds between people and help friendship groups establish a way of being  
512 together. Music helps establish and maintain social bonds. Indeed, it has been suggested  
513 that this aspect of music has evolutionary significance. If music helps establish and maintain  
514 groups or communities and living in social groups offers better chance of survival, in  
515 comparison to solitary living, then music could have played an important evolutionary role  
516 (Mithen, 2005). From within a social identity and reciprocal determinism framework, early  
517 humans may have used music to help establish and maintain groups and in doing so music  
518 may have helped the survival of species.

### 519 **Conclusion**

520 At time of writing, March 2020, the world is gripped by an unprecedented pandemic; the  
521 corona virus, COVID-19. The full extent of the global tragedy unfolding is only being guessed  
522 at right now, but we are undoubtedly in the midst a monumental crisis. In an attempt to  
523 curb the spread of the virus people are required to stay home, to social distance or self-  
524 isolate. One of the ways in which people are able to come together communally while still  
525 self-isolating is via musical engagement. Italians living in Sienna stand on their balconies in  
526 the evening and sing *Bella Ciao* or *Canto Della Verbena*, and *While Siena Sleeps*<sup>1</sup>, in a  
527 communal act, a joining together while isolated that creates community and solidarity  
528 during desperately difficult times. A virtual choir is created by UK celebrity Choir Master  
529 Gareth Malone for the BBC as a means of bringing people together, although participants

---

<sup>1</sup> <https://www.theguardian.com/world/2020/mar/14/italians-sing-patriotic-songs-from-their-balconies-during-coronavirus-lockdown>

530 cannot be physically together they can join together in song, creating a community, a sense  
531 of togetherness during exceptionally challenging times defined by the need for isolation<sup>2</sup>.

532 All over the world people are using music to unite while physically alone in their  
533 homes. Music can help assuage feelings of isolation since it is a unique and social form of  
534 collective communication. In Scotland, a Glaswegian DJ plays songs from his balcony, in a  
535 performance that allows an in-the-moment communal and visceral listening experience that  
536 inculcates a sense of togetherness<sup>3</sup>. In an attempt to maintain contact between players, the  
537 Glasgow Improvisers Orchestra (GIO), a large improvisation ensemble with a flexible  
538 membership of approximately 25 Individuals, began experimenting using zoom software as  
539 a means to improvise together. The sessions include an international group of over 30  
540 musicians all of whom are experiencing living under conditions of social distancing  
541 (MacDonald & Birrell, in press). Around the world there are examples of how music is  
542 bringing people together, uniting them in a collective endeavour. My mother, Nadia, is 75,  
543 lives by herself and is in what is termed a “high risk” group and therefore has to be extra  
544 careful and is currently facing a long period of staying in doors with no visitors. Although  
545 having never sung seriously, she now engages in online singing classes twice a week with  
546 the internet facilitating interaction, communal activity and musical learning. One could  
547 argue that any activity may offer these opportunities. However, as this chapter has  
548 attempted to show, music is universal, accessible, creative, communicative, collaborative,  
549 emotional and fun. These features make music unique and are fundamental in its social  
550 function. It also means that music can be employed to facilitate contact between people, to  
551 help connectedness between people through the sharing of ideas, mutual creative  
552 engagement and provide a reason to be in contact with others, so vital during times of  
553 enforced isolation. Across the world we are seeing examples of how people can come  
554 together through music—singing from their balconies, joining together over the internet  
555 using music’s quintessential social qualities to facilitate a togetherness, a sense of  
556 collectivity, a camaraderie, a we-are-all-in-this-togetherness that other activities do not.  
557 Music is universal, music is accessible and music is sociable.

558 The overarching theme of this chapter is that music’s primary social function is to  
559 communicate and is inextricably linked with social practices helping to define what it means  
560 to be human. This chapter has presented an overview of the social power of music and  
561 some of the psychological and social processes underlying how music functions. Music may  
562 be auditory cheesecake but it is more, much more, than cheesecake (as delicious as  
563 cheesecake is). A primary theme of the chapter is that music is a separate and distinctive  
564 channel of communication both universally present and universally accessible. A key reason  
565 for its presence is that music conveys meaning via a sophisticated mix of acoustic, cultural

---

<sup>2</sup> <https://decca.com/greatbritishhomechorus/>

<sup>3</sup> [https://www.glasgowlive.co.uk/news/glasgow-news/glasgow-legend-george-bowie-blasts-17953095?fbclid=IwAR3Lil3Q1dIGU-og4R\\_YvOqdC6nkPSk9An0m8xOA1gEENHBmIC8C6CsPwC0](https://www.glasgowlive.co.uk/news/glasgow-news/glasgow-legend-george-bowie-blasts-17953095?fbclid=IwAR3Lil3Q1dIGU-og4R_YvOqdC6nkPSk9An0m8xOA1gEENHBmIC8C6CsPwC0)

566 and personal associative mechanisms. This enables music to have both personal and  
567 culturally defined meanings concurrently. Music exists to form a unique and distinct channel  
568 of communication, universal, accessible, ambiguous. This universal communality is utilised  
569 across five domains.

570 I have proposed a five-level model for how music communicates: *C-WARIS*. The first  
571 category is *Wellbeing*—music is used to enhance wellbeing both informally and in clinical  
572 contexts. The second is *Art* and signifies music’s use as a pleasurable and engaging art form.  
573 *Ritual* is the third category and highlights music’s use in social rituals such as weddings,  
574 funerals, and birthdays. The fourth is *Identity* and signals music function as a resource in  
575 shaping who we are, as both musicians and listeners. The fifth is *Social Networking* and  
576 highlights music’s role in creating and maintaining social bonds such as friendship groups.  
577 Music is used to help form, shape and maintain our social networks, friendship groups,  
578 family dynamics and workplace relationships.

579 The chapter then moved on to discuss theoretical issues that could be utilised to  
580 help explain how music functions socially. The first was Albert Bandura’s notions of  
581 reciprocal determinism and how it is possible for personality factors social factors and  
582 situational factors all to influence each other on an ongoing basis. The second was social  
583 identity theory or social categorisation theory and here I showed how music plays an import  
584 role setting up in-groups and out-groups. Music is inextricably linked to our social lives. It is  
585 woven into the fabric of society via rituals, wellbeing, joyful and expressive moments. It  
586 helps cement the bonds of friendship that can last a lifetime but most of all is it a form of  
587 communication. A deep and profound form of communication that unites us and brings us  
588 together socially and psychologically. Yet it is not magical. We may feel that our connection  
589 to music is beyond words, beyond explanation and any attempt to emphatically and  
590 definitively explain how and why music works is doomed to failure and yet there are  
591 processes that can be explained, even if some aspects will remain mysterious, elusive and  
592 even cosmic.

593 Future research will continue to explore the inextricable link music has to our lives  
594 and its social functions. Brain scanning advances now mean we are beginning to understand  
595 what is happening in our brains when two or more musicians play together. These advances  
596 will further enhance how we understand music to function within society. Music listening  
597 technology will also develop to allow as yet unimaginable sensitivity in how we consume  
598 and listen and to music. Research advances will facilitate new understandings of music’s  
599 centrality within society. What is undeniable is that music will continue to be a universally  
600 accessible presence within our lives. It will continue to influence how we see ourselves, how  
601 we engage and perform ceremonies, some the most important rites of passage of our lives.  
602 It will enhance our wellbeing as we select music to listen to daily and as we perform music  
603 and help shape how we see our lives and how we relate to the world around us as we  
604 choose what concert to go to, what we wear when we go and who we accompany. But most  
605 important, music will help us communicate with others, to express and mirror our and



606 thoughts and feelings, to bring us together and facilitate communal living and share our  
607 lives and help define what it means to be human.

608

### 609 **Reflective Questions**

610

- 611 1. What is my musical identity?
- 612 2. What songs remind me of important moments in my life and why?
- 613 3. In what ways are we all musical?
- 614 4. What are the functions of music in my life?
- 615 5. In what ways are my musical tastes shared with friends and family?
- 616 6. Why might music listening be considered self-medication?

617

### 618 **Further Reading**

619 MacDonald, R. and Wilson, G. (2020). *The art of becoming: How group improvisation works*.  
620 Oxford University Press.

621 MacDonald, R. A. R., Miell, D. & Hargreaves, D. J. (Eds.). (2017). *The Oxford handbook of*  
622 *musical identities*. Oxford University Press.

623

624 MacDonald, R. A. R., & Kreutz, G., Mitchell, L. A., (Eds.). (2012). *Music, health and wellbeing*.  
625 Oxford University Press.

626

### 627 **References**

628 Attali, J. (1985). *Noise: The political economy of music*. University of Minnesota Press.

629 Bandura, A. (1986). *Social foundations of thought and action*. Prentice Hall.

630 Bartleet, B. L., & Higgins, L. (Eds.). (2018). *The Oxford handbook of community music*. Oxford  
631 University Press.

632 Becker, J. (2004). *Deep listeners: Music, emotion and trancing*. Bloomington, Indiana  
633 University Press.

634 Belgrave, M. & Kim, S. A. (2020). *Music therapy in a multicultural context: A handbook for*  
635 *music therapy students and professionals*. Jessica Kingsley Publishers.

636 Blacking, J. (1973). *How musical is man?* University of Washington Press.

637 Bradley, J. & Mackinlay, E. (2007) Singing the land, singing the family: Song place and  
638 spirituality amongst the Yanyuwa. In F. Richards (Ed.), *The Soundscapes of Australia:*  
639 *Music, place and spirituality* (pp. 75-95). Routledge.

640 Brancatisano, O., & Thompson, W. F. (2019). Seven capacities of music that underpin its  
641 therapeutic value in dementia care. In A. Baird, S. Garrido, & J. Tamplin (Eds.), *Music*  
642 *and dementia: From cognition to therapy* (pp. 41-67). Oxford University Press.

643 Campbell, P. S. (1997). Music, the universal language: Fact or fallacy? *International Journal*  
644 *of Music Education*, 29, 32-39.

645 Clayton, M. (2007). Observing entrainment in music performance: Video-based  
646 observational analysis of Indian musicians' tanpura playing and beat marking.  
647 *Musicae Scientiae*, 11(1), 27-60.

648 Clayton, M. (2016). The social and personal functions of music in cross-cultural perspective.  
649 In S. Hallam, I. Cross, & M. Thaut (Eds.), *The Oxford handbook of music*  
650 *psychology* (p. 47-59). Oxford University Press.

651 Colmas, F. (2019). *Identity: A very short Introduction*. Oxford University Press.

652 Cook, D. (1959). *The language of music*. Oxford University Press.

653 Cross, I. (2005). Music and meaning, ambiguity and evolution. In D. Miell, R. A. R.  
654 MacDonald, & D. J. Hargreaves (Eds.), *Musical communication* (pp. 27-43). Oxford University  
655 Press.

656 Davies, J. B. (1978). *The psychology of music*. Stanford University Press.

657 DeNora, T. (2000). *Music in everyday life*. Cambridge University Press.

658 Dissanayake, E. (2006). Ritual and ritualization: Musical means of conveying and shaping  
659 emotion in humans and other animals. In S. Brown & U. Volgsten (Eds.), *Music and*  
660 *manipulation: On the social uses and social control of music* (pp. 31-56). Berghahn.

661 Durkheim, E. (1968). *The elementary forms of the religious life*. George Allen and Unwin.

662 Farnsworth, P. R. (1969). *The social psychology of music* (2nd ed.). Iowa State University  
663 Press.

664 Finnegan, R. (2002). *Communicating: The multiple modes of human interconnection*.  
665 Routledge.

666 Friedson, S. M. (1996). *Dancing prophets: Musical experience in Tumbuka healing*. University  
667 of Chicago Press.

668 Gann, K. (2011). *No such thing as silence*. Yale University Press.

669 Giddens, A. (2001). *Modernity and self-identity*. Polity.

670 Groarke, J. M., & Hogan, M. J. (2019). Listening to self-chosen music regulates induced  
671 negative affect for both younger and older adults. *PLoS One*, 14(6), e0218017.  
672 <https://doi.org/10.1371/journal.pone.0218017>

673 Greenberg, D. M., & Rentfrow, P. J. (2017). *The social psychological underpinnings of*  
674 *musical identities: A study on how personality stereotypes are formed from musical*  
675 *cues*. In R. MacDonald, D. J. Hargreaves, & D. Miell (Eds.), *Handbook of musical*  
676 *identities* (p. 304–321). Oxford University Press.

677 Hargreaves, D. J. Miell, D. & MacDonald, R. A. R (Eds.). (2012). *Musical imaginations*. Oxford  
678 University Press.

679 Hargreaves, D. J., & North, A. C. (Eds.) (1997). *The social psychology of music*. Oxford  
680 University Press.

681 Hargreaves, D. J., & North, A. C. (1999). The functions of music in everyday life: Redefining  
682 the social in music psychology. *Psychology of Music*, 27(1), 71-83.  
683 <https://doi.org/10.1177/0305735699271007>

684 Horden, P. (2000). *Music as medicine: The history of music therapy since antiquity*. Ashgate.

685 Huron, D. (2006). Sweet anticipation: Music and the psychology of expectation. The MIT  
686 Press.

687 Jacoby, N., & McDermott, J. H. (2017). Integer ratio priors on musical rhythm revealed cross-  
688 culturally by iterated reproduction. *Current Biology*, 27(3), 359-370.

689 Jentschke, S. (2016). The relationship between music and language. In S. Hallam et al. (Eds.),  
690 *Oxford handbook of music psychology* (pp. 343-355). Oxford University Press.

691 Juslin, P. N. (2019). *Musical emotions explained: Unlocking the secrets of musical affect*.  
692 Oxford University Press.

693 Juslin, P., & Sloboda, J. (2010). *Handbook of music and emotion*. Oxford University Press.

694 Koelsch, S. (2013) From social contact to social cohesion—The 7 Cs. *Music and Medicine*,  
695 5(4), 204-209.

696 Koen, B. D. (2011). *The Oxford handbook of medical ethnomusicology*. Oxford University  
697 Press.

698 Koskoff, E. (Ed.) (1989). *Women and music in cross-cultural perspective*. University of Illinois  
699 Press.

700 Kumar, A. A., & Akash, U. (2020). Influence of demographic factors on music listening  
701 preferences. *Workplace International Management Review*, 16(1), 98-109.

702 MacDonald, R. A. R., & Birrell, R. (in press). Flattening the curve: Glasgow Improvisers  
703 Orchestra's use of virtual improvising to maintain community during COVID-19  
704 pandemic. *Critical Studies in Improvisation*.

705 MacDonald, R. A. R., Miell, D. & Hargreaves, D. J. (Eds.). (2017). *The Oxford handbook of*  
706 *musical identities*. Oxford University Press

707 MacDonald, R. A. R., & Kreutz, G., Mitchell, L. A. (Eds.). (2012). *Music, health and wellbeing*.  
708 Oxford University Press.

709 MacDonald, R. A. R., Miell, D. & Hargreaves D. J. (Eds.). (2002). *Musical identities*. Oxford  
710 University Press.

711 MacDonald, R. A. R., & Wilson, G. (2020). *The Art of becoming: How group improvisation*  
712 *works*. Oxford University Press.

713 MacGlone, U. M., & MacDonald, R. A. R. (2017). Learning to improvise, improvising to learn:  
714 A qualitative study of learning processes in improvising musicians. In E. F. Clarke, &  
715 M. Doffman, (Eds.), *Distributed creativity: Collaboration and improvisation in*  
716 *contemporary music* (pp. 278-294). Oxford University Press.

717 Mazzola, G., Noer, J., Pang, Y., Yao, S., Afrisando, J., Rochester, R., & Neace, W. (2020). *The*  
718 *future of music: Towards a computational musical theory of everything*. Switzerland  
719 AG.

720 McDermott, J. H., Schult, A. F. Undurraga, E. A., & Godoy, R. A. (2016). Indifference to  
721 dissonance in native Amazonians reveals cultural variation in music perception.  
722 *Nature*, 535, 547.

723 Merriam, A. (1964). *The anthropology of music*. Northwestern University Press.

724 Miell, D., MacDonald, R. A. R., & Hargreaves, D. J. (Eds.). (2005). *Musical communication*.  
725 Oxford University Press.

- 726 Mithen, S. (2005). *The singing Neanderthals: The origins of music, language, mind and body.*  
727 Weidenfeld and Nicholson.
- 728 Miranda, D., Gaudreau, P., Debrosse, R., Morizot, J., & Kirmayer, L. J. (2012). Music listening  
729 and mental health: Variations on internalizing psychopathology. In R. MacDonald, G.  
730 Kreutz, and L. Mitchell (Eds.), *Music, health, and wellbeing* (pp. 513–529). Oxford,  
731 UK: Oxford University Press.
- 732 Moisala, P., & Diamond, B. (Eds.). (2000). *Music and gender.* University of Illinois Press.
- 733 Nattiez, J. -J. (1990). *Music and discourse: Toward a semiology of music.* (C. Abbate, Trans.).  
734 Princeton University Press.
- 735 Nelson, W., & McMurtry, L. (2003). *The facts of life: And other dirty jokes.* Random House  
736 Digital. ISBN 9780375758607
- 737 Nettl, B. (1983). *The study of ethnomusicology: Twenty-nine issues and concepts.* University  
738 of Illinois Press.
- 739 Nettl, B., & Russell, M. (Eds.). (2008). *In the course of performance: Studies in the world of*  
740 *musical improvisation.* University of Chicago Press.
- 741 North, A. C., & Hargreaves, D. J (2008). *The social and applied psychology of music.* Oxford  
742 University Press
- 743 North, A. C., Hargreaves, D.J., & McKendrick. J. (1997). The influence of in-store music on  
744 wine selections. *Nature*, 390, 132.
- 745 Patel, A. D. (2008). *Music, language and the brain.* Oxford University Press.
- 746 Pettan, S., & Titon, J. T. (2016). *The Oxford handbook of applied ethnomusicology.* Oxford  
747 University Press.
- 748 Pinker, S. (2007). *The language instinct.* Harper Perennial Modern Classics.
- 749 Pothulaki, M., MacDonald, R. A. R., & Flowers, P. (2012). An interpretative  
750 phenomenological analysis of an improvisational music therapy program for cancer  
751 patients. *Journal of Music Therapy*, 49(1), 45-67.
- 752 Racy, A. J. (2003). *Making music in the Arab world: The culture and artistry of Tarab.*  
753 Cambridge University Press.
- 754 Richards, F. (2017). *The soundscapes of Australia: Music, place and spirituality.* Routledge.
- 755 Roseman, M. (1991). *Healing sounds from the Malaysian rainforest: Temiar music and*  
756 *medicine.* University of California Press.
- 757 Rouget, G. (1985). *Music and trance: A theory of the relations between music and*  
758 *possession.* University of Chicago Press.
- 759 Rousseau, J.-J. (1998). *Essay on the origin of languages and writings related to music.* (J. T.  
760 Scott, Trans.) University Press of New England.
- 761 Schäfer, K., & Eerola, T. (2020). How listening to music and engagement with other media  
762 provide a sense of belonging: An exploratory study of social surrogacy. *Psychology of*  
763 *Music*, 48(2) 232-251.
- 764 Shelemay, K. K. (1998). *Let jasmine rain down: Song and remembrance among Syrian Jews.*  
765 University of Chicago Press.
- 766 Slobin, M. (1993). *Subcultural sounds: Micromusics of the west.* Wesleyan University Press.

767 Slobin, M. (2003). The destiny of “diaspora” in ethnomusicology. In M. Clayton, T. Herbert,  
768 & R. Middleton (Eds.), *The cultural study of music: A critical introduction* (pp. 284-  
769 296). Routledge.

770 Steinbeis, N., & Koelsch, S. (2008). Understanding the intentions behind manmade products  
771 elicits neural activity in areas dedicated to mental state attribution. *Cerebral Cortex*,  
772 19(3), 619-623.

773 Stokes, M. (1994). *Ethnicity, identity and music: The musical construction of place*. Berg  
774 Publishers.

775 Sugarman, J. C. (1997). *Engendering song: Singing and subjectivity at Prespa Albanian*  
776 *weddings*. University of Chicago Press.

777 Tarrant, M., North, A., & Hargreaves, D. (2002). Youth identity and music. In R. A. R  
778 MacDonald, D. Miell, & D. J. Hargreaves, (Eds.), *Musical identities* (pp. 134-150).  
779 Oxford University Press.

780 Toner, P. (2007). Sing a country of mind: The articulation of place in Dhalwanga song. In F.  
781 Richards (Ed.), *The soundscapes of Australia: Music, place and spirituality* (pp. 165-  
782 185). Routledge.

783 Trevarthen, C. (2002). Origins of musical identity: evidence from infancy for musical social  
784 awareness. in R. A. R. MacDonald, D. J. Hargreaves, and D. E. Miell, D. E. (eds.),  
785 *Musical identities*, pp. 21-38. Oxford: Oxford University Press.

786 Turino, T. (1993). *Moving away from silence: Music of the Peruvian Altiplano and the*  
787 *experience of urban migration*. University of Chicago Press.

788 Turino, T. (2008). *Music as social life: The politics of participation*. Chicago University Press.

789 Turner, J. C., & Reynolds, K. J. (2010). The story of social identity. In T. Postmes, & N. R.  
790 Branscombe, (Eds.). *Rediscovering social identity* (pp. 13-32). Psychological Press.

791 Wallin, N. L., Merker, B., & Brown, S. (Eds.). (2000). *The origins of music*. The MIT Press.

792 Windsor, L. W. (2019). Music in detention and interrogation: The musical ecology of fear. In  
793 M. Grimshaw-Aagaard, M. Walther-Hansen, & M. Knakkegaard (Eds.), *The Oxford*  
794 *handbook of sound and imagination* (Vol. 2, pp. 281-300). Oxford University Press.

795 Wise, K. J., & Sloboda. J. A. (2008). Establishing an empirical profile of self-defined “tone  
796 deafness”: Perception, singing performance and self-assessment. *Musicae Scientiae*,  
797 12(1), 3-26.

798 Zillman, D. & Gan, S. (1997) Musical taste in adolescence. In D.J. Hargreaves and A.C. North  
799 Eds. (pp. 161-188) *The Social Psychology of Music*. London: Oxford University Press.

800