MUSIC MAKES THE PEOPLE COME TOGETHER:

**SOCIAL FUNCTIONS OF MUSIC LISTENING FOR YOUNG PEOPLE
ACROSS CULTURES**

By

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ABSTRACT

Music is important in most people's lives independent of their cultural origin. Music can foster bonds between people and communicate values and identity. This thesis examined the social psychological functions of music across cultures. It investigated two social functions in detail: music preferences as expressions of personal and cultural values, and the social bonding function of shared music preferences. Furthermore, this thesis explored how these social functions relate to personal and cultural functions of music. This broader perspective offered an integration of the social functions into a holistic topography of musical functions. Six cross-cultural studies were conducted with the overarching objective to advance research on social functions of music preferences in cross-cultural contexts.

Studies 1 and 2 explored the associations between music preferences and personal and cultural values drawing on Attitude-Function Theory and Expectancy-Value Theory. Study 1 revealed that preferences for global music styles (such as Rock, Pop and Classical music) were consistently associated with personal value orientations across four cultures and across two value measurements. Study 2 explored the tendency of societies to appreciate global music styles in association with their cultural values. Findings of a multicultural study and a meta-analysis confirmed that cultural values were related to societal music appreciation. Studies 1 and 2 advance our understanding of people's musical choices based on personal and cultural values.

Studies 3 and 4 tested a novel model illuminating social bonding through shared music preferences. The model proposes that the value-expressive function of music preferences plays a crucial role in musical social bonding. Two studies supported the model empirically. A dyadic study among roommates in Hong Kong (Study 3) demonstrated that roommates who shared music preferences had similar value orientations, which contributed to perceived similarity between roommates leading to interpersonal attraction. The social perception experiment (Study 4) among German Metal and Hip-hop fans showed that shared music preference with a musical ingroup member was a robust vehicle for social bonding. In both studies, musical social bonding was facilitated by value similarity.

Studies 5 and 6 offered holistic psychological investigations situating and relating individual, social, and cultural functions of music as perceived and used by culturally diverse samples. While the multicultural qualitative Study 5 identified a

variety of personal, social and cultural functions of music, the quantitative Study 6 aimed to measure a selected number of these functions. Both studies revealed that the social bonding function of music was closely related to the value-expressive function. The social bonding function represented the centre of a holistic topography of musical functions. Its importance was independent of cultural background and socio-demographic variables in the present samples indicating universal characteristics.

The findings of this thesis contribute novel perspectives to contemporary music reception research as well as cross-cultural psychology. Using an explicit cultural-comparative approach beyond previous mono-cultural social psychological research on music it advances our understanding of music in a global context. It revealed that people use music similarly across cultures for expressing values, for social bonding and for multiple other functions. This thesis underscores that music is a powerful prosocial resource.

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Finally, I would like to thank my family who provided the actual inspiration for my research on music. Thanks to my dad who made my life musical from the day I was born. Thanks to my mum whose optimism and positive approach to life inspires and guides me. Thanks to my grandmas (and grandpas who are not with us anymore) for their love and open ears and for cooking my favourite food whenever I am around (this is the best German food one can imagine). Thanks to my brother Andi, his wife Cora and their wonderful children Amanda, Emilia and Victor. Your warmth, craziness (in a good sense) and openness teach me what is important in life.

Now, I would like to express the greatest gratitude to Katja. Thank you so much for being part of my life. It was the music that brought us together. Without you I wouldn't be where I am today – not emotionally, spiritually, geographically, nor academically. Ich liebe Dich!

And on the very last note I would like to thank Madonna, who's song 'Music' inspired the title of this thesis.

I would like to dedicate this thesis to my brother Andi.
When I was 4 or 5 years old I realised that you are the coolest brother in the whole world. This hasn't changed a bit. You inspire my development by providing musical and intellectual inspiration. Thank you!

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CHAPTER ONE

Introduction

"Music in the soul can be heard by the universe" (Lao Tzu, philosopher, 6th century BC).

"Music produces a kind of pleasure which human nature cannot do without" (Confucius, philosopher, 551 BC – 479 BC).

"Where words fail, music speaks" (Andersen, poet, 1805 – 1875).

"If I were not a physicist, I would probably be a musician. I often think in music. I live my daydreams in music. I see my life in terms of music. ... I get most joy in life out of music" (Einstein, physicist, 1879 – 1955).

"Music is thus the cultural form best able both to cross borders – sounds carry across fences and walls and oceans, across classes, races and nations – and to define places; in clubs, scenes, and raves, listening on headphones, radio and in the concert hall, we are only where the music takes us" (Frith, 1996a, p. 125).

Music is a global phenomenon. How music is able to cross borders all around the world has been sadly but persuasively demonstrated by the recent and sudden death of Michael Jackson, The King of Pop. TIME magazine reported "street tributes [to Michael Jackson] went up from Paris to Karachi, from Moscow to Mexico City. A candlelight vigil was held in Beijing. In Japan the Defense Minister eulogized him" (Cloud, 2009, p. 10). It was his music that touched listeners around the globe; that fused multiethnic music and audiences. As a musician, he provided millions with an idol who inspires; someone to look up to despite his personal weaknesses. The 'globalness' of music pertains to many music styles as we will see later in this thesis. The current thesis examines the role of music preferences in people's social lives in different cultural settings. First, I briefly discuss the relevance of music for human evolution before introducing functions of music investigated in psychology.

ON THE RELEVANCE OF MUSIC

Music plays a significant role in most people's lives independent of their cultural origin. The quotes above show that philosophers such as Confucius, poets such as Andersen, and researchers in diverse fields regard music as essential for humankind (see also Deutsch, 1999; Merriam, 1964; Seashore, 1938). The evolutionary

psychologist Cross (2001) highlighted the importance of music for human evolution and life:

> "One thing we know for certain is that music leaves few traces - except in the minds of those who are engaged with it. It is likely that the traces that it left in our ancestors' minds still resonate in our contemporary, everyday world, in the agility of our thought and in the complexity of our social interactions. Without music, it could be that we would never have become human" (Cross, 2001, p. 101).

By exploring the reasons why evolution endowed us with the capacity of musicality, Cross (2001) concluded "it could be that the emergence of proto-musical behaviour and their cultural actualisation as music were crucial in precipitating the emergence of the cognitive and social flexibility that marks the appearance of Homo sapiens sapiens" (Cross, 2001, p. 100). This supports two generic functionalities of music in the development of human cognitive complexity and social interactions. First, social interaction in musical behaviour guarantees almost certainly successful interactions by creating conditions for minimal conflict through semantic openness (Cross, 1999). Simultaneously, music enables the joint sense of shared action (Cross, 1999). Tomasello and colleagues (Tomasello, Carpenter, Call, Behne, & Moll, 2005) suggested that this capacity to share intentionality underwrites the human capacity for culture. This argument suggests a tight relationship between music and culture.

Hence, it is not surprising that all human cultures show evidence of musical behaviours (Brown, Merker, Wallin, & 2001; Merriam, 1964). The role of music across societies is very similar, for instance, lullabies are sung, dance and festivals are celebrated, personal and group identities are communicated, it delivers pleasure around the world, and many religious practises cannot be imagined without music (e.g., Gregory, 1997; Merriam, 1964). Summing up, music is so important in so many cultures that it seems to be more than an evolutionary by-product (Cross, 2001) or an "auditory cheesecake" (Pinker, 1997). Music is essential to humankind (Brown, Merker, Wallin, & 2001).

The preceding paragraph emphasises the social significance of music for individuals across cultures. The current thesis calls attention to an almost neglected field of research: the social psychology of music in a cross-cultural perspective. In the following section, I develop the frame of this thesis by pointing out gaps concerning social psychological research on music. I outline six studies encompassing novel cross-cultural approaches to the social functions of music preferences.

MUSIC IN PSYCHOLOGY

Music psychology is as old as the field of psychology. Before musical experiments started in Europe (Fechner, 1876; Helmholz, 1863; Wundt, 1874; cited in Rösing & Bruhn, 2002; Thaut, 2009) and in the USA (Downey, 1897; Gilman, 1892/93 cited in Rösing & Bruhn, 2002; Thaut, 2009), the roots of music psychology trace back, for instance, to the ancient Greeks Pythagoras, Aristotle, and Herophicos, and to European philosophers such as Descartes' and Locke's theorising about musical affect and cognition (Dean & Bailes, 2007; Rösing & Bruhn, 2002). Currently, music psychology receives growing recognition (e.g., Hallam, Cross, & Thaut, 2009; North & Hargreaves, 2008), covering a range of topics according to the wide array of psychological musical functioning. Music psychology covers two broad areas: a) research on musical performance (i.e., music making), and b) research on musical reception (i.e., music listening). The current thesis focuses on music reception, although a strict distinction between performing and listening is not always possible. For instance, in many cultures there is no division between musician and audience in traditional rituals. Furthermore, various modern musical entertainments include both performing and listening, such as Karaoke or the video game ROCK BAND. Additionally - and most importantly - musicians also listen to music, either for pleasure or for professional purposes.

This thesis' focus on music listening is instigated by the fact that people from all cultures like to listen to music regardless of their participation in musical performance (Hallam et al., 2009; North & Hargreaves, 2008). Considering that music listening is an activity that is enjoyed universally, it is of great interest whether music listening also serves similar functions across cultures. Musical functions are central for the understanding of how music works in general and why we listen to music in particular. Research examined the functions of music for decades (e.g., Clayton, 2009; Hargreaves & North, 1999; Merriam, 1964; Seashore, 1938). The functional approach is particularly useful for cross-cultural research on music since it allows a systematic analysis of general processes involved in the phenomenon at hand - music listening.

Music listening and its functions

What do we know about the functions of music listening? In short, Hargreaves and North (1999b) summarized that psychological functions of music consist of three broad domains, namely cognitive, emotional, and social functions. Research in the

cognitive domain investigates how music is perceived and memorized. Furthermore, music listening can affect cognitive performance and can trigger autobiographical memory. Research in the emotional domain examines how music carries, affects and expresses emotions. While the first two domains refer to personal functions of music, a further domain encompasses interpersonal and social facets of musical functioning. Hargreaves and North (1999b) distinguished two facets of social functions: a) music can provide support for identity and value construction and expression, and b) music can foster interpersonal relationships. Ethnomusicologists and sociologists add a further component to personal and social musical functions: the cultural or societal functions of music (Frith, 1996a; Merriam, 1964). For instance, music creates a collective identity and expresses cultural values (Frith, 1996a). Furthermore, music helps to transmit cultural components such as norms and rituals from one generation to the next (Fox, 2009; Merriam, 1964). These are only a few examples of musical functions. Chapter Four provides a more detailed description of functions of music.

Whilst there are many functions of music listening, psychological research on music reception is biased towards cognitive and emotional components. A content analysis of published articles in the journal *Psychology of Music*[1] revealed the following publication patterns. Overall, 196 articles were published between 1999 and 2008 excluding book reviews and editorials. Of these, 127 articles investigated musical performance (67%), 80 articles examined topics related to music reception (41%), including four manuscripts (2%) that discussed musical behaviour in general (categories not mutually exclusive). The dominance of topics related to musical performance is not surprising considering that the majority of music psychological research originates in musicological departments (e.g., Thaut, 2009).

A further examination of 80 articles related to music reception showed that 54% (43 articles) investigated cognitive domains of musical functions, 43% (34 articles) examined emotional functions, and 29% (23 articles) were concerned with social functions of music. The latter 23 articles dealt with music as an expression of identity or personality (20 articles) and music in fostering social interaction or bonding (16

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[1] The journal *Psychology of Music* was chosen as it represents the field in its diversity. Other journals such as *Music Perception* focus – although not exclusively - on a more specialized domain of musical functioning. Mainstream psychological journals proved unsuitable for the current analysis considering that music psychology is largely underrepresented. For instance, only four articles published in the *Annual Review of Psychology* between 1950 and 2008 had the word music in their title. Similarly, the *Psychological Bulletin* published 73 articles between 1914 and 2008 containing the keyword 'music' – however, only four of these were published after 1953.

articles). Of the 23 articles, only 11 focused solely on the social functions of music, while the other 12 articles investigated social functions in conjunction with emotional or cognitive functions of music. The immanent focus on internal processes and individual differences in musical functioning in the cognitive and emotional domains may be due to researchers' cultural background. More precisely, the majority of research has been conducted in Western societies, which tend to be more individualistic (Hofstede, 1980, 2001). Individualistic cultures emphasise the independence of individuals, their self-determination, and autonomy from groups (for more details see below and Chapter Two). Hence, social factors may be underrepresented due to the cultural salience of the individual as an independent entity.

Music is a cultural product; however, only 15% (12 articles) of 80 articles related to music reception explicitly included culture as a concept in their investigation or interpretation. Interestingly, eight of these articles examined the social functions of music. This highlights the importance of culture for the social functioning of music. Moreover, Hargreaves and North (1999b) suggested, "the direct social functions of music may be even more pronounced in non-Western than in Western cultures" (p. 77). This suggestion is intriguing, however, it lacks empirical evidence.

Of the articles that included culture as a concept, just one investigated cross-cultural differences in the social functions of music (Tarrant, North, & Hargreaves, 2000). Furthermore, one article examined intercultural relations through music (Sousa, Neto, & Mullet, 2005), two articles discussed culture specifics in social functions of music (Szubertowska, 2005; North & Hargreaves, 2007c), and three articles dealt with universals in musical behaviour (Cross, 2001; Tolbert, 2001; Walker, 2004).

At this point, we can draw two conclusions. First, the social psychological functions of music are under-researched within the field of music psychology. Despite a growing interest in the field, it remains a niche topic within mainstream social psychology. A keyword search of published articles in the *Journal of Personality and Social Psychology* confirms the latter point: only 21 articles published between 1965 and 2008 used 'music' as a keyword, while six articles of those were only marginally related to musical functions.

The second conclusion targets the paucity of cross-cultural perspectives in music psychology. The *Journal of Cross-Cultural Psychology*, as the most important outlet in cross-cultural psychology, published only three articles related to music between 1967 and 2008. While culture seems an important component in the social

functioning of music, there is very little empirical psychological research on this topic. The current thesis sets out to explore 'culture' within the social psychology of music preferences.

What can music offer to cross-cultural psychology?

The study of music as a personal, social and cultural phenomenon holds great potential for cross-cultural research. For instance, its study can provide new insight into the construction of personal, social and cultural identities through music in various cultures, or find evidence for the supporting role music plays in social bonding within and across cultures. Music is possibly the best reflection of today's diversity, multi-culturalism and globalisation without necessarily reducing cultural richness. This way music connects people across cultural boundaries, promotes intercultural understanding and contemporary remarks in a peaceful mode (cf. Mark Johnson and Jonathan Wall's documentary "Playing for Change: Peace Through Music", 2008). Hence, there is a great need for filling substantial gaps in research. With the current thesis I hope to spark interest for future culture-comparative research and to contribute to the development of an exciting and relevant new area of psychological inquiry: the cross-cultural psychology of music.

What can cross-cultural psychology offer to music?

Cross-cultural psychology and its methodologies provide fertile ground for an inquiry on musical functioning. Cross-cultural psychology concerns the systematic study of behaviour and experience as it occurs in different cultures and how these are influenced by culture and result in changes in existing cultures (Triandis, 1995). The current thesis explores the social psychological functions of music through the application of methods developed for cross-cultural comparative research. This includes systematic sampling of cultures and appropriate analytical strategies that reduce biases and possible misinterpretations of cross-cultural similarities and differences in musical functions. In this regard I would like to underline the importance of appropriate methodology, given that comparability of constructs and instruments is a major issue in cross-cultural research (Fontaine, 2005; van de Vijver & Leung, 1997).

RESEARCH OBJECTIVE AND SAMPLING

Aim of the thesis

The overarching objective of the present thesis is to advance research on the social functions of music preferences in cross-cultural contexts. It investigates two social functions of music across cultures: music preferences as expressions of personal and cultural values, and the social bonding function of shared music preferences (see Figure 1). Furthermore, this thesis explores how these social functions relate to personal and cultural functions of music. This broader perspective offers an integration of the two social functions into the overall picture of musical functions (see Figure 1).

The social functions of music encompass two facets: 1) support in self-concept expression, and 2) fostering social relationships. The present thesis explores both facets in detail and in relation to broader functions of music while examining cross-cultural similarities and differences.

I explore the first facet, the function of music related to the self-concept, as an expression of values (cf. North & Hargreaves, 1999). Values provide an excellent construct for examining identity or self-concept related functions of music for two reasons. First, values are important components in personal self-concepts as they are guiding principles for individuals' evaluations, attitudes and behaviours (e.g., Katz, 1960; North & Hargreaves, 1999; Schwartz, 1992). Second, values are integral facets of cultures (Hofstede, 1980; Inglehart, 1997; Schwartz, 2004). Previous accounts have suggested that music preference is an expression of the self-concept (e.g., Frith, 1981; North & Hargreaves, 1999; Rentfrow & Gosling, 2003) and a symbol of cultural identity (e.g., Merriam, 1964; Whiteley, Bennett, & Hawkins, 2004). Thus, the conceptualisation of values enables an investigation of the identity function of music at the personal and cultural level.

The second social function is that music supports social relationships (Hargreaves & North, 1999). Not much is known about the processes underlying social bonding through music. I argue that social bonding is supported by the value-expressive function of music, because previous research suggested that values (and value similarity) are crucial in interpersonal and intergroup relations. I propose a model that underlines the complementary functioning of value-expression in music preferences and social bonding through shared music preferences. Music can create bonds between individual persons and also between groups (e.g., Selfhout, Branje, ter Bogt, & Meeus, 2009; Tarrant, North, & Hargreaves, 2001). Hence, I develop the

model based on two levels which distinguish between processes underlying musical bonding in interpersonal and intergroup relationships.

Finally, the social functions of music are investigated from a more general and holistic perspective. Are social functions of music important and relevant to people? How do the social functions relate to personal (e.g., emotional) and cultural functions of music? Notwithstanding the importance of examining social functions separately and their underlying processes in detail, their associations with other musical functions provide intriguing insights into the complex mechanisms of musical functioning. For instance, Juslin (2005) bridged the emotional and social functions of music by discussing the communicative component of emotions in music. Juslin concluded that "most previous research on expression, perception, and induction of emotion has neglected the social context of musical emotions, including everything from the situation in which the musical activity takes place to the wider socio-cultural context" (Juslin, 2005, p. 106). To the best of my knowledge, no research to date has examined the net of relationships of a holistic set of psychological functions of music across cultures. Hence, this thesis aims to explore the social functions of music and its cross-cultural similarities and differences within to wider net of musical functions.

Sampling of cultures

It is preferable in cross-cultural research to sample participants from more than two cultures which vary systematically in cultural dimensions, such as values, beliefs, or self-construal, in line with the respective research question (van de Vijver & Leung, 1997). Therefore, I sampled participants from various culturally distinct societies, focusing on societies that differed primarily in the cultural dimension of Individualism-Collectivism. Within the last two decades of cross-cultural research, Individualism-Collectivism has been the most popular cultural dimension for the psychological investigation of culture (e.g., Brewer & Chen, 2007; Hofstede, 1980, 2001; Markus & Kitayama, 1991; Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1995). Individualistic cultures value personal autonomy; the individual strives towards personal goals and is perceived as an independent, self-reliant being (Hofstede, 1980, 2001; Kim, Triandis, Kâgitçibasi, Choi, & Yoon, 1994; Markus & Kitayama, 1991). Collectivistic cultures value social embeddedness; the individuals prioritise group goals over personal goals. The collectivist self is interdependent and inseparable from the

collective, such as family, friends, or other social groups (Hofstede, 1980, 2001; Kim et al., 1994; Markus & Kitayama, 1991).

I focused the sampling on the Individualism-Collectivism dimension as an active ingredient of cultural variability for two reasons. First, as I have noted earlier, previous psychological research has predominantly focused on individualistic perspectives of musical experiences whilst neglecting collective aspects, which might be confounded by the individualistic background of many researchers in the field. Second, I aim to examine whether individuals from different cultural ends of this dimension experience and use music differently. Hence, I sampled participants from various collectivistic (East and South East Asian, South American) as well as more individualistic (West-European, English-speaking) societies in the studies. Additionally, other cultural dimensions such as Hofstede's (1980) Power Distance, and Schwartz' (2003) Autonomy vs. Embeddedness, and Mastery vs. Harmony were considered in order to enhance the cultural diversity of samples and to expand the cross-cultural validity of findings (see Chapter Two; Figures 3 and 4, pp. 69-70).

Target population

Cross-cultural research demands that samples are similar in demographic background variables. Otherwise the data may be subject to sampling bias, leading to incomparability (van de Vijver & Leung, 1997). Most samples in this thesis were collected through two strategies: a) at universities and b) using internet samples. University students provide a convenient sampling approach, which also ensures high levels of comparability considering that students share similar socio-cultural background, age and gender distribution (particularly in certain subjects, such as engineering or psychology) across cultures (Bond, 1988).

Second, the use of the internet for data collection has become very common recently (Birnbaum, 2004; Reips, 2000, 2006). Despite some disadvantages (such as the possibility of multiple participation; see Birnbaum, 2004 for details), online data collection seems to provide similar results compared to university samples while ensuring more diversity in the socio-demographic composition of the samples (e.g., Birnbaum, 2004; Gosling, Vazire, Srivastava, & John, 2004; Reips, 2000; Skitka & Sargis, 2005). Furthermore, online data collection enables researchers to control (to a certain extent) the demographic composition of participants across cultures by selecting comparable websites for inviting study participants. Both populations, university

students and internet users, can feature high levels of comparability across cultures, while ensuring some degree of sample diversity.

Previous research on music preferences also focused on young samples. This is because music is considered the most popular leisure time activity of adolescents and young adults (Hargreaves & North, 1997; North & Hargreaves, 2008). Hence, the target population of this thesis allows drawing on previous research on functions of music.

Nevertheless, the selection of these populations limits the applicability and generalisability of the findings to urban, educated young populations. In order to overcome this limitation, one sample (Study 5b) consisted of participants from the general population providing some validation for findings in Study 5a. However, future research is required to extend the findings to further populations and cultures.

OUTLINE OF THE THESIS

The current thesis consists of three main chapters (see Figure 1) and a final discussion. Each of these chapters comprises a theoretical introduction and two empirical studies. Chapter Two investigates the association between value orientations and music preferences in cross-cultural contexts. Psychological processes involved in the generic link between value orientations and music preferences are reviewed, and two multi-measurement studies are presented. Two studies explore whether music preferences relate to personal values (self-concept) and whether music might serve as a symbol of cultural values. Study 1 provides an insight into the association of personal values and individuals' music preferences in four culturally diverse societies (Brazil, Philippines, New Zealand, and Germany). Study 2 examines societal appreciation for global music styles as an expression of cultural values using a large-scale multicultural study and a meta-analysis. The cross-cultural examination of the value-expressive function of music provides empirical evidence for an important component of social bonding which is explored in the next chapter.

Chapter Three examines the social bonding function of music in more detail. I develop a model that links the value-expressive function of music with the social bonding function. It is argued that a shared taste in music provides an indicator for value similarity. The model proposes that social bonding through shared music preferences is underpinned by the value-expressive function of music. Study 3 and Study 4 test the proposed model in an Asian sample and a Western-European sample. While Study 3 is an interpersonal field study conducted on roommate dyads, Study 4 is

an experiment that directly manipulates the key variable "shared music preference". While Chapter Three integrates the two social functions of music, the next chapter offers a more holistic perspective on social functions within the wider net of musical functions.

Chapter Four expands the focus to a broader perspective on the functions of music listening across cultures. This broader focus allows an integration of the previously examined social functions into the overall picture of musical functions. In a multicultural qualitative study (Study 5) and a cross-cultural quantitative study (Study 6), I examine the importance of personal, social and cultural functions of music and the structure of these musical functions in general, as well as the position and the interrelations of the social functions in particular. Chapter Four advances research through a culturally decentred investigation of functions of music and the development of an instrument measuring multiple functions of music. This enables the first cross-cultural study on the comparability and structure of multiple functions of music in culturally diverse samples.

The thesis closes with a discussion providing an integration of the conducted studies, an evaluation of contributions and limitations of the thesis and prospects for future research (Chapter Five). The value of a cross-cultural psychology of music and its potential developments are discussed.
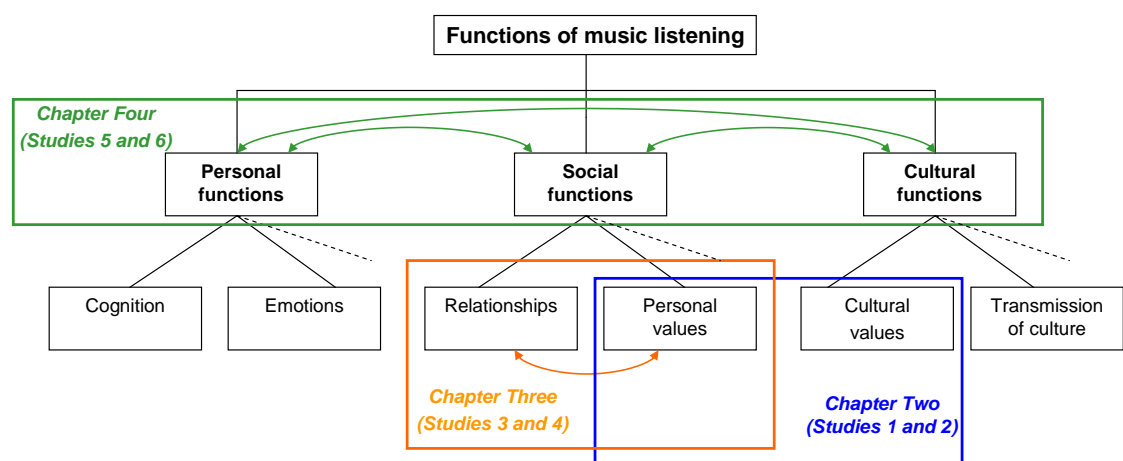
Figure 1. Overview of studies

CHAPTER TWO

Preferences for global music styles:
A cross-cultural badge of values [2]

Music embodies social norms and cultural values (e.g., Merriam, 1964; Whiteley, Bennett, & Hawkins, 2004). At the same time music preferences express personal value orientations of individual listeners (Boer, 2004; Frith, 1981; Pimentel, 2004; Rentfrow & Gosling, 2006; Strack & Boer, 2006). These two lines of research associate value orientations with music preferences at the individual and at the cultural level. The current chapter is the first to investigate both perspectives by looking at a) individuals' music preferences across cultures and b) societal appreciation for music in an ecological analysis.

Previous research has not directly compared music preferences across cultures. One reason could be based on the culture relativistic claim that music styles from different cultures are incomparable (Nercessian, 2000). The strict relativistic perspective on musical styles neglects that progressing globalisation blurs the boundaries of culture specifics and transposes musical forms with multicultural musical influences. At the present time, many music styles can be considered as global phenomena: Hip-hop, Jazz or Rock music vibrates from radios around the world (Mitchell, 1996). However, it is not just Western music circling the world in the search for global popularity; there are fans of Bollywood, J-Pop, Samba and others all around the world (Ganti, 2004; Ng, 2008; Vianna, 1999). The current chapter focuses on global music styles that are known and appreciated around the world. Global music styles provide a basis for cross-cultural comparison. The value associations of global music styles are assessed in cross-cultural contexts.

Section 1 introduces the theoretical foundation of music preferences, personal and cultural values. I elaborate on psychological processes involved in the generic link between value orientations and music preferences. I develop an integrated framework for value-expressive music preferences drawing on Attitude Function Theory (e.g., Katz, 1960; for recent application see Julka & Marsh, 2005), Expectancy Value Theory (e.g., Fishbein & Ajzen, 1975; for recent development see Ajzen & Fishbein, 2008) and

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[2] The presented Filipino data are part of a manuscript submitted for publication (Boer, Fischer, & Mendoza, under review).

the uses and gratification approach to media use (Blumler & Katz, 1974; for a recent review see Rubin, 2009).

In section 2 and 3, I present two multi-measurement studies that test the link between value orientations and music preferences empirically. At the individual level, Study 1 extends previous research on the connection between music and values (Boer, 2004; Rentfrow & Gosling, 2003) in a cross-cultural context. The objective of Study 1 is to find out whether value orientations are consistently associated with global music preferences across cultures. Samples from four culturally distinct societies (Brazil, Philippines, New Zealand, and Germany) are included. These four cultures provide a broad representation of musical heritage, with each of the four cultures possessing a unique musical tradition. Furthermore, these four cultures were selected as they vary along important cultural value dimensions such as Individualism vs. Collectivism, with Brazil and the Philippines suggested to be more collectivistic, and New Zealand and Germany being more individualistic (Hofstede, 2001).

Study 2 draws on the agreement among sociologists and ethnomusicologists that music is a channel representing cultural values (e.g., Frith, 1981; Merriam, 1964; Rosengren, 1994; Whiteley, Bennett, & Hawkins, 2004). This study explores the tendency of societies to appreciate certain music styles which are associated with cultural values.

Societal music preferences were collected in a multi-cultural study that sampled nine societies. These nine societies represent a balanced sample of Western and non-Western, collectivistic and individualistic, and Harmony and Mastery oriented cultures. Furthermore, a meta-analysis was conducted to gather music preference scores of samples from the nine societies. An ecological analysis[3] will reveal whether societal music preferences are associated with societal values. The meta-analysis and the multicultural study provide a multi-method assessment of the research question. A multi-measurement component is added to Study 2 through drawing on two concepts of cultural value assessment, namely, Hofstede's (2001) cultural dimensions and Schwartz' (2003) cultural values.

The current chapter makes three contributions to the research on music reception. First, it will advance our understanding of people's musical choices based on

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[3] An ecological analysis uses aggregated data of groups of individuals (Steel, Tranmer, & Holt, 2005). In Study 2 data of individuals is aggregated to the societal level, which means that each society receives scores of music preferences and values. This allows the aggregated analysis of societal indicators.

personal and cultural values. Second, investigating individual and cultural levels bridges ethnomusicological and music-psychological perspectives through shedding light on two distinct processes that underlie the link between values and music preferences. Third, multi-measurement and multi-method approaches are used which testify to the consistency and validity of findings (Brewer & Hunter, 2005).

The first section introduces the concepts of music preferences and values. I will propose a definition of music preferences, elaborate how they are operationalized in the current thesis, and I will review previous research on the structure of music preferences. Then personal and cultural value orientations are described and I will elucidate the distinction between personal and cultural values. Furthermore, the psychological link between music preferences and value orientations will be explored providing the basis for the hypotheses guiding the first two studies of this thesis.

MUSIC PREFERENCES

Definition and music styles

Definition

Music preference is the evaluation of certain music as favourable or unfavourable. Individuals' music preferences develop during adolescence (Tekman & Hortaçsu, 2002) and are regarded as relatively stable over time (Hargreaves & North, 1999a; Schulkind, Hennis, & Rubin, 1999; Tekman & Hortaçsu, 2002a). Like political preferences, music preferences are attitudes (Behne, 2002). According to attitude theories (Allport, 1935; Ajzen, 2001; Fishbein & Ajzen, 1972; Katz, 1960), musical attitudes consist of affective, cognitive, and conative components (Behne, 2002). However, the current conceptualization of musical attitudes refers to the evaluative component being a general positive or negative orientation towards music. Schäfer and Sedlmeier (in press) scrutinized evaluative and behavioural dimensions of music preferences. The evaluative facets received more agreement than the behavioural facets from German participants. However, evaluative and behavioural facets referred to one construct, namely music preference, revealed by a Principal Component Analysis (Schäfer & Sedlmeier, in press). Hence, music preference conceptualized as evaluation is useful for the current research.

Level of operationalization

Musical evaluations can be targeted towards songs, artists, bands, genres and styles, or sub-domains of styles (Hargreaves & North, 1999a; Rentfrow & Gosling, 2003). Music styles categorise songs, artists, bands and sub-styles into a cognitive

framework (Tekman & Hortaçsu, 2002a). Previous research has shown that it is not just the song itself that influences whether a song is liked, but also the music style of that song (Hargreaves & North, 1997; Hargreaves & North, 1999a)

In the current thesis, music preferences are operationalized as evaluations towards music styles. This approach has three major advantages for the current research. First, Rentfrow and Gosling (2003) argued that musical styles are the natural form in which music appears when people think and express their music preferences. Although this claim has only been validated in Western samples, there are two further advantages of musical styles as level of measurement. Second, a musical style is a more or less broad category encompassing a variety of songs and artists. Even if artists or songs vary in individuals' associations with a music style, the category is shared and provides common ground among individuals. The third advantage addresses the cross-cultural variability within a musical category. Individuals from different cultures are likely to associate different songs and artists with certain music styles. This may bear the risk of comparing apple and oranges when comparing music preferences across cultures. However, the current research focuses on the consistency of the cognitive framework of musical styles, and not on category content. Study 1 will be the first to investigate the structure of music preferences across cultures. If the cognitive framework of global music styles is structured according to systematic likes and dislikes across cultures as proposed below, it may show systematic value associations across cultures.

Global music styles

What are "global music styles"? The landscape of musical styles is increasingly diverse; it changes over time (North & Hargreaves, 2008) and encompasses music originating in a given culture or elsewhere. Global music styles are these that are known, appreciated and adopted within and outside their culture of origin. The following 25 music styles show some evidence that they may be global phenomena due to their apparent global popularity and dissemination: Bollywood, Classical music, College Punk, Country Music, Crossover, Dub, Emo, Folk, Gospel, Gothic, Hardcore, Hip-hop and Rap, Indie, Jazz and Blues, J-Pop, Metal, New Age, Pop, Punk, R'n'B, Reggae and Ska, Rock and Alternative, Samba, Techno and Electronica, and World Music. Table 1 provides a description of these music styles including their origins and examples of international dissemination. However, it remains to be examined whether

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these music styles actually are global phenomena. The paucity of contemporary cross-cultural approaches to music preferences leads to the *first research objective* of the current thesis. This is *the identification of music styles that are known in a variety of cultures including collectivistic and individualistic cultures*.

In Study 1, global music styles will be identified in four cultures based on three strategies: the consultation of a) contemporary music magazines, b) musicians, and c) local university students. The knowledge of identified music styles will be tested in samples from four cultures (Study 1).

Structure of music preferences

Previous research on the structure of music preferences found that certain music styles are complementary whereas others are incompatible. Furthermore, findings suggest that the structure of music preferences is systematic and similar across cultures. More precisely, Hakanen and Wells (1993) found a three-factorial structure underlying the music preferences of North American students. The three factors consist of Pop Dance, non-Pop, such as Classical and Jazz, and White Heavy Rock. Wells and Tokinoya (1998) assessed Japanese students' preferences for the same music styles. Their findings revealed a three-factorial structure that is congruent with the factor structure of North American students' music preferences (Hakanen & Wells, 1993). Wells and Tokinoya's (1998) study demonstrated that music preferences were similarly structured in North American and Japanese samples. This study also showed that the included music styles were known and appreciated in a non-Western culture. Further research on music preferences in North-American, Brazilian and Turkish samples revealed comparable structures (if factor intercorrelations are taken into account), as described below.

Rentfrow and Gosling (2003) found a four factor structure of musical preferences across diverse American samples and methods. Their four musical factors were labelled *Reflective and Complex* (Jazz, Classical), *Intense and Aggressive* (Rock, Metal), *Upbeat and Conventional* (Soundtrack, Pop), and *Energetic and Rhythmic* (Rap/Hip-Hop, Electronica/Dance). It is noteworthy, that *Upbeat and Conventional* and *Energetic and Rhythmic* factors were highly correlated ($r = 0.51$; Study 3), and Pop music had a double loading of 0.45 on the *Energetic and Rhythmic* factor (Study 2; Rentfrow & Gosling, 2003). Those two factors could potentially be interpreted as one factor as they seem strongly interrelated.

Furthermore, studies have investigated musical preferences in Brazilian and Turkish samples. In a recent study Gouveia, Pimentel, de Santana, Chaves, and Da Paraiba (2008) tested Rentfrow and Gosling's (2003) list of music styles in a Brazilian sample of undergraduate students. They revealed a similar structure as described above providing further evidence for cross-cultural similarity in the structure and appreciation of music styles. Moreover, Pimentel and colleagues (2004, 2005) found a four factorial solution of seven Brazilian and five International music styles. The four-factorial structure of music preferences in the Brazilian high school student sample was similar to Rentfrow and Gosling's (2003) factor structure. Two factors were also highly correlated ($r = 0.58$; *music of the masses*: rhythmic styles such as Forró and Funk; and *conventional music*: Pop, Religious). This repeatedly suggests that Pop and rhythmic music styles may share conceptual overlap. The study provides evidence for structural stability of music preferences even if culture specific and global music styles are included.

In a Turkish student sample, preferences for 16 musical styles were represented by a two-dimensional solution of a multidimensional scaling (MDS) approach (Tekman & Hortaçsu, 2002a). Three quadrants of the MDS solution are comparable with Hakanen and Wells (1993) factors, representing Jazz and Classical music, Metal and Rock, and Rap and Pop music.

In summary, previous research suggests that at least three factors of global music preferences could be distinguished across cultures. The *second research objective* of the current chapter is to assess the structural comparability of music preference for global music styles across four cultures (Study 1). Given the clustering of music styles in at least three factors (Hakanen & Wells, 1993), the following *structure hypothesis of global music preferences* is posited.

Structure hypothesis:

> *The structure of global music preferences is represented by the three factors:*
> *1) Rock music styles, 2) Pop and rhythmic music styles, and 3) Classic music styles*.

I will now introduce the concepts of personal and cultural values. These are key concepts leading to the studies at hand examining the link between music preferences and value orientations. This will be followed by a theoretical exploration of the link between music preferences and values.

Table 1

Description of potential global music styles, their cultural origin and examples for dissemination

Music style	Description and cultural origin*	Examples of global dissemination
Bollywood	Correct term: Filmi Music, more widely known as Bollywood. Song accompanied by dance choreography mainly displaying affection between a couple, featured in Bollywood movies and radio, but also in dance competitions Origin: India (Mumbai) Language: Hindi, and increasingly Indian English	- Popularity in Russia: many Bollywood movies are dubbed into Russian - Popular in West Europe: Bollypedia German Lexicon on Bollywood - Widely watched in South Asia
Classical music	Western Art music, known under the term Classical music from early 19th century; rooted in Western liturgical and secular music Epochs and Sub-Genre: Middle Ages, Renaissance, Baroque, Classics, Romanic, Modern, Avangarde, Minimalists; Opera incorporates spoken theatre in Classical music accompanied by orchestra or a smaller Classical ensemble Origin: Europe Languages: often without vocals; Opera as part of Western Classical music is sung in Italian, German, French, Russian, English and others	- initially Europe and other Western world - Western art music is taught in all parts of the world including South America, East and South East Asia - strong influence from Japan in modern and contemporary Classical music (e.g., Saburo Moroi)
College Punk	Originated from Punk, developed during the 1990s, songs are usually apolitical and concerned with the struggles to grow-up, links to college radio and the taste of college students, sometimes also referred to as college rock Origin: USA	-widely known in Europe and USA, sometimes also labelled as Fun Punk
Country music	Merging various folk forms and Gospel in 1920s; characterising instruments: Steel guitar, Fiddle, Mandolin Origin: South-western USA, roots in Indigenous folk (Appalachian), Gospel and Anglo-Celtic folk	- Mainly in English-speaking regions - Also very popular in the Philippines, Poland, Western Europe - Rock'n'Roll star Elvis Presley's was strongly influenced by Country music and continuously sang Country songs on his world tours
Crossover	Crossover originated in the 1940s referring to songs that were listed in two Charts, which were separate for each music genre (e.g. a song appearing in the Pop Charts and Jazz Charts). The contemporary meaning refers to the mix of funk, rap, rock, metal and punk elements. Characteristics of contemporary crossover: distorted guitar and spoken lyrics (sprechgesang) Origin: USA (strong African American and European influences)	- Anglo-Saxon region and Europe - bands like Red Hot Chilli Peppers and Rage Against The Machine, who introduced the style, are known globally - strong following in South East Asia e.g., in the Philippines
Dub	Evolved from Reggae as instrumental remixes emphasizing drum and bass elements adding echo and reverb effects Sub-genre: Dub poetry, Dubtronica, Dubstep Origin: Jamaica Language: initially without vocals, later English, French and others	- Caribbean and American regions - strong developments in New Zealand, Franco-Phone regions and Europe

Table 1 *cont.*

Music style	Description and cultural origin*	Examples of global dissemination
Emo	Originated in the mid 1980s Hardcore punk and Indie rock movement; also known as emotional core or Emocore; Emo is recently being used to describe related aspects of fashion, subculture, and behaviour. Subgenre: Screamo Origin: Washington, DC, USA	- recently gaining mainstream status in Anglo-Saxon and European region - Screamo as the heavier version of Emo is increasingly famous in South East Asia - Sub-culture status in Latin-America and Arab countries
Folk music	Term from Folklore, traditional music of folk people, has traditionally been associated with lower class music, often accompanied by folk dance, Most cultures have folk music, e.g., Indian Folk, Filipino Folk, European and American folk music roots in Celtic, Eastern European and Balkan traditional music Developments and revival: folk rock (Rock'n'roll mixed with traditional folk music), Folk metal often favours pagan inspired themes.	- culture-specific roots that are globally disseminated
Gospel	Christian music written and performed to praise and worship the God, Christ and the Holy Spirit, often performed by choir in churches; strong African American influences in melody and rhythm, often accompanied by Hammond organ Origin: USA	- receives particular attention in all Christian countries - also appreciated in more secular countries
Gothic	Dark melancholic subgenre of Metal; dark atmospheric music is accompanied by heavy guitar sound; traditional elements, such as local folk music are increasingly implemented; relatively high number of female musicians compared to other metal genres Origin: developed in Northern Europe during early 1990s	- strong following in Northern and Eastern Europe - small local scenes exchange their bands and experiences internationally
Hardcore	Originated in the early 1980s from punk rock, the sound is heavier and faster than punk, vocals are usually screamed, evolved as a music genre on its own in the 1990s. Songs are occasionally characterized by short, loud, and passionate statements about political topics and social issues; Origin: USA and UK in association with the straightedge movement in the 1970s	- popular in most European countries and Oceania - developments in Latin America and South East Asia - vivid Hardcore scene in Japan
Hip-hop & Rap	Originated in the 1970s in so-called "block parties" (public parties with members of a single neighbourhood) in the Bronx, when competitive DJs isolated beats and breaks and MCs (Master of Ceremony – rapper) started to speak over the beats, the rapping is rhythmically and in rhyme, hip hop music is a part of hip hop culture that consists of graffiti, scratching, and break dancing, musical roots are Funk, R'n'B, Soul, performance poetry, scat singing, talking blues Origin: New York, The Bronx, USA	- high worldwide popularity since the 1980s - subgenres are divided into regional scenes within the US (e.g., West Coast, East Coast), according to the development (e.g., old school hip hop, golden age hip hop), into derived styles (e.g., conscious hip hop, gangsta rap, rapcore) or into different world hip hop styles (e.g., Germany: Deutscher Rap, Tanzania: Bongo Flava, Greece: Low Bap)

Table 1 *cont.*

Music style	Description and cultural origin*	Examples of global dissemination
Indie	Short form for independent music, originally used to distinguish bands that were signed to a major record label and those that weren't, nowadays the label often refers to alternative rock bands that have a major deal (e.g. Coldplay) and the label "Indie" is disputed due to this, true "Indie" bands are for example Radiohead or Joy Divison, since they are not with a major label, usually this label is used to refer to alternative rock bands, but also to refer to for example metal bands that are not on a major deal Genres: Indie Pop, Indie Rock, Indie Folk	- this label is widely used for bands that gain popularity without being on a major record label - the internet is an increasingly popular medium to advertise independent recorded music globally, for instance over Myspace.com and Youtube.com - the Indie band Artic Monkeys gained worldwide popularity via the internet
Jazz & Blues	Jazz originated during the beginnings of the 20th century influenced by African and European musical traditions, musical origin is Blues, usual instruments are a brass section and a rhythm section, hard to define due to its constant advancement until now, generated many subgenres: for example, New Orleans Dixieland, big band-style swing, bebop, Latin-jazz fusions, jazz-rock fusion, acid jazz, space jazz Origin: New Orleans, Southern USA	- particularly appreciated in Anglo-Saxon, African and European regions - Latin-Jazz fusions are popular around the world, including Japan and South East Asia
J-Pop	Abbreviation for Japanese Pop Rooted in Japanese Rock inspired by Beatles, received its name in 1990s, now strong electronic elements; accompanies Animes (animated movies) Subgenre: Japanese Hip-hop, J-Rock Origin: Japan, influenced by Rock, Pop, Trance Language: Japanese	- Mainly in Japan, the Japanese music market is the second largest in the world (US being the largest), - Growing popularity in East Asia, South Asia and South East Asia, Europe, - Chage and Aska were the first Asian band to play at MTV Unplugged (US)
Metal	Short term for heavy metal, formed in the 1960s, usually referred to as guitar-driven music, originated from blues-rock and rock in general, characterized by high distorted guitar sounds, long guitar solos, heavy drumming, and overall intensity, lyrics and performance styles are commonly linked to masculinity and machismo Many subgenres emerged such as Metalcore, progressive Metal, Black metal, Trash metal, Speed metal, Death metal Origin: UK, USA	- worldwide popularity and local scenes - strong developments in Northern, Central and Eastern Europe - Power metal is particularly appreciated in Latin America, Europe and Japan
New Age	Developed with the New Age social and spiritual movement in late 1960s Europe; electronic and acoustic version of New Age developed simultaneously, musicians intend to evoke positive feelings and enhance relaxation; hence characterized by modal and consonant rhythm and repetitive melodies; primarily instrumental Developments: fusion with world music	- worldwide mainstream status - widely appreciated in East Asia - Asian New Age composer are highly valued worldwide, such as Himekami and Tomita Isao

Table 1 *cont.*

Music style	Description and cultural origin*	Examples of global dissemination
Pop	developed as softer alternative to rock music, appeals to general population rather than sub-cultures; songs are simple structured focusing on melodies and catchy choruses Origin: UK and USA (1950s); initially English lyrics, developed regional variations around the world, see J-Pop Developments: for instance Hip-hop and Electronica emerged from Pop and are often subsumed under the term Pop music	- particularly high popularity around the world since 1950s - regional variations such as Europop in Europe, K-Pop in Korea or C-Pop in China have international following
Punk	originated in the mid 1970s from Rock'n'Roll, songs are characterized by political and anti-establishment statements, often intentionally offensive lyrics, strip-down instrumentation and short songs; Punk scene consists informal social networks, local music distribution through informal channels with conscious avoidance of the mainstream, stands for youth rebellion with distinctive clothing-styles and anti-authoritarian ideologies Subgenres: Punk Rock, Skate Punk, Riot Grrrl Origin: USA, UK, Australia	- popular in most European countries and Latin America - recent emergence of Beijing Punk and Korean Punk Rock
R'n'B	Rhythm and Blues is a wide-ranging genre developed by African-American (for African-Americans) in the late 1940s, originating from Jazz, Blues, Gospel, this music style was introduced in 1948 to the American Billboard Charts to replace the offensive label of "race music", since the 1990s the term contemporary R&B is used to describe Funk and Soul influenced pop music Origin: USA	- had its significant peak during the 1960s and enjoys nowadays an iconic status as widely around the world - evolved from other African American influenced music genres such as Reggae, Rock'n'Roll, Soul, Hip-hop, Funk - Caucasian artists also perform in this genre (e.g. Justin Timberlake, Mariah Carey)
Reggae & Ska	Ska: developed from Afro-Caribbean music and Caribbean folk combined with American Jazz and R'n'B Reggae: emerged from Ska, but slower. Both genre are characterised by off-beat rhythm New developments: Reggaeton (mix of reggae with Latin music) Origin: Jamaica, rooted in African and American music Language: English, with Jamaican accent	- Ska was particularly popular in the UK 1960-1980. - Reggae is appreciated around the world since success of Bob Marley and Peter Tosh with their band the Wailers (starting 1960s) - Reggaeton is currently very popular in Latin America and is quickly spreading to other parts of the world
Rock & Alternative	Rooted in Rock'n'Roll and its origins rhythm and blues and country music. Gained increasing popularity in 1950s; main characteristic is mostly an electric guitar accompanied by strong rhythm section (drums and bass player). various sub genres developed over time as Folk Rock, Progressive rock, Grunge, Brit Pop, Indie, Alternative rock Origin: UK, USA	- mainstream popularity around the world - local developments in possibly all parts of the world, such as Aboriginal Rock, Samba-Rock, or Zambian Rock

Table 1 *cont.*

Music style	Description and cultural origin*	Examples of global dissemination
Samba	Brazilian music fusing West-African rhythms and European/North American musical traditions (polka, waltz, jazz, fado); also couple dance (dance and music are inseparable in Brazil) and Brazilian national symbol Subgenre: Pagode – a renewed version of Samba developed during 1980s; new fusion developments: samba-rap, samba-rock, samba-reggae Origin: Brazil (Rio de Janeiro), strong Afro-Brazilian influence with African and European roots Language: Portuguese	- Particular popularity in Latin America and Africa - Increasingly popular in Japan: e.g., Nelson Sargento, Monarco, and Wilson Moreira recorded particularly for the Japanese market - Sambista communities in all continents
Techno & Electronica	Computer generated dance music; influenced by early minimalistic/experimental electronic music by the German band Kraftwerk (early 1970s); mostly played at nightclubs and at mass or underground dance parties; characterized by monotonous/minimalistic rhythm with impellent bass drum Subgenre and developments: House, Drum'n'Bass, Ambient, IDM (Intelligent Dance Music)	- regional variations such as Nortec in North Mexico, Schranz in Germany, Goa in South India - Goa attracts international visitors for its party and music scene - events such as the Love Parade in Germany or the Teknival in Japan attract thousands of international visitors
World Music	A label that is referring to music (a) outside the traditional Anglophone world of mainly USA and UK, (b) of a culture that is created and performed by indigenous artists Term was created by ethnomusicologist Robert E. Brown in the 1960s, since the 1980s used by the music industry to categorize any kind music that is non-Western	- global character regarding audiences - cultural character regarding origin - recently developments of cross-cultural mixes with popular music elements

* This overview intends to provide a brief, informative summary about characteristics and origin of music styles. The summary might be selective and it does not reflect the discourse that each music style entails (for instance there may be different opinions about origin and characteristics of these music styles).
(Sources: Dogget, 2001; Dolfsma, 1999; Ganti, 2004; Larkin, 2006; Manabe, 2008; Middleton, 2002; Ng, 2008; Olaveson, 2004; Palmer, 1981; Salewica & Boot, 2001; Shaw, 1999; Topp, 1991; Vianna, 1999; Walser, 1993)

VALUES

The concept of human values

Human values are of eminent importance for individuals and cultures. They are embodied as cognitive representations of individuals' needs and societies' demands (Rokeach, 1973; Schwartz, 1992). Personal values guide people's lives, behaviours and attitudes (Gouveia, 1998; Kluckhohn & Strodtbeck, 1961; Rokeach, 1973; Schwartz & Bilsky, 1987). Values of societies are among the most central features of cultures (Hofstede, 1980, 2001; Inglehart, 1997; Schwartz, 2004). Cultural values are shared beliefs among members of societies about what is desirable in life (Schwartz, 2006). Common features of values include the following six characteristics (Schwartz, 2004; 2006; Schwartz & Bilsky, 1987):

(A) Values are beliefs that are associated with affect.

(B) Values are desirable goals that motivate action.

(C) Values transcend specific actions and situations. This distinguishes values from norms and attitudes, which refer to specific actions, objects, or situations.

(D) Values serve as standards or criteria guiding selection or evaluation of actions, people, and events.

(E) Values are ordered by importance forming a system of priorities. This hierarchy is another feature that distinguishes values from norms and attitudes.

(F) The relative importance of values guides action. The competing character of values and their relevance guide attitudes and behaviours.

It has been proposed that values are distinct in the functions they serve for individuals and cultures, and that they are structured differently at the personal and cultural level (Hofstede, 1980, 2001; Inglehart, 1997; Schwartz, in press). Next, I explore theoretical concepts of personal and cultural values in more detail.

Personal values

Analogue to the characteristics above, Schwartz (1996) defines personal values "as desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives" (p. 2). Values underpin individuals' attitudes and behaviours, such as voting behaviour, political attitudes and readiness to outgroup contact (e.g., Feather, 1994; Sagiv & Schwartz, 1995), religiosity (e.g., Fontaine, Duriez, Luyten, Corveleyn, & Hutsebaut, 2005), environmental attitudes and behaviour

(e.g., Milfont, 2007), creativity (Dollinger, Burke, & Gump, 2007) and consumer choices (e.g., Allen, Ng, & Wilson, 2002).

In the following section I will review two personal value models: Schwartz' (1992) theory of universal human values and Gouveia's (1998, 2003) functional theory of values. Schwartz' (1992) value theory has been validated in multi-cultural studies and Gouveia's (1998, 2003) functional theory showed first evidence of cross-cultural validity (Gouveia et al., 2007). Both value concepts share an underlying dimensionality. I will elaborate on the convergent dimensions of both value models, which provide the conceptual framework of personal values measured by two instruments in Study 1.

Schwartz' (1992) theory of universal human values

Schwartz' (1992) main objective was to understand how a universal system of values is organized in order to comprehend the dynamics underlying individuals' value-based decision making. The human value system according to Schwartz (1992) consists of ten value types: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security. These values types are organized in a circular structure (see Figure 2, p. 30) which emerges from complementary relationships of neighbouring values (e.g., power and achievement) and conflicting relations of opposing values (e.g., self-direction and security).

Schwartz' (1992) value circle can be described by four high order value types: self-enhancement, conservatism[4], self-transcendence, and openness to change values. The four higher order value types represent the poles of two underlying dimensions which emerge from motivational value conflicts. First, self-enhancement values (power, achievement) are opposed to self-transcendence values (universalism, benevolence). The value dimension self-enhancement entails values that promote personal interests, such as power and achievement, which interfere with self-transcendence values that promote the welfare (benevolence) and the acceptance of

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[4] The term conservatism was used by Schwartz in his early papers (e.g., 1994; conservatism as social value construct). Later he consistently uses the term conservation to refer to this value domain (preserving the status quo and the certainty it provides) possibly to provide a clearer distinction to political terminology (e.g., political conservatism). However, other scholars still prefer the term conservatism when referring to Schwartz' value domains (e.g., Knafo & Sagiv, 2004). For instance, in environmental psychology the term conservation refers to protecting and preserving the environment and natural resources. In order to avoid confusion, the value term conservatism is consistently used in the environmental psychology literature when referring to Schwartz' conservation value domain (e.g., Schultz & Zelezny, 1999; Schultz et al., 2005; Stern et al., 1995). Hence, I adopted the use of conservatism instead of conservation.

others as equal (universalism). Second, openness values (self-direction, stimulation, hedonism[5]) are opposed to conservatism (security, tradition, conformity). The value dimension of openness to change is motivationally conflicting with conservatism because openness to change implies values that promote novelty and personal autonomy. These values are incompatible with conservative values, which drive people to seek stability and social order.

Schwartz' (1992, 2008) value theory has been tested in 77 cultural groups and in diverse samples with regard to age and occupation. Two measurements - the Schwartz Value Survey (SVS) and the Portrait Value Questionnaire (PVQ) - have been developed, both providing stable value structures according to the theory (Schwartz, Melech, Lehmann, Burgess, Harris, & Owens, 2001).

Gouveia's (1998, 2003) functional theory of values

Gouveia (1998, 2003) sought to identify functional dimensions underlying human values. His review of the literature led him to distinguish two consensual functions of terminal values: first, values guide human actions, and second, values give expression to human needs. Both functions are rooted in human evolutionary development. Gouveia's parsimonious value approach posits that human values span across these two functional dimensions (Fischer, Milfont, & Gouveia, in press). The first dimension represents social, central and personal orientations. Human actions emphasize the group as a unit of survival if the actions are socially or interpersonally oriented. These actions are guided by social values. Human actions emphasize the self as unit of survival if they are self-centred or intrapersonal in focus. These actions are guided by personal values. There are also actions which are neither personal nor social in their orientation, such as knowledge, health, or maturity. These actions are guided by central values.

The second dimension distinguishes between materialistic (pragmatic) and humanitarian (idealistic) value motivators. Materialistic values refer to specific goals and normative rules. Needs underlying materialistic values put emphasis on biological survival and existential conditions that ensure individual and group survival. Humanitarian values refer to more abstract ideas, such as innovation, open-mindedness,

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[5] According to Schwartz' (1992, 2008) value theory, hedonistic values share elements of openness and self-enhancement value domains. However, Schwartz and Boehnke (2004) affirmed that hedonism is more strongly related to openness values as revealed by confirmatory factor analysis. Thus, hedonism is categorised as an openness value in the present thesis.

and independence of materialistic possessions. Needs underlying humanitarian values point towards equality and self-fulfilment in interpersonal relations. The two dimensions explicated by Gouveia (2003) result in six value sub-functions (see Figure 2, p. 30): interactive, suprapersonal, excitement, normative, existence and promotion values.

The functional theory of values has been tested using the Basic Value Survey in 14 Iberoamerican cultures (Gouveia et al., 2007) and in occupational samples from all 27 states in Brazil (Fischer, Milfont, & Gouveia, in press).

Convergent domains of personal values

The two value theories described above share four basic value domains. The first domain implies value orientations with a Self-enhancement focus, when individuals are motivated to aim towards success and power. This domain mirrors Schwartz' self-enhancement values and Gouveia's promotion values. The second value domain has openness in its focus, where individual pleasure and a stimulating life are the guiding principles. This domain is in line with Schwartz' openness to change values, and with Gouveia's personal idealistic values. The third domain emphasizes beauty, knowledge, harmony with nature and welfare of others. This domain has a transcendent focus and reflects Schwartz' self-transcendence values and Gouveia's central idealistic (suprapersonal) and social idealistic (interactive) value types. The fourth value domain is norm oriented which restrains individuals' behaviour for the sake of tradition and security. This value domain is congruent to Schwartz' conservatism values and Gouveia's central materialistic (existence) and social materialistic (normative) values.

Considering the conceptual overlapping and in order to make the text more readable in light of the greater number of studies available using Schwartz' framework, I use Schwartz' four personal value categories in the remainder of this thesis. These refer to both value methodologies if no reference to a value methodology is specified.

Cultural values

Cultural values are essential for societies because they provide solutions for basic issues or problems to ensure the continued existence of a society (Hofstede, 1980, 2001; Kluckhohn, Kroeber, Meyer, & Untereiner, 1952; Schwartz, 1994). I will draw on Hofstede's (1980, 2001) cultural dimensions and Schwartz' theory of seven cultural

value orientations (Schwartz, in press). These models of cultural value orientations also share some dimensional similarities, which I will elaborate on in more detail. This section closes with a description of four regions according to their cultural value characteristics. The current thesis draws its samples from these four cultural regions in order to capture variations in cultural dimensions.

Hofstede's (1980, 2001) cultural dimensions

Hofstede (1980) studied national cultures and defined them as collective mental programs of the minds serving to distinguish members of groups or cultures. Values are a key construct of culture. They refer to the desired or the desirable. Other components of culture include symbols and rituals.

Hofstede (1980, 2001) follows Kluckhohn et al.'s (1952) claim that cultures can be distinguished into universal categories because they all must respond to the same existential questions of human society. However, the manner in which a cultural group responds to these societal questions may differ widely across cultures. Hofstede aimed to empirically verify Kluckhohn's claim. His studies identified "five independent dimensions of national culture differences, each rooted in a basic problem with which all societies have to cope, but on which their answers vary" (Hofstede, 2001, p. 29). These five dimensions are a) Power Distance, b) Uncertainty Avoidance, c) Individualism versus Collectivism, d) Masculinity versus Femininity, and e) Long-term versus Short-term Orientation (see Figure 2, p. 30).

Power Distance is the societal response to the basic problem of human inequality. This dimension deals with the amount of respect and deference between individuals in superior and subordinate positions. Cultures maintain different power distances in hierarchical institutions, such as family, organisations or the educational system. Power distance was argued to be determined by society.

Uncertainty Avoidance is associated with the degree to which people in a society tolerate unknown or ambiguous situations. Cultures with a high tendency towards uncertainty avoidance minimise such situations through creating stability in the form of regulations, laws, organisational workflows, security measures and everyday rituals.

Individualism versus *Collectivism* relates to the integration of individuals into groups. In individualistic societies the ties between individuals are loose, so that people are concerned about their own and the immediate family's wellbeing. In collectivistic

societies individuals are more strongly integrated into cohesive groups, which protect their members in exchange for loyalty towards the group. The Individualism vs. Collectivism dimension has implications for how people live, relate to each other and behave.

Masculinity versus *femininity* relates to the division of emotional gender roles and the social implications this division ensues. While Masculinity emphasizes dominance, achievement, recognition, and task-orientation, Femininity highlights modesty, caring values and emotionality. Masculine societies stress the differences between men and women regarding masculine and feminine roles. Feminine societies in contrast, minimize gender differences regarding strict role division.

Long-term versus S*hort-term Orientation* is associated with people's focus on the present or the future. This dimension was added based on the *Confucian Work Dynamics* dimension revealed in Bond's work with the Chinese Value Survey (e.g., Chinese Culture Connection, 1987). Long-term Orientation emphasizes thrift, perseverance, adaptation and persistence in order to gain future rewards, whereas Short-term Orientation focuses on fulfilling social obligations and protecting one's face in order to gain immediate rewards and to maintain traditional rules.

Schwartz' (2006) theory of 7 cultural value orientations

Similar to Kluckhohn et al. (1952) and Hofstede (1980), Schwartz (2006, in press) defines cultural values as society's response to three kinds of societal problems. Societies approach these problems differently. Thus, societal responses to the following three problems underlie three cultural value dimensions each encompassing two poles of a continuum (see Figure 2).

The first societal problem targets the relationship and boundaries between persons and the group. Societies respond with either *autonomous* or *embedded* relation between the person and the group. Cultures treat persons as embedded in the collective in *Embeddedness* cultures, whereas persons are seen as independent and autonomous entities in Autonomy cultures. *Autonomy* refers to independence in *intellectual* thoughts and *affective* experience.

The second societal problem involves the production of goods and services in order to preserve the social fabric. The cultural dimension responding to the second problem informs the organisation of production and service in either an *egalitarian* or *hierarchical* manner. Equality of people and voluntary commitment towards the

welfare of others is emphasised in *Egalitarianism* cultures, whereas a hierarchical system with predefined roles and behavioural expectations is accentuated in *Hierarchy* cultures.

The third problem is concerned with human and natural resources and their utilization. *Harmony* and *Mastery* are the two societal strategies concerned with the utilization of social and natural resources. *Harmony* cultures tend to preserve the natural environment and avoid conflicts, whereas *Mastery* cultures encourage change and mastering of the natural and social environment in order to attain their goals.

Personal values
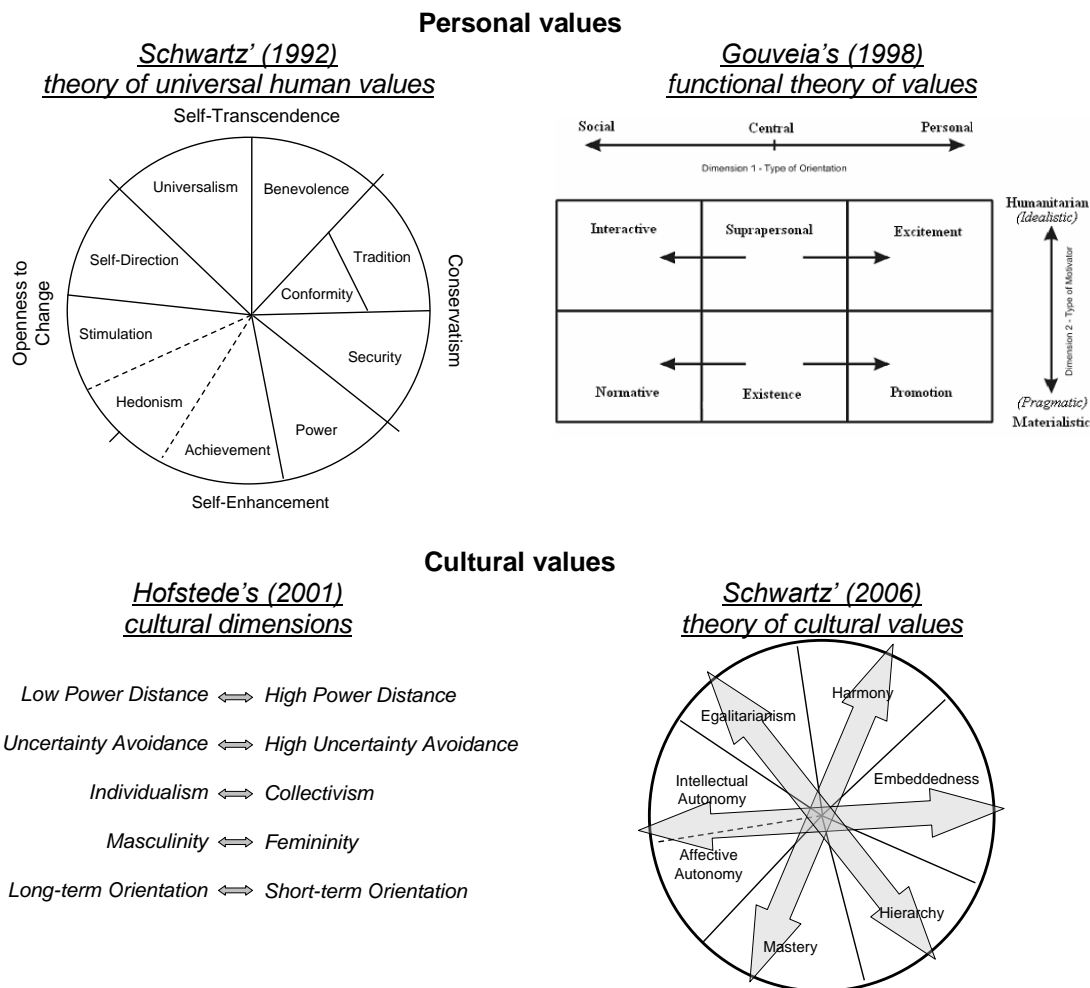
Cultural values

Figure 2. Personal and cultural value theories

Convergent domains

There is some conceptual overlapping between Hofstede's cultural dimensions and Schwartz' cultural values (Schwartz, 2003), which are in fact not as pronounced as the conceptual overlapping of value dimensions at the personal level. Smith and Bond (1998) argued that both frameworks are consistent based on the existence of two basic

differences of cultural variation that are related to the embeddedness of individuals within groups and the power relations within societies. Hence, the dimension Autonomy - Embeddedness is related to Individualism – Collectivism as both dimensions are concerned with the relationship between individuals and groups. Hierarchy – Egalitarianism overlaps with Power Distance as both dimensions refer to social inequality. Furthermore, Harmony – Mastery shares some conceptual content with Masculinity – Femininity as both dimensions include the assertion over others or the environment. Besides this conceptual overlapping, Schwartz (2003) highlighted some distinctions between the two cultural value models. For instance, Autonomy - Embeddedness contrasts openness and maintaining the status quo, while this distinction is not included in Individualism – Collectivism. Furthermore, only the Hierarchy element is featured in Power Distance, while the Egalitarian component (voluntary commitment to caring for the welfare of others) is missing in the Power Distance dimension. With respect to these distinctions, the two value models can not be completely merged at the conceptual level.

Cultural regions

Samples from four cultural regions were chosen for the studies in the current thesis because they represent a variety of cultural dimensions (e.g., as depicted in Figure 3 and Figure 4, pp. 69-70). I will briefly describe these four distinct cultural regions[6] (Hofstede, 2001; Schwartz, 2003). These are a) Western Europe, b) Anglo-Saxon region, c) Latin America, and d) (South) East Asia.

Western European cultures, such as Germany, are characterised by relatively low Power Distance, medium to high Individualism, Masculinity and Short-term Orientation. Furthermore, Western European cultures emphasize Egalitarianism, Intellectual Autonomy and Harmony. *Anglo-Saxon societies*, such as New Zealand, UK and US, are not assembled in a geographical region. However, these cultures share low Power Distance, high Individualism and Short-term Orientation. Anglo-Saxon societies emphasise Affective Autonomy and Mastery. *Latin American cultures*, such as Brazil or Mexico, are characterized by high Power Distance, low Individualism and high Uncertainty Avoidance. Interestingly, Latin American cultures display medium levels of Schwartz' seven cultural values with a slight trend towards Mastery values. *East* and

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[6] This summary neglects cultural variability within each cultural region, which is naturally present and varies in degree. However, the summary encompasses essential cultural characteristics of these regions.

South East Asian cultures show high levels of Collectivism and high Power Distance with a strong emphasis on Hierarchy. Furthermore, South East Asian societies, such as the Philippines and Malaysia, emphasize low Uncertainty Avoidance, Short-term Orientation, and Embeddedness; while East Asian societies, such as Hong-Kong, China and Japan, are Long-term Orientated.

LINKING MUSIC PREFERENCES AND VALUES

The definition of values as such already points towards a link between music preferences and values, because values guide choices, attitudes and behaviour. In the next section psychological theories are reviewed that explain in detail how value orientations underpin musical attitudes. Three approaches are presented; namely, the uses and gratification approach (Blumler & Katz, 1974; for recent review see Rubin, 2009), Attitude Function Theory (Herek, 1987; Katz, 1960; Smith, Bruner, & White, 1956; for a recent application see Julka & Marsh, 2005) and Expectancy Value Theory (Fishbein, 1963; Fishbein & Ajzen, 1975; Vroom, 1964; for recent development see Ajzen & Fishbein, 2008). These three approaches provide viable accounts on the psychological processes underpinning the association between value orientations and music preferences. Furthermore, the three theories complement each other (Feather, 1982; Lutz, 1981; Rayburn & Palmgreen, 1984; Rubin, 2009). Their integration offers an adequate framework for the current research.

Psychological processes

Uses and Gratification Approach

The uses and gratification approach of media selection is among the most popular explanation in communication research for answering the question of why individuals use media. The contemporary uses and gratification approach is grounded in five assumptions (Rubin, 2009):

(1) Media use is goal-directed, purposive and motivated, and this functional behaviour has consequences for people and societies;

(2) Media users are variably active participants using media as response to needs, wants, and interests, such as solving a personal problem;

(3) Social factors, such as environment, interpersonal interactions, and psychological factors, such as personality and mood, guide and mediate media use and shape the expectations about media;

(4) Media use competes with other forms of communication, such as interpersonal contact. However, media and personal communication can interact with each other. The gratification gained from both sources is influenced by social and psychological factors;

(5) Although individuals play an active part in the media process, media may also "affect individual characteristics or social, political, cultural, or economic structures of society" (Rubin, 2009, p. 167).

The bottom line of the uses and gratification approach is that the media user is an active agent who selects media programs with the main purpose of gratifying needs (Blumler & Katz, 1974). Various models of human needs can underpin the search for gratification. For instance, Rosengren (1974) argued that three of five human needs proposed by Maslow's (1954) need hierarchy are particularly relevant for media selection. These are belongingness and love needs, esteem needs, and the need for self-actualization (Rosengren, 1974).

Katz, Gurevitch, and Haas (1973) summarized the literature of psychological and social needs and collected data about needs from a representative general population sample in Israel. Findings revealed that needs can be grouped into five categories: a) cognitive needs, including information, knowledge and understanding, b) affective needs, including aesthetics, pleasure, emotional experience, c) individual integrative needs, including credibility, confidence, stability, status, d) social integrative needs, including contact with family, friends and others, and e) tension release needs, including escape and diversion.

The uses and gratification approach claims that media selection is a process in which socially and psychologically originated needs produce expectations of media, which in turn leads to selective exposure that results in need gratification (Katz, Blumler, & Gurevitch, 1974; Rubin, 2009). McQuail (2000) summarized 12 gratifications that are sought or obtained in media use: information and education, guidance and advice, diversion and relaxation, social contact, value reinforcement, cultural satisfaction, emotional release, identity formation and confirmation, lifestyle expression, security, sexual arousal, and filling time. The uses and gratification approach provides a rather functional framework for media gratifications. However, it received criticism for lacking theoretical foundation (Blumler, 1979; Carey & Kreiling, 1974; Elliot, 1974). Furthermore, the individualistic nature of this approach has been criticized (Elliot, 1974).

Most of the 12 media gratifications (McQuail, 2000) apply to one of the broad psychological functions of music. As described in Chapter One, music can affect individuals emotionally (e.g., Juslin & Sloboda, 2001), cognitively (e.g., Levitin, 2006), and socially (e.g., Hargreaves & North, 1999), as well as influencing their self-identity and corresponding value orientations (e.g., Rentfrow & Gosling, 2003).

Research on various musical functions and effects has utilized the uses and gratification approach (e.g., Behne, 1997; Lacourse, Claes, & Villeneuve, 2001; Roe, 1985, 1995). Studies showed that music preferences provide gratification of various value-related needs (beyond the value reinforcement as suggested by McQuail, 2000; see above): music preferences can serve as value reinforcement and affirmation (Roe, 1985), value expression (Roe, 1995) and value distinction from others (Lacourse, Claes & Villeneuve, 2001). The importance of values as guiding principles in life underpin the gratification of value needs obtained from music consumption. According to the uses and gratification approach it can be argued that music is used to validate value orientations based on the human need for self-actualization (Maslow, 1954) and individual integration (Katz et al., 1973).

The uses and gratification approach might supply us with a functional and descriptive framework for the link between values and music; however it fails to provide a psychological explanation for the processes underlying this association. Next, I describe two theories that can explain the link between music preferences and value orientations, namely, Attitude Function Theory and Expectancy Value Theory.

Attitude Function Theory

Given that musical preferences are attitudes, we can consider functions of musical attitudes according to Attitude Function Theory (e.g., Herek, 1987; Katz, 1960; Smith et al., 1956). This theory proposes that attitudes are held by individuals because endorsing attitudes fulfils motivational needs (Herek, 1987; Katz, 1960). This suggests that attitudes towards certain music styles may fulfil different motivational needs. Investigating musical attitudes and their motivational base may allows us to generalize about musical choices and their underlying motivators. If music preferences are structured according to systematic like and dislike of music styles across cultures (as proposed in hypothesis 1), they may be based on motivational needs.

Four motivational functions of attitudes can be distinguished according to Attitude Function Theory: *object appraisal* (Smith et al., 1956), *ego defence* (Katz,

1960), *social adjustment* (Smith et al., 1956), and the *value-expressive function* (Katz, 1960). *Object appraisal* combines knowledge and utilitarian functions of attitudes (Smith et al., 1956) allowing people to organise and evaluate objects or actions according to their interests and concerns (Herek, 1987). Attitudes that serve the *ego defence function* protect against internal conflicts, such as anxiety, and external dangers (Katz, 1960). Attitudes can mediate interpersonal relationships by serving the *social adjustment function* (Herek, 1987; Smith et al., 1956). This function is motivated by the need for being accepted by others (Allen et al., 2002). Chapter Three elaborates on this function in more detail. The focus of the following section is the next function of attitudes: the *value-expressive function*[7].

The motivation and dynamics of the *value-expressive function* are that individuals derive satisfaction from expressing attitudes appropriate to their personal values and to their self-concept (Katz, 1960). According to Katz (1960), attitudes serving this function are central for maintaining self-identity, enhancing self-image, self-expression and self-determination. Values in particular have the capacity of serving self-identity (Herek, 1986; Maio & Olson, 2000). Katz (1960) suggested that attitudes serving the value expressive function support the self-image in two ways. First, they provide clarity about one's self-image by giving expression to an important facet of the self-concept, and second, they help individuals in their progress towards an ideal image of the self. Gregory, Munch, and Peterson (2002) demonstrated that the value-expressive function of attitudes applies to samples from individualistic and collectivistic cultures.

The importance of a value is strongly related to the magnitude of an attitude if it is a value–expressive attitude. This means that value expressive attitudes should be correlated with the value orientations they express. Supporting this argument, Lavine, Thomsen, and Gonzalez (1997) found that attitudes are structured more clearly if attitudes are underpinned by relevant values. Musical preferences seem to have a stable structure across cultures examined so far (Wells & Tokinoya, 1998; Pimentel et al., 2005; Rentfrow & Gosling, 2003; Tekman & Hortaçsu, 2002a). If music preferences serve as value-expressive attitudes their *structure* may be underpinned by values. Or to put it differently, liking a certain music style may represent certain personal values. The

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[7] Focussing on this function does not suggest that music preferences only serve the value-expressive function and not the other three functions. An elaboration on multiple functions of musical preferences will follow in the discussion section of this chapter and in Chapters Three and Four.

cross-cultural stability of the structure of musical preferences may indicate that music preferences serve the value expressive function across cultures, which will be examined in Study 1.

Expectancy Value Theory

Expectancy Value Theory claims that behaviours, behaviour intention and attitudes are rooted in their expected outcome and the subjective value of this outcome (Eccles et al., 1983; Feather, 1982; Fishbein, 1963; Fishbein & Ajzen, 1975; Rosenberg, 1956; Vroom, 1964). Thus, attitudes are a function of *expectancy* (or beliefs) and *evaluation* (Ajzen & Fishbein, 2008; Feather, 1982; Fishbein, 1963; Fishbein & Ajzen, 1975). Expectancy refers to the perceived probability that an entity possesses a particular attribute, or that certain behaviour results in a particular consequence. Expectations develop based on past experiences (e.g., Feather, 1982). The evaluation component is the positive or negative affect towards the attribute or behavioural consequence. Expectancy Value Theory has found many applications and extensions since its emergence. This includes the Theory of Reasoned Action (Fishbein & Ajzen, 1975), the Expectancy Valence model (Feather, 1982), the Theory of Planned Behaviour (Ajzen, 1988), and the expectancy value model of Achievement Motivation (Eccles & Wigfield, 2001).

Expectancy Value Theory extends the uses and gratification approach of media use with a theoretical foundation (Littlejohn & Foss, 2002; McQuail, 2000; Palmgreen & Rayburn, 1985). The gratification sought in media is based on expectations towards the media to fulfil certain needs (Palmgreen & Rayburn, 1985; Rayburn & Palmgreen, 1984). Hence, attitudes towards media and media content are shaped by expected gratification and the evaluation of these gratifications.

According to Expectancy Value Theory, the attitude towards a music style is determined by the expected attribute or the consequence of listening to this music style, and the evaluation of that attribute or consequence. Lehmann (1994) supports the general argument that music preferences are a function of expectations and evaluation: "The listener's expected perception and effect, which are part of the uses of music, may therefore be etiologically related to the preference […] Preference and habitual listening pattern interact" (Lehmann, 1994, p. 259). Applied to the present association between music preferences and value orientations, a musical attitude (the preference for a particular music style) is a function of the expectation that the music style expresses

certain value orientations and the positive evaluation of the given value expression. Hence, an attitude towards a music style will be positive if the music style expresses one's own values, based on the premise that value reinforcement can be assumed to be positively evaluated (Insko, 1983; McQuail, 2000).

Integrated application to music preferences

Music styles have been described as a 'badge' which young people use to "communicate their values, attitudes, and opinions to others" (Frith, 1981, p. 258). The value-expressive function according to Attitude Function Theory provides the motivational basis underlying Frith's claim. Furthermore, the value-expressive function of music preferences determines expectations towards and evaluations of music styles, through the reinforcing effect of values that are an important facet of one's self-concept being expressed by value-expressive music styles. Similarly, Expectancy Value Theory is directly linked to the value expressive function of attitudes (e.g., Ajzen, 2001; Rosenberg, 1956; Fishbein & Ajzen, 1975). For instance, according to Rosenberg's (1956) instrumentality theory, attitudes towards an object are determined by the degree to which an object facilitates or hinders the attainment of a value goal state.

The uses and gratification approach to value-expressive music styles shares its motivational facets with Attitude Function Theory. Hargreaves and North (1999) argue that music preferences provide a means for managing self-identity. The listener prefers a kind of music that fulfils the need to reflect, reinforce, and shape ideals of cultural, social and personal values (North, Desborough, & Skarstein, 2005). Furthermore, the evaluation of value-expression in music styles is likely to be affected by its reinforcing character. This links the need fulfilment argument of uses and gratification approach with the evaluation domain of Expectancy Value Theory. Accordingly, the evaluation of a value-expressive music style depends on the fit between own values and expressed values, providing that only music styles that express own values have reinforcing effects leading to positive evaluations. This is in line with Rentfrow and Gosling's (2003) assertion that music preferences are used to make self directed identity claims. This surmises that individuals gravitate towards particular music styles because they represent characteristics that are congruent to their values. The value fit between listener and music thus reinforces the listener's values (North & Hargreaves, 1999; Rentfrow & Gosling, 2003).

The three discussed theoretical approaches are complementary and their integration offers an adequate framework for the value-expression of music preferences[8].

Music preferences and personal values

Gaps in previous studies

Based on the integrated framework of value-expression it seems viable that music preferences are related to personal values. However, preferences for what music styles express what values? A (rather small) number of empirical studies have addressed this question. I will draw on these studies to develop the predictions for the first study. Unfortunately, most of the previous studies were conducted in Western settings. Study 1 will be the first study – to the best of my knowledge - examining the cross-cultural applicability of these findings. Three personal value hypotheses will be assessed in Study 1 test the applicability of previous findings in samples from four cultures: Brazil, the Philippines, New Zealand and Germany.

Personal values and Rock music

Hansen and Hansen (1991) characterized the lyrics of Rock music styles as expressing "anti-establishment messages, alienation from society, and rebelliousness against authority". Liking Rock music styles was associated with less acceptance of authority in an American student sample (Hansen & Hansen, 1991). These associations can be interpreted as a rejection of conservative values, such as traditional values and conformity, and the endorsement of openness values, such as self-directed and independence values (Lull, 1985). Evidence of these associations have been found in Brazilian and German student samples, where liking Rock music styles was positively associated with openness values, and negatively related to conservative values (Boer, 2004; Pimentel, 2004; Strack & Boer, 2006). Therefore, it seems likely that people who like Rock music styles endorse Openness values and reject conservative values.

Personal value hypothesis 1:

Preference for global Rock music is negatively associated with Conservatism values and positively related to Openness values.

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[8] The terminology 'value-expression of music preferences' and 'value expressive music styles' will be used for the association between music preferences and value orientations throughout the remaining thesis referring to the integrated framework.

Personal values and Pop music

In contrast to the previous music style described, conventional popular music styles, such as Charts Pop, Hip-hop or R'n'B, has been associated with hedonistic themes, like partying, material success, striving for luxury goods (Miranda & Claes, 2004). This points to an association between Pop music preferences and Self-enhancement values, given that these values encompasses materialistic and achievement orientation. Pop songs also seem to idealize romantic love (Rothbaum & Tsang, 1998), which provides an alternative indication of Self-enhancement values since emotions are mainly self-centred concepts. In line with this argument, Boer (2004) found significantly higher Self-enhancement values in fans of Hip-hop, R'n'B and Soul music than in non-fans. Furthermore, Rentfrow and Gosling (2003) showed that preferences for upbeat and energetic music styles (e.g., Hip-hop) were strongly associated with the personality trait extraversion. This personality trait was found to be associated with openness values (Dollinger, Leong, & Ulicni, 1996; Olver & Mooradian, 2003; Roccas, Sagiv, Schwartz, & Knafo, 2002). Thus, it can be expected that preferences for Pop (rhythmic) music styles are positively associated with Self-enhancement and Openness values.

Personal value hypothesis 2:

> *Preference for global Pop music is positively associated with Self-enhancement and Openness values.*

Personal values and Classic music

North and Hargreaves (2007c) found in a representative British sample that fans of Country music, Opera, and Jazz were most likely to vote for a right-wing party. There is a body of research indicating that conservatism values are related to right-wing voting behaviour (Renner, 2003), conservative political preferences (Feather, 1994), and right-wing authoritarianism (Cohrs, 2005). Hence, North and Hargreaves' (2007) findings may indicate that this group of fans endorses more conservative values. Further findings revealed associations between Classic music preferences and Self-transcendent values. Stereotypical fans of Western Classical music, Jazz and Blues were perceived to appreciate transcendent values, like a world of beauty and wisdom (Rentfrow & Gosling, 2006). This stereotype was validated by self-reports from fans of this music style in the same study. Similar results in German samples support the link between preferences for Western Classical music and transcendent values (Boer, 2004;

Kenkmann, 2000). The following hypothesis draws on these findings regarding the value domains Conservatism and Self-transcendence.

Personal value hypothesis 3:

> _Preference for global Classic music is positively associated with Self-transcendent values and Conservative values._

Music preferences and cultural values

Gap in previous studies

The relationship between culture and music seems palpable: music is embedded in culture (Bohlman, 2003); music is "an integral part of culture and thus inevitably reflects its general structures and values" (Merriam, 1964, p. 250). Music is seen as a symbolic reflection of cultural meaning, such as cultural behaviour and values (Adorno, 1973; Bohlman, 2003; Lomax, 1959; Martin, 1997; McAllester, 1954; Merriam, 1964). The symbolic representation of music goes hand in hand with the function of enforcing conformity to social norms (Brown & Volgsten, 2006; Merriam, 1964). Furthermore, Bryson (1996) argues that the symbolic power of music have been used to elucidate social cohesion as well as cultural resistance. In his communication model of music, Brown (2006, p. 1) noted that "music's principal mode of operation at the cultural level is associative, and this often manifests itself in specific linkage between musical structure and social meaning". These social meanings include ideologies.

However, previous studies highlight the link between cultural values and music from a culture specific perspective (e.g., McAllester, 1954; Rothbaum & Xu, 1995). This means that most research focussed on the analysis of music _from_ within a particular culture and its association to the cultural values of the given culture. Despite its intriguing insight, the culture specific approach has two limitations. First, while focussing on the music itself (and therefore its production) the appreciation of the music by its listeners is not considered. I argue if the music of a given culture itself is an indicator of cultural values than the appreciation of that music by members of the culture would inevitably also be a valid indicator of cultural values. The second limitation mirrors the earlier argument that the musical landscape in every given culture encompasses more than native (or culture specific) music. Thus, the neglect of global music appreciation leads to a fragmented picture. Music appreciation can be targeted towards culture specific music but also towards global music styles. Hence, cultural

values can also be expressed through society's appreciation of global music styles. This claim has not been empirically addressed in a cross-cultural approach.

The second study applies the culture specific argument of ethnomusicologists and sociologists that music is associated with cultural values at a cross-cultural level using global music styles. Three cultural value hypotheses will be tested in a multi-method approach in Study 2 including cultural level data from 14 societies. In the next section I posit these hypotheses as I summarise literature regarding the question: What music preferences are associated with which cultural values?

Cultural values and Rock music

Rock music has been associated with masculinity, dominance and autonomous thoughts (e.g., Mitchell, 1996; Walser, 1993). Savage (2006) found that Rock music was predominantly an ethnically White male form of music in the UK. Savage's (2006) findings also underlined a potential relation between a preference for Rock music and Masculinity and Mastery values. Walser (1993) suggests that Mastery values are associated with Rock music as it has inferences to superiority and social power. Furthermore, Rock music is used as a form of protest against societal norms and traditional structures (Frith, 1981) highlighting its association with Autonomy values. The rejection of traditional structures and the tendency towards rebelliousness in Rock music indicates strong associations to Individualism, considering that societal and group norms are strategically dismissed and group ties are devalued in Rock music (Hansen & Hansen, 1991). In summary, it seems likely that Rock music styles are associated with cultural Masculinity, Mastery, Individualism and Autonomy.

<u>Cultural value hypothesis 1</u>:

Societal preference for global Rock music is associated with Hofstede's Masculinity and Individualism, and with Schwartz' Mastery and Autonomy.

Cultural values and Pop music

Pop music has been related to mass or mainstream culture. Its cultural function has been described as affirming societal conformity (Adorno, 1973), which is supported in Leming's (1987) content analysis of Pop songs. He found that the content of Pop songs was largely conservative in nature (Leming, 1987). These findings underline the association between Pop music and acceptance of traditional structures embodied in Embeddedness values. Although Pop music is a symbol of lower status groups

(Bourdieu, 1984; Katz-Gerro & Sharon Raz, 2007; Savage, 2006; van Eijck. 2001), it often expresses materialistic themes (Miranda & Claes, 2004). Materialism may be in an indicator for Schwartz' Mastery and Hierarchy values, given that materialism strongly relates to promoting capitalistic systems and these are built upon exploitation of the environment and inequality (Klein, 2000; Marx, 1867). Thus, Pop music may be associated with the compliance to power hierarchies that are embodied in Hofstede's Power Distance dimension. North and Hargreaves' (2007c) data confirms this argument as listeners of Hip-hop and electronic music (which can be regarded as sub-domains of Pop music) showed conservative political attitudes regarding social equality in the UK. Thus, previous research suggests that Pop music styles may be associated with Embeddedness, Hierarchy, Power Distance and Mastery.

Cultural value hypothesis 2:

> *Societal preference for global Pop music is associated with Hofstede's Power Distance and with Schwartz' Embeddedness, Hierarchy and Mastery*.

Cultural values and Classic music

Classic music – particularly Classical music, Opera and Jazz – is regarded as a musical form of high culture (Bourdieu, 1984; Di Maggio & Useem, 1978; Katz-Gerro & Sharon Raz, 2007). These authors argued that this genre of music is used by high status groups to symbolize their social position. Social status can be gained in hierarchical systems with high power distance and social dominance. At the same time, Classic music is related to conservatism (North & Hargreaves, 2007). Thus, Classic music symbolizes endorsement of traditional societal structures. Although Pop music and Classics appeal to very different groups of people, their symbolisms rely on the same cultural values, namely the acceptance and approval of hierarchical social systems (Hierarchy, Power Distance), tradition (Embeddedness) and social dominance (Mastery).

Cultural value hypothesis 3:

> *Societal preference for global Classics music is associated with Hofstede's Power Distance and Schwartz' Embeddedness, Hierarchy and Mastery*.

SECTION 2

Global music preferences as personal value expression across four cultures:
A multi measurement approach (Study 1)

INTRODUCTION

Study 1 investigates the association between preferences for global music styles and personal values in four societies. The current study has three research objectives. First, it aims to identify music styles that are known and appreciated in all four cultures. Second, Study 1 assesses the structural comparability of global music styles across four cultures. Third, the value expressions of global music styles are tested across four cultures.

The four societies (cf. Figure 3, p. 69) encompass two collectivistic cultures (Philippines, Brazil) and two individualistic cultures (New Zealand, Germany). The two societies Philippines and Brazil share further cultural values, such as high Power Distance and low Autonomy; and Germany and New Zealand share low Power Distance and high Autonomy (cf. Figure 4, p. 70). However, Philippines and Germany demonstrate lower Mastery values compared to New Zealand and Brazil.

Regarding the first research objective, global music styles were identified in these four cultures based on previous psychological research and the following three strategies: a) a search of musical styles described in contemporary music magazines, b) soliciting the opinions of musical experts (musicians), and c) discussions with university students, to confirm an initial list of potential global music styles. The list of music styles was then assessed in samples from all four cultures.

Global music preferences were defined as music styles that were known by the majority of participants. The 75th percentile of participants in each culture was applied as a cut-off measure of 'majority'. The cut-off value of 75% seems most appropriate – compared to a more conservative cut-off figure - considering that music styles are not expected to be known by all members of a culture due to social stratification or cohort related dissemination of music styles (Bourdieu, 1984).

The second objective of this study was to assess the structure of global music preferences. The music preference structures of the four cultures were therefore compared with each other in order to reveal their comparability (structural equivalence).

A multi-measurement approach was utilized to test the three personal value hypotheses addressing the third research objective. The use of two methods measuring value orientations aimed to ensure validity of findings to a higher degree than single measurement studies (Brewer & Hunter, 2005). Furthermore, the hypotheses were tested for consistency comparing coefficients from the four cultures. The distinctiveness of these four cultures on cultural dimensions such as Individualism and Mastery enhances the cross-cultural generalizability of this research if consistent associations are detected across these four cultures.

METHOD

Participants

Data was collected at universities in Brazil, in the Philippines and in New Zealand; and via the internet in Germany (see Appendix D1 for New Zealand (English) version of survey). Brazilian participants were undergraduate students of various faculties who completed the Portuguese questionnaires during class time (69%), and university staff. Data was collected in Rio de Janeiro and Brasilia. Four-hundred-and-three participants completed the Brazilian survey of which 54% were female (4 participants did not state their gender). The mean age of the participants was 24.53 years ($SD = 8.68$).

Filipino participants were undergraduate students of various faculties who completed the questionnaires during class. The data was collected in Quezon City, Manila and Bacolod City. Two-hundred-and-thirty-two students took part, 75% were female, and 2 participants did not state their gender. The mean age of the participants was 19.12 years ($SD = 3.29$).

New Zealand participants took part in this study as partial fulfilment of course requirements. One-hundred-and-fifty participants studying in Wellington took part, 73% of them were female. The mean age of participants was 20.09 ($SD = 5.05$)

The data in Germany was collected online via snowballing emails. Participants came from all parts of Germany. One-hundred-and-seventy-two participants took part, 71% were students, 57% were female, and 7 participants did not state their gender. The mean age of the participants was 22.57 years ($SD = 6.27$).

Although the medium of data collection was different in Germany, students made up the majority of all four samples. The samples were therefore comparable with regard to their occupational status. However, the four samples differed significantly in

age (F (3, 934) = 36.15, $p < 0.001$) and gender distribution (*Chi-square* (3) = 32.45, $p < 0.001$). Thus, age and gender effects will be controlled for in the analyses in order to enhance the comparability of the four samples (van de Vijver & Leung, 1997).

Measures

Music preferences

Music preferences were measured using a range of music styles. The initial list of global music styles was compiled based on three strategies. First, I searched for relevant music styles in (hardcopy and online) magazines of contemporary music targeting adolescents and young adults. I chose two music magazines that are among the most common and popular in Brazil (cliquemusic.com.br; mtv.uol.com.br), Philippines (PULP, Philmusic.ph), New Zealand (Rip It Up, amplifier.co.nz) and Germany (Bravo, Intro.de). The initial list of music styles was then extended and revised according to the judgment of one musician and five university students coming from each culture. The initial list of music styles consisted of the following 15 styles that showed adequacy and appropriateness in the contemporary context in Brazil, Philippines, New Zealand and Germany according to the judges: Classical Music & Opera, Jazz & Blues, Country Music, Gospel, Folk, Samba, New Age, Pop, Hip-hop & Rap, Techno & Electronica, Reggae & Ska, Rock & Alternative, Metal, Hardcore, and Punk.

The initial list of global music styles was similar to the styles used in previous studies (North et al., 2005; Rentfrow & Gosling, 2003). However, the music styles Hardcore and Samba were not present in previous research. Furthermore, musician and student judges agreed that 'Soundtrack' is not a music styles as any kind of music can be featured in movies depending on movies' genre and origin. Additionally, ten music styles were suggested by magazines and/or judges in the Philippines (J-Pop, College Punk, World Music, and R'n'B), New Zealand (Bollywood, Dub, Emo, and R'n'B), and Germany (Crossover, Gothic, Indie, and R'n'B). These ten music styles were included in the Filipino, New Zealand, and German versions of the questionnaire in order to test the local specificity vs. global dissemination of these styles in the three cultures. The Brazilian judges recommended that these styles should not be included in the Brazilian questionnaire. Thus, the additional ten music styles add illustrative insights to the first research objective.

The scale measuring global music preferences consisted of 15 music styles in Brazil and of 25 music styles in the Philippines, New Zealand and Germany. Participants rated their like or dislike of each music style on a 7-point Likert scale (1 = "I don't like it at all"; 7 = "I like it very much"; 0 = "I don't know this music style" - coded as missing value).

Personal Values

Personal value orientations were assessed using two measures: the Portrait Value Questionnaire (PVQ; Schwartz, Melech, Lehmann, Burgess, Harris, & Owens, 2001) and the Basic Value Survey (BVS; Gouveia, 2003; Fischer, Milfont, & Gouveia, in press). The PVQ asks participants for similarity or dissimilarity ratings to 40 hypothetical persons who have specific value features. The 40 items measure four value domains as discussed earlier (see Figure 2, p. 30): self-enhancement (e.g., power, achievement), openness to change (e.g., self-direction, stimulation, hedonism), self-transcendence (e.g., universalism, benevolence), and conservatism (e.g., conformity, tradition, security). Similarity and dissimilarity was indicated on a 6-point Likert scale from 1 (not like me at all) to 6 (very much like me).

The BVS uses 18 marker values which have been selected based on empirical findings in previous research (Gouveia, 1998, 2003; Pimentel, 2004). Each marker value item consists of the value and a brief description. The 18 marker values measure six functional value types as discussed earlier (see Figure 2, p. 30): normative (i.e., religiosity, tradition, obedience), interactive (i.e., social support, belonging, affectivity), existence (i.e., health, survival, personal stability), suprapersonal (i.e., beauty, knowledge, maturity), promotion (i.e., success, prestige, power), and excitement (i.e., pleasure, emotion, sexuality). Participants were asked to rate the importance of each marker value as a guiding principle in their life on a 7-point scale, ranging from 1 (completely unimportant) to 7 (of the utmost importance).

The value domains of PVQ and BVS cover four value orientations encompassing Self-enhancement values (PVQ: self-enhancement, BVS: promotion), Openness values (PVQ: openness to change, BVS: excitement), Self-transcendence values (PVQ: self-transcendence, BVS 1: suprapersonal, BVS 2: interactive), and Conservatism values (PVQ: conservatism, BVS 1: normative, BVS 2: existence). The two BVS values included in Self-transcendence and Conservatism value domains were not combined considering that the Functional Theory of Values treats them as

functionally distinct value facets. The convergent validities of value measures and measurement reliabilities will be assessed in the results section.

Translation of the questionnaire

The survey was designed in English and then translated into Portuguese and German (if scales were not available in these languages). The translation into Portuguese was conducted by the collaborators in Brazil. They translated and back-translated the survey (except BVS which was available in Portuguese). I examined the back-translation and provided comments regarding translation issues. The initial translation was then revised and finalized.

The translation into German was conducted in a committee approach involving 5 bilinguals (except PVQ which was available in German). The committee translated each item und discussed possible translation issues until consensus was found regarding validity of the translation.

The English survey was administered to the samples in New Zealand and the Philippines, the Portuguese survey was administered to the Brazilian sample and the German survey was administered to the German sample.

Analytical strategy

First, global music styles were identified using frequencies. Music styles recognized by at least 75% of participants in each cultural sample were considered to be 'global'. Second, the structure hypothesis was assessed using an exploratory factor analytical approach. Principal Component Analyses (PCA) were conducted using the pooled within-groups correlation matrix (giving each group equal weight). A factor analysis on the pooled within-groups correlation matrix was applied to adjust for unequal samples sizes (Bond, 1988). The 75% criteria resulted in missing data in the music preference ratings. The pooled within-correlation matrix of music preferences treats cases with missing values based on listwise deletion. This reduced the sample to 741 participants in the final solution (23% missing), which provides a sufficient number of participants from each of the four cultures in relation to the number of items (Gorsuch, 1983).

I rotated the initial pooled factor solution with oblique rotation considering that factors of musical preferences have been shown to be interrelated (Rentfrow & Gosling, 2003). The following criteria were used to evaluate the most appropriate factor

structure: Scree-test (Cattell, 1966); the Kaiser rule (Eigenvalue above 1); Parallel Analysis (Hayton, 2006; O'Connor, 2000); and comparing multiple rotation techniques (Pedhauzer & Schmelkin, 1991). The similarity of the factor structure across the samples was assessed using procrustean target rotation and the similarity coefficient Tucker's Phi (van de Vijver & Leung, 1997).

The convergent validity of value measures was assessed using correlations. Three personal value hypotheses were tested calculating partial correlations of predicted associations for each sample. The four samples differed significantly in age and gender distribution. Previous research has found that the age and gender of participants influence music preferences (North & Hargreaves, 2007a; Russel, 1997). Hence, age and gender were controlled for and were partialled out of the correlation coefficients. Finally, I compared the partial correlation coefficients of predicted associations between samples using similarity of correlation coefficients (Chi-square test of r-to-z transformed correlation coefficients).

RESULTS

Identification of global music styles

The dissemination of 15 potential global music styles and 10 additional music styles is illustrated in Table 2. Most of the potential global music styles were in fact known by the majority of participants in the four cultures, except for Hardcore, which was unknown to 27% of Brazilian participants, and New Age, which was unfamiliar to 30% of Brazilian participants and 40% of German participants. Thus, 13 music styles were identified as global music styles: Classical Music & Opera, Country Music, Folk, Gospel, Hip-hop & Rap, Jazz & Blues, Metal, Pop, Punk, Reggae & Ska, Samba, Rock & Alternative, and Techno & Electronica. These 13 global music styles were analysed to test the structure and structural comparability in four the cultures.

The additional ten music styles were not expected to be known globally given that they were rejected by the Brazilian judges. However, the frequencies revealed that three additional music styles were well disseminated in the other three samples, namely, College Punk, Gothic and R'n'B. Interestingly, only the Western samples were familiar with Bollywood, although this is an Indian music genre. Furthermore, Indie was widely known in New Zealand and Germany; the music style Emo was a well recognized style in New Zealand; Crossover was primarily known by the German sample, and World music was only well-known in the Philippines.

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Table 2

Dissemination of music style in four cultures (percentage of participants knowing the music style)

| | Sample | | | |
	Brazil	Philippines	New Zealand	Germany
Potential global music styles				
Classical & Opera	**96 %**	**98 %**	**100 %**	**96 %**
Country music	**97 %**	**92 %**	**100 %**	**97 %**
Folk	**86 %**	**97 %**	**99 %**	**90 %**
Gospel	**96 %**	**96 %**	**98 %**	**94 %**
Hardcore	73 %	**92 %**	**95 %**	**88 %**
Hip-hop & Rap	**95 %**	**98 %**	**99 %**	**97 %**
Jazz & Blues	**91 %**	**97 %**	**100 %**	**96 %**
Metal	**94 %**	**90 %**	**99 %**	**96 %**
New Age	70 %	**82 %**	76 %	60 %
Pop	**93 %**	**98 %**	**100 %**	**97 %**
Punk	**88 %**	**86 %**	**100 %**	**96 %**
Reggae & Ska	**91 %**	**83 %**	**95 %**	**92 %**
Rock / Alternative	**95 %**	**94 %**	**99 %**	**94 %**
Samba	**95 %**	**87 %**	**81 %**	**93 %**
Techno & Electronica	**95 %**	**92 %**	**99 %**	**96 %**
Additional music styles				
Bollywood	-	53 %	**86 %**	**80 %**
College Punk	-	**88 %**	**94 %**	76 %
Crossover	-	60 %	27 %	**80 %**
Dub	-	53 %	71 %	43 %
Emo	-	71 %	**93 %**	68 %
Gothic	-	**76 %**	**96 %**	**95 %**
Indie	-	68 %	**78 %**	**84 %**
J-Pop	-	68 %	48 %	0 %
R'n'B	-	**95 %**	**98 %**	**94 %**
World Music	-	**87 %**	73 %	67 %

Structure of global music preferences

A Principal Component Analysis (PCA) with procrustean target rotation on 13 global music preferences revealed that four music styles (Country music, Gospel, Samba, and Reggae & Ska) did not load on similar factors, or showed an inadequate fit (see Appendix A1). More precisely, the first PCA extracted five factors and procrustean target rotation revealed particularly low fit indices for factor four in the Filipino sample (*Tucker's Phi* = 0.54) and factor five in the German sample (*Tucker's Phi* = 0.72). Rotated factor loadings were inspected in order to detect which music styles did not converge. The factor loading of Reggae & Ska on factor four in the Filipino sample was insufficient (*factor loading* = -0.25) and the factor loading of Gospel on factor five was also very low (*factor loading* = 0.23) in the German sample leading to low fit indices. Furthermore, the music style Samba loaded on multiple factors in the New Zealand

sample, whilst not loading sufficiently on factor four, where it was expected to load (*factor loading* = -0.39). Hence, the three music styles Gospel, Reggae & Ska and Samba were omitted and the analysis was repeated. The second PCA on the pooled within groups correlation matrix extracted three factors. However, the music styles Country music showed low loadings on all factors.

After omitting Country music the analysis was repeated including the remaining nine global music styles. Three factors were extracted based on multiple criteria: Scree-test (Cattell, 1966), the Kaiser rule (Eigenvalue above 1), Parallel Analysis (Hayton, 2006; O'Connor, 2000) and two rotation techniques (Oblique and Varimax; Pedhauzer & Schmelkin, 1991). The three factors rotated by Oblique rotation accounted for 59%, 60%, 66% and 60% of the total variance in the sample from Brazil, the Philippines, New Zealand and Germany, respectively (Table 3). The factor global Rock contained the guitar-based music styles Metal, Rock/Alternative, and Punk. The factor global Pop contained three rhythmic music styles Pop, Hip-hop/Rap, and Techno/Electro. The factor global Classic consisted of three more traditional music styles Classical/Opera, Jazz/Blues and Folk music.

The agreement coefficient Tucker's Phi was examined as a statistical indicator of factor similarity across the four samples (Table 3). For all music preference factors Tucker's Phi values are equal or above 0.90, indicating an adequate level of similarity of factor structures (Leung et al., 2002). The three-factorial solution of preferences for global music styles is in line with the structure hypothesis.

Table 3

Factor structure of global music preferences in four samples (Study 1; PCA, procrustean target rotation towards pooled within-groups solution, structure similarity coefficient Tucker's Phi)

| | Factor loadings | | | | | | | | | | | |
| | Global Rock | | | | Global Pop | | | | Global Classics | | | |
	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge
Metal	**0.88**	**0.79**	**0.79**	**0.60**	0.00	-0.03	-0.25	-0.47	0.14	-0.02	0.02	0.05
Rock/Alternative	**0.57**	**0.78**	**0.86**	**0.81**	0.30	0.16	-0.19	0.06	0.31	0.06	-0.07	0.08
Punk	**0.78**	**0.77**	**0.81**	**0.83**	0.04	0.28	0.15	0.11	-0.13	0.08	-0.04	0.04
Pop	-0.07	-0.04	-0.37	0.15	**0.73**	**0.80**	**0.74**	**0.76**	0.18	0.20	-0.06	0.22
Hip-hop/Rap	0.17	0.33	-0.15	-0.39	**0.71**	**0.67**	**0.80**	**0.62**	-0.15	-0.01	-0.08	-0.01
Techno/Electro	0.25	0.15	0.23	-0.11	**0.64**	**0.76**	**0.70**	**0.67**	0.03	0.05	-0.13	0.04
Classical/Opera	0.20	0.04	-0.22	-0.10	0.04	-0.06	-0.20	-0.06	**0.70**	**0.80**	**0.71**	**0.84**
Folk Music	-0.04	0.03	0.21	0.33	0.04	0.05	0.02	-0.05	**0.81**	**0.73**	**0.81**	**0.58**
Jazz/Blues	0.19	0.07	-0.06	-0.14	-0.09	0.24	-0.07	0.33	**0.79**	**0.63**	**0.82**	**0.69**
Eigenvalue	1.18	2.68	2.58	2.33	1.66	1.19	1.34	1.16	2.44	1.55	2.12	1.88
% of Variance	13.14	29.81	28.71	25.87	18.41	13.29	14.93	12.93	27.13	17.25	23.58	20.92
Tucker's Phi	0.95	0.97	0.97	0.90	0.95	0.97	0.97	0.95	0.97	0.98	0.98	0.98

Note. Samples: Br – Brazil ($N = 403$); Ph – Philippines ($N = 232$); NZ – New Zealand ($N = 150$); Ge – Germany ($N = 171$); Factor loadings above 0.40 in bold.

Personal Value Hypotheses

Descriptive statistics

Personal values measured by both value instruments showed adequate internal consistencies in each sample (see Table 4). BVS value dimensions constitute only three items each, and therefore show lower internal consistencies than PVQ value dimensions. The internal consistency of Self-transcendence related values measured by BVS (second indicator: interactive values) was of particular concern. However, the average inter-item correlation of all BVS value dimensions exceeded the suggested minimum of 0.20 (Briggs & Cheek, 1986). Similar internal consistencies have been reported in previous studies on personal values (e.g., Schwartz & Rubel, 2005).

Table 4

Descriptive statistics of value measures and global music preferences (Study 1; total N=966)

	Samples			
	Brazil	Philippines	New Zealand	Germany
	M (SD)	M (SD)	M (SD)	M (SD)
	α	α	α	α
Value domain (measure)				
Self-enhancement (PVQ)	3.81 (0.92)	4.03 (0.81)	3.83 (0.83)	3.59 (0.97)
	0.77	*0.78*	*0.80*	*0.85*
Self-enhancement (BVS)	4.87 (1.01)	5.08 (0.97)	4.38 (0.97)	4.06 (1.09)
	0.54	*0.66*	*0.61*	*0.59*
Openness (PVQ)	4.72 (0.69)	4.68 (0.63)	4.62 (0.64)	4.62(0.63)
	0.76	*0.76*	*0.78*	*0.77*
Openness (BVS)	4.97 (1.03)	4.94 (0.96)	5.04 (0.96)	5.00 (1.07)
	0.47	*0.57*	*0.62*	*0.62*
Self-transcendence (PVQ)	4.90 (0.64)	4.92 (0.62)	4.56 (0.62)	4.69 (0.67)
	0.75	*0.83*	*0.77*	*0.80*
Self-transcendence 1 (BVS)	5.47 (0.93)	5.90 (0.85)	5.24 (0.87)	5.45 (1.03)
	0.41	*0.64*	*0.57*	*0.63*
Self-transcendence 2 (BVS)	5.57 (0.87)	5.82 (0.84)	5.54 (0.90)	5.35 (1.08)
	0.35	*0.66*	*0.68*	*0.63*
Conservatism (PVQ)	4.11 (0.74)	4.58 (0.61)	3.66 (0.70)	3.34 (0.78)
	0.78	*0.81*	*0.80*	*0.82*
Conservatism 1 (BVS)	4.99 (01.31)	5.66 (0.93)	3.98 (01.12)	3.07 (01.06)
	0.69	*0.67*	*0.52*	*0.58*
Conservatism 2 (BVS)	5.82 (0.92)	6.16 (0.81)	5.67 (0.76)	4.92 (1.08)
	0.51	*0.66*	*0.56*	*0.61*
Global music preferences				
Global Rock music	3.31 (1.67)	3.88 (1.55)	3.78 (1.61)	4.44 (1.61)
	0.61	*0.72*	*0.79*	*0.66*
Global Pop music	4.20 (1.56)	4.90 (1.35)	4.48 (1.49)	3.17 (1.43)
	0.54	*0.65*	*0.64*	*0.53*
Global Classic music	3.76 (1.62)	4.44 (1.24)	3.62 (1.25)	4.12 (1.29)
	0.71	*0.56*	*0.69*	*0.52*

Note. M - Mean, SD - standard deviation in parenthesis, α - Cronbach's alpha in italics; PVQ measured on a 1 to 6 Likert scale; BVS and global music preferences measured on a 1 to 7 Likert scale; Brazil, *N* = 403; Philippines, *N* = 232; New Zealand, *N* = 150; Germany, *N* = 171.

The sample means in value orientations differed significantly between the four samples (all Fs > 8.08, ps < 0.001), except for the value dimension Openness. Openness values were at similar levels across the four cultural samples measured by both value instruments (both Fs < 1.53, ps > 0.20).

The internal consistencies of global music preferences scores were adequate in all four samples considering the low number of items (Table 4). Furthermore, preferences for global music styles differed significantly across the four samples (all Fs > 15.00, ps < 0.001). This indicates cultural variability in preferences for global music styles. The intercorrelations[9] between global music preference factors also differed significantly across the samples. As illustrated in Table 5, preferences for global Rock were positively associated with preferences for global Pop music in Brazil and the Philippines. The more people liked Pop music in Brazil and the Philippines, the more they appreciated Rock music. However, this association was negative in New Zealand and Germany. The more people liked Pop music in New Zealand and Germany, the less they appreciated Rock music. Hence, the association between Rock and Pop preferences differed significantly across the samples (*Chi-Square* = 73.45, p < 0.001). The double loading of Metal on the global Pop factor in the German sample provided another indicator of this negative association. The association between global Rock and Classics also differed significantly across the samples (*Chi-Square* = 11.54, p < 0.01). The association between global Rock and Classic was positive in Brazil and the Philippines, whereas it was non-significant in New Zealand and Germany. In Brazil and the Philippines, the more people liked Rock music, the more they appreciated Classics music, whereas in New Zealand and Germany this was not the case. Preferences for global Pop and global Classics differed significantly across the samples (*Chi-Square* = 12.01, p < 0.01). Preferences for global Pop and global Classics were positively correlated except in New Zealand, where the association was negative, but non-significant. The more people liked global Pop, the more they appreciated global Classics music in Brazil, in the Philippines, and in Germany, while this was not the case in the New Zealand sample.

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[9] Bivariate zero order correlations were consulted. Partial correlations controlling for age and gender effects may have been more appropriate considering differences in age and gender distribution across the four samples. However, partial correlations revealed virtually the same results (agreement between bivariate and partial correlations r = 0.98, p < 0.001).

Table 5

Zero-order correlation of global music preferences (Study 1; total N = 966)

	Brazil		Philippines		New Zealand		Germany	
	Rock	Pop	Rock	Pop	Rock	Pop	Rock	Pop
Global Pop	0.29***	1	0.36***	1	-0.22***	1	-0.29***	1
Global Classic	0.24***	0.06	0.13*	0.19**	-0.04	-0.20*	0.07	0.18*

Note. *p < 0.05, **p < 0.01; ***p < 0.001; Brazil, N = 403; Philippines, N = 232; New Zealand, N = 150; Germany, N = 171.

Despite the cross-cultural differences in level and intercorrelations of music preferences, the primary question is whether global music preferences are consistently associated with value orientations across cultures. This question will be addressed after the examination of the convergent validity of the value measures.

Convergent validity of value measures

Next, I assessed whether the value instruments PVQ and BVS measured the same conceptual value facets (convergent validity). The convergent validity of value measures was tested by zero-order correlations (Table 6). Self-enhancement and Openness values showed high convergent validity across the two value measures PVQ and BVS. The convergence between PVQ and BVS with regard to Self-transcendence values was lower compared to the other value domains, yet remained statistically significant. The two Conservatism values measured by BVS were highly correlated with the PVQ measure, while the first BVS value indicator (normative values) showed a stronger association. In sum, measured value domains showed adequate convergent validity across the two value instruments PVQ and BVS. The analyses also confirmed the conceptual convergence between one PVQ value and two BVS values with regard to Self-transcendence and Conservatism values.

Table 6

Zero-order correlation of value domains testing convergent validity of value measures (Study 1; total N = 966)

		PVQ			
		Self-enhancement	Openness	Self-transcendence	Conservatism
BVS	Self-enhancement	**0.62****	0.27***	0.05	0.28***
	Openness	0.26***	**0.50****	0.04	-0.13***
	Self-transcendence 1	0.12***	0.25***	**0.27****	0.20**
	Self-transcendence 2	0.12***	0.17***	**0.27****	0.22***
	Conservatism 1	0.07*	-0.03	0.29***	**0.71****
	Conservatism 2	0.22***	0.00	0.21***	**0.51****

Note. *p < 0.05, **p < 0.01; ***p < 0.001; correlation coefficients indicating convergent validity in bold

Next the value associations of global music preferences are examined. Table 7 shows the partial correlations of predicted associations between music preferences and value orientations for the combined sample. The similarity of correlation coefficients across samples was assessed using Chi-Square tests of r-to-z-transformed coefficients. Insignificant Chi-Square tests point to homogeneity of correlation coefficients and are therefore an indicator for cross-cultural consistency in value associations.

Value associations of Global Rock Music

Preference for global Rock music was negatively associated with Conservative value orientations (Table 7). Although these associations were small, they were statistically significant. The more participants liked global Rock music styles the more they were inclined to reject Conservatism value orientations, such as tradition, religiosity and obedience. This association was consistent across cultures and value measures.

The association between preference for global Rock music and Openness values was not as consistent. Although the BVS measure of Openness values was similarly associated with the preference for Rock music across cultures, the PVQ measure was not. A closer look at the partial correlation coefficients revealed that the PVQ measure of Openness values was positively associated with global Rock music preferences only in Brazil ($r = 0.19$, $p < 0.001$) and in the Philippines ($r = 0.14$, $p < 0.01$), but close to zero in New Zealand ($r = 0.01$, *ns*), and insignificant but negative in Germany ($r = -0.10$, *ns*). In Brazil and the Philippines, liking global Rock music was related to the endorsement of openness to change values, while in Germany and New Zealand this association did not occur. The predictions of the personal value hypothesis 1 were confirmed with regard to Conservatism values; however they were only partially confirmed for Openness values as they did not show cross-measurement validity.

Table 7

Partial correlations of predicted associations between values and music preferences (Study 1; N = 966; correlations controlled for age and gender) and similarity of correlation coefficient across four samples

Music preference	Value measure	Value domain	Association in combined sample	Between sample comparison	
			r	*Chi-Square* (930)	*p*
Global Rock	PVQ	Conservatism	-0.17***	4.20	*ns*
	BVS	Conservatism 1	-0.14***	7.06	*ns*
	BVS	Conservatism 2	-0.09**	3.54	*ns*
	PVQ	Openness	0.08**	12.64	< 0.01
	BVS	Openness	0.14***	5.99	*ns*
Global Pop	PVQ	Self-enhancement	0.19***	3.69	*ns*
	BVS	Self-enhancement	0.24***	1.48	*ns*
	PVQ	Openness	0.18***	0.72	*ns*
	BVS	Openness	0.18***	2.28	*ns*
Global Classic	PVQ	Self-transcendence	0.18***	7.76	*ns*
	BVS	Self-transcendence 1	0.25***	3.85	*ns*
	BVS	Self-transcendence 2	0.09**	1.02	*ns*
	PVQ	Conservatism	0.06	15.58	< 0.01
	BVS	Conservatism 1	0.03	29.88	< 0.001
	BVS	Conservatism 2	0.03	3.05	*ns*

Note. $*p < 0.05$, $**p < 0.01$; $***p < 0.001$

Value associations of Global Pop Music

Preference for global Pop music showed the predicted associations with Self-enhancement and Openness values. The more an individual likes global Pop music the more s/he strives for Self-enhancement, such as power, achievement and promotion; and for Openness, such as stimulation and excitement in life. The predicted associations were consistent across four samples and both value measurements. These findings provide evidence with cross-cultural and cross-measurement consistency that liking for global Pop music, such as Hip-hop, Techno and Pop, is related to materialistic and self-focussed lifestyles.

Value association of Global Classic Music

Preference for global Classic was associated with Self-transcendence values. The more a person likes global Classic music the more s/he appreciates Self-transcendence values, such as beauty, knowledge and caring for the welfare of others. The association between preferences for global Classic and Self-transcendence values was consistent across cultures and value instruments.

Interestingly, there was no consistent association with regard to Conservatism values. Existence values (BVS 2) were not related to preferences for global Classic music in four cultures. Furthermore, individuals who liked global Classic tended to be more conservative and normative in New Zealand (PVQ: $r = 0.17$, $p < 0.05$; BVS 1: $r = 0.11$, ns) and the Philippines (PVQ: $r = 0.19$, $p < 0.01$; BVS 1: $r = 0.22$, $p < 0.01$); whereas they tend to be less conservative and normative in Brazil (PVQ: $r = -0.09$, $p = 0.06$; BVS 1: $r = -0.18$, $p < 0.001$). In Germany there was no association between preference for global Classic and conservatism (PVQ: $r = 0.04$, ns) and a positive association with normative values (BVS 1: $r = 0.17$, $p < 0.05$). These findings are in line with personal value hypothesis 3 with regard to Self-transcendence values, but do not support the association of Classic music with Conservatism.

In summary, the predictions for the link between personal value orientations and global music preferences were partially met regarding global Rock and Classic, and fully confirmed for global Pop music. The results show that the structure of global music preferences is systematically associated with personal value orientation. Hence, value orientations of listeners in four cultures are related to their preferences for global music styles.

Value associations of omitted global music styles

Four music styles Reggae, Country music, Samba and Gospel were excluded from analyses because they did not fit into the three-factorial structure of global music preferences. There are two reasons why a music style may not fit into a global structure, if values can be considered to be the underlying force for the value structure. Firstly, the given music style does not show consistent values associations across cultures, or secondly, the music style is associated with other value orientations or another combination of values compared to the three identified music preference factors. Inconsistent value associations or divergent value combinations of music styles may lead to inadequate fit, if the music preference structure is underpinned by value orientations. I explored the cross-cultural and measurement consistency of value associations in the excluded music styles Reggae and Ska, Country music, Samba and Gospel to attain additional evidence for the music preference – value orientation thesis.

Preference for Country music showed a positive association with Conservatism values (average $r = 0.20$, $p < 0.001$)[10] in the combined sample. However, this association was inconsistent across the four samples. For instance, Country music was positively related with conservative values (PVQ) in Brazil ($r = 0.17$, $p < 0.01$), and in the Philippines ($r = 0.21$, $p < 0.01$); while this association was only slightly positive in New Zealand ($r = 0.11$, *ns*) and slightly negative in Germany ($r = -0.09$, $p < 0.01$). This resulted in a significant cross-cultural difference for the values associated with Country music (*Chi-Square* = 9.05, $p < 0.05$).

Similarly, the preference for Gospel music was associated with Self-transcendence values (average $r = 0.14$, $p < 0.001$) and with Conservatism (average $r = 0.29$, $p < 0.001$) in the combined sample. However, these associations varied considerably across the four samples. For instance, Gospel was positively related to Self-transcendence (PVQ) in Brazil ($r = 0.19$, $p < 0.001$) and in the Philippines ($r = 0.32$, $p < 0.001$), whereas there was no association in New Zealand ($r = 0.07$, *ns*) and in Germany ($r = 0.01$, *ns*). Moreover, Gospel was positively related to conservatism (PVQ) in Brazil ($r = 0.34$, $p < 0.001$), in the Philippines ($r = 0.35$, $p < 0.001$) and New Zealand ($r = 0.24$, $p < 0.001$). However there was no such association in Germany ($r = 0.03$, *ns*). Both examples resulted in significant cross-cultural differences in the value associations of Gospel music (all *Chi Square*s > 10.52, ps < 0.01). The differences in value associations of Gospel might be rooted in the strong relationship between Christian religion and Gospel since Roman Catholicism is the predominant religion in both Brazil and the Philippines, compared to more secular New Zealand and Germany. Hence, one reason why preferences for Country music and Gospel did not fit the common structure of global music preferences may be that these music styles are associated with different value orientations in the four cultural samples.

Preferences for Reggae and Ska correlated with the Self-transcendence value domain (average $r = 0.14$, $p < 0.001$) and Openness values (average $r = 0.16$, $p < 0.001$). These associations showed measurement and cross-cultural consistency (all Chi-Squares < 3.23, *ns*). Fans of Reggae and Ska music in four cultures appreciate Self-transcendence values, such as beauty, knowledge and tolerance, and Openness, such as excitement and stimulating life. Furthermore, preferences for Samba were slightly, but significantly and consistently associated with Openness (average $r = 0.12$, $p < 0.01$),

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[10] For the sake of brevity I present the average of correlations with PVQ and BVS value domains. In case of inconsistency in value associations I report important results.

Self-transcendent values (average $r = 0.12$, $p < 0.001$) and Conservatism values (average $r = 0.10$, $p < 0.01$) in the combined sample. These associations were similar across value measurements and across the four samples (all *Chi-Square*s < 4.04, *ns*). The value combinations associated with Reggae and Samba were not covered by the three global music preference factors. Thus, one reason why preferences for Reggae and Samba did not fit into the global music preference structure may be that none of the global music factors was associated with the particular value combinations that were represented by Reggae and Samba.

These findings propose further evidence for the argument that music preferences in general and the music preference structure in particular are underpinned by listeners' value orientations. Thus, value orientations seem to play a role in individuals' music preferences in addition to being associated with other important variables, such as personality (Rentfrow & Gosling, 2003; Zweigenhaft, 2008), social categories (Rentfrow, McDonald, & Oldmeadow, 2009; Russel, 1997), gender (Colley, 2008; O'Neill, 1997) and age (Mende, 1991).

DISCUSSION

Study 1 revealed consistent personal value associations of global music preferences in the four cultures. The rejection of traditional and Conservatism values are associated with music preferences of fans of global Rock music. Fans of global Pop music find affirmation of their Self-enhancement and Openness oriented values through music. Self-transcendence values are consistently related to preferences for Global Classic music. These findings support the argument that music preferences fulfil the need for value reinforcement (McQuail, 2000). These gratification needs (Blumler & Katz, 1974) are supported by the value expressive functions of music preferences (Katz, 1960), which are systematically used by listeners according to their expectations and evaluations (Fishbein & Ajzen, 1975). The value associations of global music preferences were supported by cross-cultural and cross-measurement validity.

The present study also revealed some intriguing inconsistencies in value associations of several music styles. Preferences for global Rock music were associated with Openness values in samples from Brazil and the Philippines, but not in New Zealand and Germany. Brazil and the Philippines are both collectivistic, non-Western cultures. The preference for Rock music in these two cultures may be associated with openness towards Western culture or Western phenomena, considering that Rock music

has been portrayed as a predominantly "White" phenomenon (Mitchell, 1996; Walser, 1993). An alternative interpretation originates in the compatibility of the three music preference factors (see Table 5). Preferences for global Rock music were positively correlated with preferences for Pop music in Brazil and the Philippines. However, in New Zealand and Germany preferences for global Rock music were negatively associated with preferences for Pop music. These intercorrelations may indicate compatibility or incompatibility of value orientations associated with these music styles. In Brazil and the Philippines Rock and Pop music share their association with Openness values and are thus compatible music styles, whereas in New Zealand and Germany, Rock and Pop music do not share any value associations, thus being incompatible.

At the same time, I also found that the degree of preference for each of the three music factors varied significantly between the four cultures. More precisely, participants from Brazil and the Philippines liked Pop music most and Rock music least, whereas participants from New Zealand liked Pop most and Classics least and the German sample liked Rock most and Pop music least. This indicates cross-cultural variability in music preferences. The cultural music preference variability may be systematic and underpinned by cultural values. Significant differences in value orientations between the four samples may be a first support for the hypothesis that music preferences are related to cultural values. This argument will be investigated in detail in Study 2. This second study extends the scope of the value-music link to the cultural level. This will reveal whether societal music preferences also operate as an expression and representation of cultural values.

Limitations

A limitation of Study 1 is that the selected samples do not represent the wider populations in these national cultures. Cross-cultural studies demand comparable samples in terms of socio-cultural compositions (van de Vijver & Leung, 1997). Student samples are convenient in this regard as students around the world share similar socio-demographic patterns (Bond, Leung, Au, Tong, & De Carrasquel, 2004). Thus, Study 1 fulfilled the demand of sample comparability in cross-cultural research, while limiting the generalizability of our findings to young adults and student populations in the included cultures.

The structural congruence of music preferences showed sufficient – although not perfect – fit across the four cultures. It cannot be assumed that similar songs were in mind when participants answered the questionnaire. In fact, it can be anticipated that participants had quite different songs in their minds when indicating their preferences for global music styles. However, I argue that music styles and genres carry reliable meta-information about entailed value orientations (Rentfrow & Gosling, 2006, 2007). The consistent value fit across samples from four quite distinct societies enabled a stable music preference structure. The findings support the adequacy of using music styles as level of measurement for music preferences.

Study 1 revealed value associations of music preferences that were mostly small to medium effects (Cohen, 1988). Effect sizes in the small to medium range are common in social psychological research considering that a complex system of social forces influences behavioural and attitudinal processes. Hence, adequate investigation of socially complex associations, such as the link between value orientations and music preferences, requires advanced and appropriate methodologies. The current study used two specific methodological qualities. First, the cross-cultural comparison tested patterns in value-music associations for cross-cultural consistency, allowing conclusions beyond cultural boundaries. Brazil, the Philippines, New Zealand and Germany have unique musical traditions with regard to the culture specific music heritage. Yet, the value associations of global music preferences across the four culturally diverse societies were consistent providing empirical evidence for the music – value link with high cross-cultural validity. Second, the multi-measurement approach ensured validity of findings across instruments demonstrating conceptual associations with value domains independent of value measurements. These two advancements provide methodologically strong support for the proposed hypotheses although the effects sizes were not overwhelmingly high.

Summary

Study 1 aimed to identify global music styles, to reveal their structure and the underlying value associations across samples from four culturally diverse countries, Brazil, the Philippines, New Zealand and Germany. Thirteen music styles were well recognized in all four samples. Nine of those music styles composed a stable and comparable three factorial structure consisting of preferences for global Rock, global Pop and global Classic. The preference for Rock, Metal and Punk music was globally

associated with individuals' rejection of traditional values. Persons who like Pop, Hip-hop and electronic music globally shared success and excitement oriented values. Individuals who liked Classical music, Jazz and Folk globally endorsed values with a Self-transcendent orientation, such as appreciating beauty, knowledge, and tolerance.

Four global music styles did not fit the global music preference structure because they showed inconsistent value associations across cultures (Country music and Gospel), or they were associated with other value combinations than the global music preference structure (Reggae & Ska and Samba). Hence, Study 1 presented evidence for the claim that music preferences are systematically underpinned by value orientations. One function served by music preferences is to fulfil the need of value reinforcement by expressing expected value orientations. These broad tendencies appear to be stable across cultural samples and across value measurements.

INTRODUCTION

Schwartz (2003, in press) argued that cultural values find expression in many ways, such as in everyday practices, beliefs and symbols. Music certainly is one of those symbols. While Study 1 examined the value – music preferences link at the individual level, Study 2 addresses this link at the societal level. The aim of Study 2 was to explore the association between societies' appreciation for global music as an expression of cultural values.

Two approaches were employed to assemble societal music preferences. First, a large scale multi-cultural study was conducted to assess preferences for global music styles in a variety of culturally diverse societies. Data was collected in nine societies[11]: Brazil, Mainland China, Hong Kong, Germany, Mexico, New Zealand, the Philippines, UK and the USA. These societies represent a balanced sample of Western and non-Western, collectivistic and individualistic (Hofstede, 2001), and Mastery- and Harmony-oriented cultures (Schwartz, 2003).

Second, a meta-analysis was conducted assembling music preference scores reported in previous studies. The meta-analytical approach covered data from nine societies: Australia, Brazil, Finland, Germany, Israel, Japan, the Netherlands, UK and the USA. These societies cover a balance of egalitarian and hierarchical cultures, and predominantly individualistic societies, except for Brazil and Japan.

The multi-cultural study and the meta-analysis both provided indicators of societal level music preferences. Aggregated scores for societies' tendencies to appreciate global music styles from both approaches were used to test the three cultural value hypotheses (cf. Section 1). Since both approaches test the same hypotheses, I present them in a parallel manner in order to avoid repetition. Similarities and differences in the composition of both data sources for societal music preferences are addressed in the results and in the discussion section.

Two external databases of cultural values were employed: cultural value country scores based on Hofstede's data and country scores based on Schwartz' data. A

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[11] Samples are partially overlapping with samples in Studies 1, 3, and 6.

cultural level analysis (ecological analysis) tested the association between societal music preferences from both sources (multi-cultural study and meta-analysis) and Hofstede's and Schwartz' country scores of cultural values.

This cultural level analysis aimed to reveal whether societal music preferences are associated with societal values. Study 2 is – to the best of my knowledge - the first attempt to investigate the association between societal preferences for global music styles and cultural values. The cultural value hypotheses were developed based on the premise that music preferences may be associated with different value patterns at the societal level compared to the individual level. However, given its novelty this study was exploratory in nature. The multicultural study and the meta-analysis provided a multi-method assessment of the research question. Multi-method and multi-measurement approaches can support claims about stability in findings.

METHOD

Societal music preferences: a multi-cultural study
Participants

Data was collected online in nine countries and additionally at universities in six of these countries (Brazil, Philippines, Germany, Hong Kong, Mexico and New Zealand). A total of 2283 participants from nine societies took part in this study (Table 8). Participants had an average age of 23 years ($SD = 7.41$), 51% were female. The sample sizes per country ranged from 32 (Mainland China) to 673 (Brazil). Comparable samples sizes were included in previous large-scale multi-cultural studies (e.g., Bond et al., 2004; Smith et al., 2002). Small sample sizes may show weaknesses, such as data that is not representative of the wider population. However, in cultural level analysis even small samples add further data points, which substantially benefit the analysis (Smith et al., 2002).

Music preferences

Preferences for global music styles were assessed using the final list of global music styles developed in Study 1. The scale encompassed nine global styles covering three music preference factors: Rock / Alternative, Metal and Punk assembled global Rock styles; Pop, Hip-hop & Rap, and Techno & Electro assembled global Pop styles; and Classical & Opera, Folk music and Jazz & Blues assembled global Classic styles. Participants rated their like or dislike of each music style on a 7-point Likert scale (1 =

"I don't like it at all"; 7 = "I like it very much"; 0 = "I don't know this music style" - coded as missing value).

Individual level data was aggregated to country scores (average per country) of preferences for Global Rock, Global Pop, and Global Classic (Table 8).

Translation of the questionnaire

The survey was designed in English and then translated into Portuguese, German, Chinese and Spanish. The survey was translated into Portuguese, Chinese, and Spanish by the collaborators in Brazil, Hong Kong and Mexico. The translation procedure consisted of translation and back-translation. I examined the back-translations and provided feedback for refinements. The survey was administered in English to the samples in New Zealand, the Philippines, UK and USA, in Chinese to the samples in China and Hong Kong, in Spanish to the sample in Mexico, in Portuguese to the samples in Brazil, and in German to the samples in Germany.

Table 8

Description of samples and societal music preferences (Study 2)

Country	N	Age years	Female %	Music preferences		
				Global Rock	Global Pop	Global Classic
Source: Multi-cultural study[1]						
Brazil	673	24.59	52	3.13	4.23	3.72
China	32	20.44	56	4.12	4.80	4.44
Hong Kong	96	20.43	32	3.40	4.54	4.61
Germany	588	23.88	37	4.57	2.94	4.02
Mexico	45	22.96	51	4.12	4.00	4.47
New Zealand	397	20.99	64	4.25	4.66	3.84
Philippines	341	19.92	69	4.11	4.92	4.42
UK	65	29.76	29	4.25	4.68	4.48
US	46	26.96	29	4.87	4.51	4.40
Source: Meta-analysis[2]						
Australia	163	21.00	58	0.75	0.68	0.66
Brazil	425	22.38	58	0.50	0.54	0.50
Finland	1515	15.01	56	0.70	0.65	-
Germany	507	24.80	71	0.55	0.35	0.41
Israel	808	45.00	53	0.46	0.45	0.54
Japan	2131	16.81	38	0.49	0.53	0.52
Netherlands	4442	13.90	48	0.50	0.58	0.69
UK	4185	25.19	53	0.43	0.61	0.33
US	1689	43.85	54	0.52	0.60	0.63

Note. [1] music preferences measured on a 1 to 7 scale;
[2] music preference scales converted to a 0 to 1 scale.

Societal music preferences: a meta-analysis

Procedure and studies

In the meta-analysis I assembled previously reported empirical data on music preferences. Suitable articles were retrieved in a multiple database search (including PsycInfo, ERIC and ProQuest) entering the key word 'music preference'. Additionally, I contacted researchers in the field requesting data suitable for the analysis. The search resulted in 113 articles. The inclusion criteria were that the articles must include means of music preferences. Only 14 articles presented data on music preferences (mean scores), including samples from nine countries (Table 8). Besides music preferences, I coded two socio-demographic variables: sample mean age and percentage of females in the sample. The articles included data from a total of 15,440 participants with an average age of 23 years, 51% were female. Most country scores were composed of only one study except for scores from Brazil (2 studies) the Netherlands (2 studies), UK (3 studies), and the USA (2 studies). Studies were weighted by sample size if more than one study was reported from a country. Samples sizes per country ranged from 163 (Australia) to 4,442 (Netherlands).

Coding of music preferences

Two types of reported data were suitable for this meta-analysis: first, mean scores of music preference factors that were (at least partially) congruent with the three global music preference factors; and second, mean scores of preferences for single music styles so that the average scores could be calculated according to the three global music preferences factors. Reported data used various Likert style scales. In order to make the measurement scales comparable, coded scores were converted to a standard scale ranging from 0 to 1^{12}. Data was coded on study level and then aggregated to country level.

Cultural values

Two indicators for cultural values were used: Hofstede's (2001) five cultural dimensions and seven cultural value orientations represented in three value dimensions from Schwartz (e.g., 2003, in press). I employed aggregated country scores from

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[12] Similar to the POMP procedure (percentage of maximum possible score; Cohen, Cohen, Aiken & West, 1999), scales ranging from 0 to X were transformed by dividing the given score by X. Scales ranging from 1 to X were first transformed to a 0 to X-1 scale, and the score was then divided by X-1.

Hofstede's data collected between 1967 and 2003 from employees of 49 cultures (http://www.geert-hofstede.com/hofstede_dimensions.php) and Schwartz' data collected between 1988 and 2005 from students of 77 cultural groups using the Schwartz Value Survey (http://isdc.huji.ac.il/ehold10.html#E2). Scores were available for Hofstede's five cultural dimensions, Power Distance, Individualism – Collectivism, Masculinity – Femininity, Uncertainty Avoidance and Long-term Orientations ranging from 0 to 120. Long-Term Orientation scores were available for eight societies in the multi-cultural study (data for Mexico was missing), and for seven societies in the meta-analysis (data for Finland and Israel were not available). The other values scores were available for all included societies. Schwartz' country scores are mean scores of seven cultural values measured on a 9 point Likert-scale (-1 to 7). Difference scores were calculated representing the three cultural value dimensions Egalitarianism vs. Hierarchy, Harmony vs. Mastery, and Embeddedness vs. Autonomy (Schwartz, 2006).

Analytical strategy

First, the datasets are described according to their representation of cultural dimensions and values. This description gives insight into the cultural variability of the two datasets, which is important as the datasets vary in their cultural dispersion.

Second, I tested the three cultural value hypotheses conducting ecological correlations (correlation at the country level) between societal music preferences and cultural values[13]. The associations were controlled for age effects given that the included samples varied in average age ranging from 20 to 30 years in the multi-cultural study and from 14 to 45 in the meta-analytical data. The datasets were composed of nine cases each, which made conventional significance tests unsuitable. Instead, I established a benchmark based on Cohen's (1988) effects sizes and previously reported cross-cultural meta-analyses using ecological correlations. Cohen (1988) cautiously defined the benchmarks of small effects ($d = 0.20$), medium effects ($d = 0.50$) and large effects ($d = 0.80$), which corresponds with correlation coefficients of 0.10, 0.24, and 0.37, respectively. However, Cohen's effect sizes refer to individual level data and might not be applicable to ecological analysis including a limited number

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[13] Schwartz (e.g., 1999, in press) highlighted that cultural value scores need to be adjusted for cultural response styles. He stressed that the failure to correct for cultural specific response scale use may lead to incorrect results (Schwartz, 2007). However, I employed a difference score representing the three value dimensions. The subtraction of two values eliminates cultural response styles in value scores.

of data points. Hence, the large effects size according to Cohen's definition should be set as minimum criteria for evaluating effects in the current study.

Furthermore, van Hemert's (2003; see also van Hemert, Poortinga, & van de Vijver, 2007; Van Hemert, van de Vijver, & Poortinga, 2002) collection of cultural level meta-analyses found meaningful ecological correlations between Eysenck Personality Questionnaire (EPQ) and Hofstede's cultural dimensions ranging from 0.47 to 0.68 ($p < 0.05$), in a sample of 23 countries. Meaningful correlations between EPQ and Wellbeing ranged from 0.41 to 0.57 ($p < 0.05$) in a sample of 30 countries. Furthermore, the associations between the Beck Depression Inventory and various societal indicators were evaluated based on bootstrapped significance ($p < 0.05$) ranging between 0.40 and 0.87 including at least 11 countries. The last association is most comparable to the current study with regard to sample size. According to Cohen's benchmark this is a large effect. In order to set a conservative standard, I employed 0.40 as the benchmark for evaluation of associations in the present study.

In Study 1, the coefficients between countries were compared. In the current study, two datasets were available to test the proposed hypotheses. In the third phase of analysis, I calculated profile correlations between the value associations revealed by the multi-cultural study and the meta-analysis in order to assess the cross-method consistency of findings. Profile correlation simply comprised the zero-order correlation between the value associations of societal music preferences revealed in both methods. Cross-method consistency was assessed for each music preference factor separately. Associations with Hofstede's five cultural dimensions and Schwartz' seven cultural values (instead of 3 dimensions for higher reliability) were used to calculate the profile agreement.

RESULTS

Descriptive statistics

Figures 3 and 4 show the cultural characteristics of societies included in the multicultural study and the meta-analysis. Although the two datasets encompassed the same number of societies, they differ in their variability in cultural dimensions and values. In the multicultural study, Power Distance ranged between 22 and 94 (*range* = 72), Individualism ranged between 20 and 91 (*range* = 71), Masculinity ranged between 49 and 69 (*range* = 20), Uncertainty Avoidance ranged between 29 and 82 (*range* = 53) and Long-term Orientation ranged between 19 and 118 (*range* = 99).

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In the meta-analysis, Power Distance ranged between 13 and 69 (*range* = 56), Individualism ranged between 38 and 91 (*range* = 53), Masculinity ranged between 14 and 95 (*range* = 81), Uncertainty Avoidance ranged between 35 and 92 (*range* = 57) and Long-term Orientation ranged between 25 and 80 (*range* = 55). The multicultural study represents a wider variety of societies with regard to Hofstede's cultural dimensions Power Distance, Individualism, and Long-term Orientation; while the meta-analysis represents more variety with regard to Masculinity and Uncertainty Avoidance.

With regard to Schwartz' three cultural value dimensions, the multicultural study represents societies ranging between 0.81 and 3.25 (*range* = 2.44) on the Egalitarianism vs. Hierarchy dimension, ranging between -0.98 and 0.63 (*range* = 1.60) on the Harmony vs. Mastery dimension, and ranging between -1.83 and 0.49 (*range* = 2.32) on the Embeddedness vs. Autonomy dimension. The meta-analysis represents societies ranging between 1.54 and 3.25 (*range* = 1.71) on the Egalitarianism vs. Hierarchy dimension; ranging between -0.98 and 0.63 (*range* = 1.60) on the Harmony vs. Mastery dimension; and ranging between -1.83 and -0.51 (*range* = 1.32) on the Embeddedness vs. Autonomy dimension. Hence, the multicultural study covers a wider variety of cultural values with regard to Egalitarianism vs. Hierarchy and Embeddedness vs. Autonomy compared to the meta-analytical dataset.
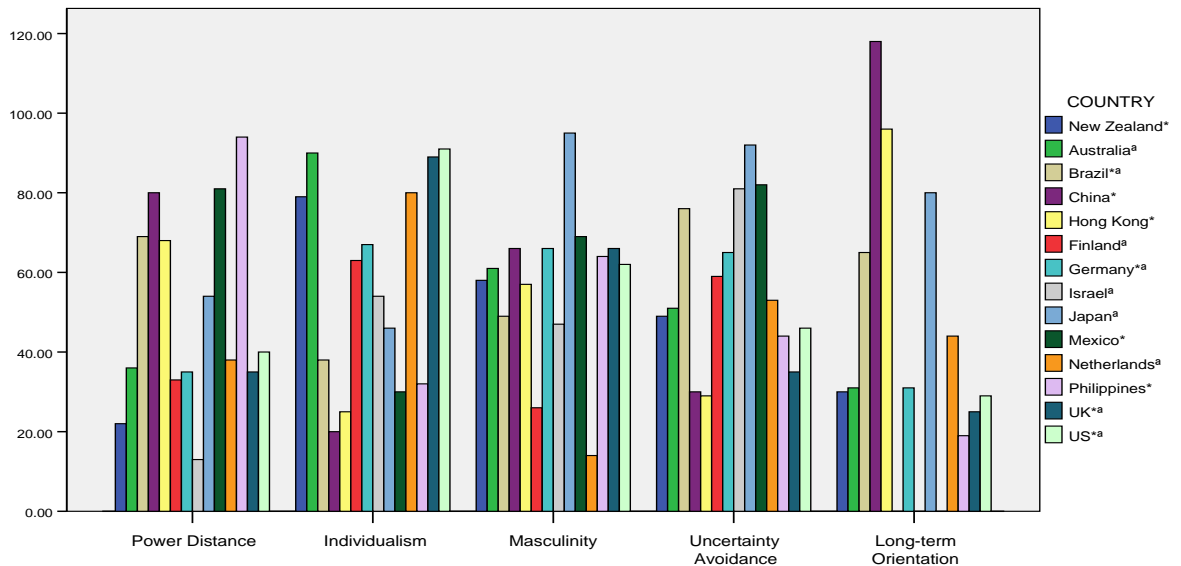
Figure 3. Hofstede's cultural dimensions of societies included in the multicultural study (marked by *) and in the meta-analysis (marked by [a])
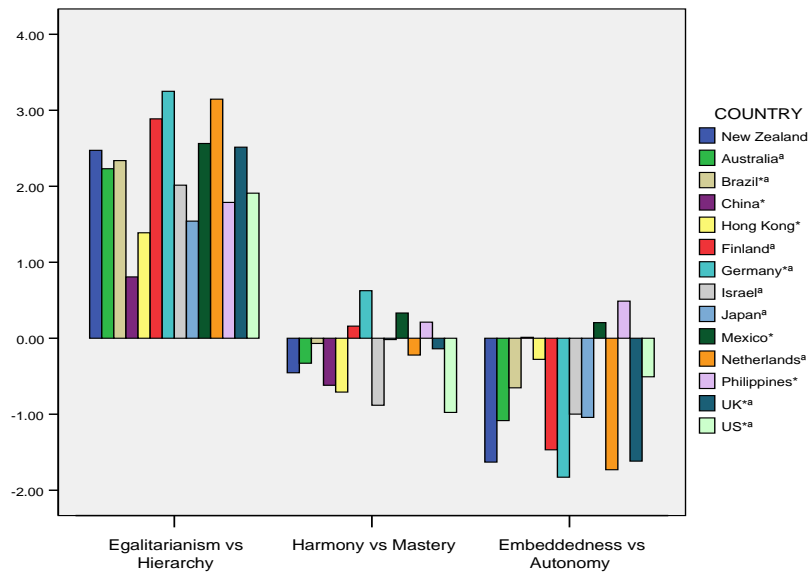
Figure 4. Schwartz' cultural value dimensions of societies included in the multicultural study (marked by *) and in the meta-analysis (marked by ᵃ)

Cultural value hypotheses

The results of the ecological correlations between societal attitudes towards global music styles and cultural values are presented in Table 9.

Value associations of global Rock music

The ecological correlations indicated that societal preferences for global Rock music were an expression of Individualism and Masculinity according to the multicultural study. Societies that emphasise the independence of individuals and strong gender role divisions tend to appreciate global Rock music more than societies that emphasise the interdependence of individuals and their integration in groups and less strict differences in gender roles. However, these associations were not confirmed in the meta-analytical data. The prediction that global Rock is associated with Autonomy was not confirmed. Unexpectedly, preference for global Rock was negatively correlated with Long-term Orientation. Hence, societies emphasising Short-term Orientation tend to appreciate Rock music more than societies which prefer Long-term Orientations. This association was consistent across both research methods.

The cultural value hypothesis 1 was partially confirmed with regard to the association between societal Rock preferences, Individualism and Masculinity although these associations showed some variation across the two methods.

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Value associations of global Pop music

Societal preferences for global Pop music were associated with Mastery values (indicated by a negative correlation with the Harmony vs. Mastery dimension) and with Embeddedness values (indicated by a positive correlation with the Embeddedness vs. Autonomy dimension). Societies which endorse ingroup solidarity and traditional order (Embeddedness), and societies which dominate over social and natural sources (Mastery), tend to favour Pop music more than societies that emphasise harmonic coexistence of nature and humanity and Autonomy in individuals' thinking and expression. Both associations were underlined by cross-method consistency.

Furthermore, societal preference for Pop music was related to Hierarchy values in the multicultural study. This association was in the same direction in the meta-analysis, but did not reach the expected benchmark criteria. The predicted association between societal preference for global Pop music and Power Distance was not significant. The cultural value hypothesis 2 was therefore confirmed for the association with Mastery and Embeddedness, partially confirmed for Hierarchy, and was not confirmed for Power Distance.

Unexpectedly, Uncertainty Avoidance was consistently negatively correlated with Pop preferences. Societies tolerating ambiguity towards the future were more open towards global Pop music styles compared to societies that have a low tolerance of future uncertainty. This unexpected association was consistent across the two methods. Furthermore, Individualism was associated with societal preferences for global Pop music in the meta-analysis. This association appears contradictory with the stable and positive association with Embeddedness values. This association with Individualism was not confirmed in the multicultural study.

Value associations of global Classic music

Societal preference for global Classic music indicated Embeddedness, Mastery, Hierarchy values, and Power Distance. Societies emphasising ingroup solidarity and traditional order (Embeddedness), hierarchical structures (Hierarchy, Power Distance), and societies dominating over social and natural sources (Mastery) tend to favour global Classic music more. These associations are in line with cultural hypothesis 3. However, only one association (Embeddedness) demonstrated cross-method validity. Additionally, societal preferences for global Classic music were negatively correlated with Uncertainty Avoidance in the multicultural study. Societies which tolerate future

ambiguity tend to appreciate Classic music more than societies that are intolerant of future uncertainty. However, this association was not confirmed in the meta-analysis. Contradicting results were found with regard to Masculinity: the multicultural study indicated that societal preferences for Classic music are related to Masculinity, while the meta-analysis indicated an association with Femininity.

Cross-method consistency

In order to assess the consistency of findings across the two methods, profile correlations were computed between the associations revealed by the multicultural study and meta-analysis. The associations with Schwartz' seven cultural values correlated $r = 0.11$ for global Rock music, $r = 0.93$ for global Pop music, and $r = 0.76$ for global Classic music across the two methods (average $r = 0.60$). The associations with Hofstede's cultural dimensions were $r = 0.70$ for global Rock music, $r = 0.60$ for global Pop music, and $r = -0.51$ for global Classic music across the two methods (average $r = 0.26$). Hence, the profile correlations of cultural value associations showed mostly high consistency across methods, except of the associations between Rock preferences and Schwartz' values, and between Classic preferences and Hofstede's cultural dimensions.

Table 9

Associations between societal music preferences and cultural values (Study 2; correlations controlled for sample age)

| | Societal Music Preferences | | | | | |
| | Source: Multi-cultural study | | | Source: Meta- analysis | | |
	Global Rock	Global Pop	Global Classics	Global Rock	Global Pop	Global Classics
Schwartz' cultural values						
Egalitarianism vs. Hierarchy	0.13	**-0.72**	**-0.56**	0.11	-0.27	-0.08
Harmony vs. Mastery	0.00	**-0.63**	-0.25	0.08	**-0.59**	**-0.68**
Embeddedness vs. Autonomy	-0.13	**0.40**	**0.58**	0.23	**0.49**	**0.49**
Hofstede's cultural dimensions						
Power Distance	-0.37	0.23	**0.45**	-0.07	0.18	0.09
Individualism - Collectivism	**0.62**	0.00	-0.32	0.22	**0.46**	0.19
Masculinity - Femininity	**0.69**	-0.14	**0.59**	-0.09	-0.14	**-0.50**
Uncertainty Avoidance	-0.15	**-0.61**	**-0.53**	-0.22	**-0.57**	-0.05
Long-term Orientations	**-0.45**	0.11	0.26	**-0.52**	**-0.40**	0.00

Note. Associations above the benchmark 0.40 in bold.

DISCUSSION

Confirming the predictions, global music preferences were found to be cultural expressions of societal value systems. The results to a certain degree emulate the public representation of the three Global music styles. Pop music and Classic are represented in unambiguous, clear pictures. Pop music has been widely accepted as the essential mainstream form of music, for instance TV programs IDOL and Superstar have spread to most corners of the world. Some Pop stars, such as Boy Bands appealing to younger audiences, try to preserve a positive image in order to be seen as societal role models. Classic music is the symbol of the elite and the high culture and thus represents hierarchical societal structures. Both Pop and Classic music confirm societal conditions by representing affirmation of societies' social order, authority within a society and the significance of societal and personal ambition. Considering the unexpected result of Uncertainty Avoidance and Pop music, the tolerance for future ambiguity fits to the fast changing faces of global Pop music. Every week new Pop stars arise – what is hip this week may be out next week - indeed, this uncertainty is fundamental to the appeal of global Pop music.

On the other hand, Rock music evokes ambiguous images in the public sphere, ranging from being associated with intellectual giftedness (Fleming, 2008) to causing gun rampages (Navarro, 2007). In any case the public representation of Rock and Metal music is controversial, and this highlights the individualistic and independent character of global Rock music. This also underpins the lack of associations regarding Schwartz' cultural values: Rock music is neither affirmation nor contradiction to cultural values; instead it emphasises the independence between individuals and society. The unexpected association with Short-term Orientation points towards the focus on the present and striving for immediate rewards. The expression of masculinity in Rock music has been discussed previously (Walser, 1993). Hence, Rock music can be interpreted as a masculine substitute for emotionality. Societal Masculinity also suggests that women in power exhibit masculine or non-traditional gender-role behaviour in accordance with the power position. This association simultaneously applies to female Rock bands, if we think of Riot Grrrl, for instance, which was an underground feminist punk movement in the USA starting in 1990 (Rosenberg & Garofalo, 1998; Schilt, 2003). This movement encouraged women bands to make themselves heard, fighting against men's musical and political dominance while displaying strong masculine behavioural patterns.

However, the interpretations of the results shall be cautiously evaluated considering that some findings were not consistent across methods, and are thus, only tentatively valid. The analysis of cross-method consistency revealed high validity except for the associations between global Rock and Schwartz' value dimensions and between global Classic and Hofstede's cultural dimension. The cross-method inconsistency between global Rock and Schwartz' value dimensions is only of minor importance, because the value dimensions were not significantly associated with global Rock preferences. On the other hand, the cross-method inconsistency between global Classic preferences and Hofstede's cultural dimension is due to a reversed association with regard to societal Masculinity (see Table 9). Hence, these contradicting and inconsistent findings call for a careful evaluation of the two methods and the samples included in each analysis.

Limitations

Both datasets display various limitations but also strengths. The multicultural study included some rather small samples, which cannot be representative for their culture. The meta-analytical approach provided acceptable sample sizes. However, the sample populations varied from secondary school students to general population. This may mean that the samples were not fully comparable. I tried to countervail the sample issue by controlling for age effects in the analyses. However, a further limitation of the literature based approach is evident: most published articles include Western samples. Thus, a Western publication bias is present in the coded meta-analytical data with seven of the nine societies being Western. The multicultural study on the other side included more diverse countries (4 Western, 2 South-American, and 3 Asian cultures). The research question of this study targets cultural variability in values, and hence, the more culturally varying dataset provides more explanatory power. The multicultural study outperforms the meta-analysis regarding the variability in Egalitarianism vs. Hierarchy, Embeddedness vs. Autonomy, Power Distance, Individualism, and Long-term Orientation, while the meta-analysis represents more variety with regard to Masculinity and Uncertainty Avoidance. Thus, inconsistent results may be partially explicable by the different samples and associated cultural variability across the two methods.

Another limitation stems from the coding of music preferences in the meta-analytical approach. Although preferences for single music styles were reported in most papers (12 papers) not all nine relevant music styles for the three global music factors

were included. Thus, only the fitting styles were chosen and mean scores were calculated as estimates. The remaining two articles reported factor mean scores, which were only partly overlapping in content with the three factors of global music preferences. Again, the most appropriate factors were chosen as estimates. These issues somewhat limit the comparability between the meta-analytical and multicultural data.

Despite these limitations, the analyses with both sources of societal music preference indicators resulted in consistent findings. Both methods have distinct limitations resulting in a mutual elimination of these limitations (Brewer & Hunter, 2005). The attainment of fairly consistent results through the use of multiple methods provides support for the validity of the findings (Brewer & Hunter, 2005).

Summary

Study 2 was the first of its kind investigating societies' appreciation for global music styles as an expression of cultural values. This study employed two method-ological approaches to assemble societal music preferences and two independent databases of cultural values. A large-scale multicultural study which included over 2000 participants was conducted to assess preferences for three global music preference factors (Global Rock, Global Pop, and Global Classic) in a variety of culturally diverse societies. A meta-analysis was conducted to assemble music preference estimates for the conceptually similar global music preference factors from nine mostly Western societies, which included over 15,000 participants.

Societal music preference scores from both sources were correlated with Hofstede's five cultural dimensions and Schwartz' three cultural value dimensions. The results revealed that endorsement of Individualism and Short-term Orientation in the sampled societies was reflected in societal appreciation of global Rock, Metal and Punk music. Furthermore, Embeddedness values, endorsement of Mastery and Hierarchy and Uncertainty tolerance were expressed in societal preferences for global Pop, Hip-hop and Dance music. Mastery values and Embeddedness of individuals pointed towards societal appreciation of global Classical music, Jazz & Blues and Folk music. The multi-method multi-measurement approach provides an insightful and validated venture into an ecological analysis linking values and music preferences.

SECTION 4
Summary and Conclusion

Summary

Chapter Two investigated the association between value orientations and music preferences in cross-cultural contexts. This chapter provided an insight into the relationship between personal values and individuals' music preferences in four cultures. Furthermore, societal appreciation for global music styles was examined as an expression of cultural values. Psychological processes involved in the generic link between value orientations and music preferences were discussed, drawing on the value expressive function in Attitude Function Theory (e.g., Katz, 1960), Expectancy Value Theory (e.g., Fishbein & Ajzen, 1975) and the uses and gratification approach to media use (e.g., Blumler & Katz, 1974). It was argued that music preferences fulfil the need of value reinforcement and that this gratification is systematically sought by listeners in their music. Music is evaluated according to the listener's expectation and evaluation of value expression in music.

Study 1 revealed that 13 music styles were well-known in samples of four culturally diverse societies (Brazil, Philippines, New Zealand, and Germany). A stable and cross-culturally consistent three factorial structure represented nine of 13 global music styles. The three factors of global music preferences were Global Rock, Global Pop and Global Classic. The factor structure was consistently underpinned by personal value orientations. Preference for Global Rock was associated with the rejection of Conservatism; preference for Global Pop was related to Self-enhancement and Openness; and Self-transcendence values were associated with the appreciation of global Classic music. These findings were supported by cross-cultural and cross-measurement validity.

Study 2 explored the tendency of societies to appreciate global music styles that were associated with their cultural values. A large-scale multicultural study and a meta-analysis assembled societal preferences for the three global music preference factors. An ecological analysis investigated the associations between societal music preferences and cultural values collected by Schwartz and Hofstede. Findings confirmed that cultural values are expressed in societal music appreciation. This was the first study to link cultural values with global music styles extending sociologists' and

ethnomusicologists' claim that culture specific music is associated with cultural values. The multi-method multi measurement approach of Study 2 enhanced the validity of the findings.

In sum, this chapter provided a theoretically based and cross-culturally valid exploration linking music preferences to personal and cultural values. This research advances our understanding of people's musical choices based on personal and cultural values in addition to previously revealed factors, such as personality traits, age and gender. Furthermore, the examination of two levels - the individual and cultural levels - bridges ethnomusicological and music-psychological perspectives elucidating two processes underlying the functioning of values and music preferences. The two studies employed advanced multi-measurement and multi-method approaches enhancing the consistency and validity of the results (Brewer & Hunter, 2005).

Music preferences: emic vs. etic or global vs. local

As outlined earlier, the landscape of musical styles is diverse in most cultures, encompassing styles originating within a given culture and styles that originate elsewhere. The current study focussed on those music styles that are known and appreciated in many cultures. These genres were called global music styles due to their global dissemination. Cultural imperialists may argue that these global styles are Western music styles imposed on non-Western cultures (Tomlinson, 1999). However, there are two counterarguments enfeebling the cultural imperialism thesis. First, the identified global music styles originate in diverse cultures. Furthermore, global music styles mostly represent an amalgamation of cultural influences, such as Samba, Hip-hop or Folk music. Hence, 'global' refers to the cultural origin as well as the dissemination of these music styles.

Second, the cultural imperialism thesis can only fully be evaluated if global music styles are assessed in concurrence with non-global styles, i.e., music with local character (Robertson, 1995). Important facets of music preferences - which are particularly salient in non-Anglophone societies - are local music styles, such as Música popular Brasileira (MPB) in Brazil and Original Pilipino Music (OPM) in the Philippines. These culture specific music styles may be either independent of global influences or they may be local adaptations of global music styles.

Boer, Fischer, and Mendoza (under review) presented a novel insight into the comparability of local and global music preferences with regard to their value

associations in the Philippines. Their findings support the idea of an active adaptive cultural appropriation of media use outside the country of origin (Morley, 1992) being applicable to musical preferences. The value associations between local and global styles were mostly not equivalent. The authors interpret the findings in the frame of the "glocalisation" phenomenon, which is an intersection of globalisation and localisation (Robertson, 1995). The results provided evidence "that Filipinos adapt and localised global popular music styles like Rock and Pop - becoming Pinoy Rock and OPM - by enriching them with local meaning and content" (Boer, Fischer, & Mendoza, under review, p. 21).

Hence, the consistent value associations of global music preferences revealed in the current study can be interpreted as appropriate semiotic decoding of value expression in global music styles across cultures (Elicker, 1997; Nattiez, 1990). The focus on global music preferences is particularly suitable, if not necessary, in cross-cultural research on music preferences. However, this approach does not cover the whole range of music preferences in a given culture. Mono-cultural research is advised to include global as well as local and other relevant music styles in order to capture an adequate representation of music preferences.

Personal and cultural values in global music: distinct or related processes?

Personal and cultural value associations of music preferences have been treated separately in Studies 1 and 2 as these two associations have previously been studied in two very distinct research fields. However, it is people who listen to music, and it is people who compose cultures. Thus, the strict distinction may be somewhat unjustified. This refers to a recent critique on the structural distinction between personal and cultural values (e.g., Fischer, et al., in press; Fischer & Poortinga, submitted; Rohan, 2000). For instance, Fischer et al. (in press) provided empirical evidence for a close, but not perfect, congruence of the value structure at personal and cultural levels. If personal and cultural values share structural similarities they may be functionally interrelated.

The above argument calls for a reassessment of the findings of Study 1 and Study 2 in a comparison. Table 10 summarized the key findings of both studies. Preference for global Rock music was associated with rejection of Conservatism values at the individual level, and with Individualism and Short-term Orientation at the cultural level. These associations show parallels. Individualism opposes Collectivism, which is the protection through group membership in return to group loyalty. Group

loyalty implies following group norms. Thus, Individualism typically implies rejections of group norms. The violation of group norms would result in being casted out of the group in the long run. Thus, rejection of Conservatism may be interpreted as a Short-term Orientation. Personal and cultural value associations of global Rock music complement each other.

Table 10

Personal and cultural value association of music preferences (Study 1 and Study 2)

Values	Music preferences		
	Global Rock	Global Pop	Global Classic
Personal values[1]	Rejection of Conservatism	Endorsement of Self-enhancement and Openness	Endorsement of Self-transcendence values
Cultural values[2]	Individualism and Short-term Orientation	Mastery, Embeddedness values, Hierarchy and low Uncertainty Avoidance	Mastery and Embeddedness values

Note. [1] supported by cross-cultural and cross-measurement validity; [2] supported by a degree of cross-method validity (i.e., associations revealed by both methods were in the same direction).

Preference for global Pop music was related to Self-enhancement and Openness values at the individual level, and to Mastery, Embeddedness, Hierarchy values and low Uncertainty Avoidance at the cultural level. These associations also share commonalities. Mastery and Hierarchy values point towards power, success and achievement focus, which are assembled in Self-enhancement values. Uncertainty tolerance indicates tolerance of ambiguity and openness, which partially overlaps with facets of Openness. The cultural association of global Pop with Embeddedness values, however, seems not to show congruency to the personal level value associations. For individuals, Pop music is associated with values emphasising consumerism and personal focus, while at a societal level, Pop music underscores the stability of social order.

Preference for global Classic music was associated with Self-transcendence values at the personal level and with Mastery and Embeddedness values at the cultural level. Self-transcendence values encompass social value components such as benevolence and a sense of belonging. Hence, the personal value association of global Classic music share some conceptual commonality with Embeddedness values. However, Mastery values rather contradict the value connotations at the individual level. Mastery values indicate the dominance and exploitation of social and natural resources, whereas Self-transcendence values are associated with social equality and the protection of the environment.

Personal and cultural value associations of global music preferences display various functional congruencies. However, I have also revealed some functional distinctions in what music styles do for individuals vs. societies. Confirmation of societal norms and integration into the larger society are functions of global Pop displayed only at the cultural level (Adorno, 1973). The legitimacy of dominating over human and natural resources was solely a cultural expression of global Classic music, as opposed to Self-transcendence values at the personal level. Study 1 revealed that Pop music and Classic music appeal to very different groups of people; however, the symbols they invoke rely on similar cultural values that stabilise societal order (Study 2). These findings highlight the reasons for divergence between sociological and psychological accounts of musical meaning. This underscores the necessity of studying music preferences from both perspectives.

Nonetheless, the comparative interpretation is only tentative and remains to be empirically confirmed. A multi-level approach could shed light into functional (in)congruencies and in(ter)dependence of personal and cultural value associations of music preferences. Future research utilising multi-level approaches could also examine isomorphism (structural identity) of music preferences at both levels as a precondition of functional equivalence.

Value expression: one of many musical functions

The current chapter examined a sole function of music – the value expression – in depth. Music preferences serve a variety of functions and it seems inevitable that functions of music preferences are interrelated. As discussed earlier, a number of researchers attempted to investigate a holistic set of functions of music preferences (e.g., Behne, 1997; North, Hargreaves, & Hargreaves, 2004). The structure of music preferences may very well be underpinned by a diverse set of functions, such as the ego defence or social adjustment functions, as described in Attitude Function Theory. Moreover, music preferences may serve a number of gratifications at the same time. It remains to be explored what functions of music are expected by listeners, what functions are particularly related, and what functions are incompatible. Chapter Four will provide initial answers to these questions by examining the structure of functions of music listening in general, and the position and relation of social functions in particular.

Value expression is one of the social functions of music listening (North & Hargreaves, 1999). Rentfrow and Gosling (2003) argued that music preferences are used to make self directed and other-directed identity claims. The value fit between listener and music not only reinforces the listener's values but also communicates them to others (North & Hargreaves, 1999; Rentfrow & Gosling, 2003). This adds a communicative component to the value expression of music preferences. The communication of values highlights the social character of this function. It also asserts an intriguing question: does the value expression in music preferences foster social bonding between people? And if so, which theoretical mechanisms underpin the process? The next chapter sets out to explore these questions in more detail. The paucity in theories and research connecting the two functions of music (value expressive and social bonding) urge the development of a new model explaining the psychological processes. Two studies will test the proposed model in two distinct cultural contexts.

CHAPTER THREE

Social bonding through shared music preferences

Music can create or intensify bonds between individuals. Music preferences provide a source for social bonding, particularly if the preferences are shared between two individuals (Boer, 2004; Selfhout, Branje, ter Bogt, & Meeus, 2009; Tarrant, North, & Hargreaves, 2002). In the current chapter, I explore the underlying processes of the social bonding function of shared music preferences. I argue that a shared taste in music provides an external indicator for similarity. Similarity between individuals enhances how much they like each other (e.g., Byrne, 1961; Hogg, 1992). Study 1 and Study 2 provided evidence that music preferences symbolize value orientations. When music expresses values, shared preferences for this music indicate similarity in value orientations (North & Hargreaves, 1999; Rentfrow & Gosling, 2007). Similarity in value orientations is associated with social attraction (Coombs, 1966; Hill & Stull, 1981; Lea & Duck, 1982; Lee, Ashton, Pozzebon, Visser, Bourdage, & Ogunfowora, 2009; Sprecher, 1998). Thus, social bonding through shared music preferences may be underpinned by the value-expressive function of music.

In the current chapter, I proposed an applied model that explains the social bonding through shared music preferences: MUsic Sharing and social Attraction supported by VALUES (MUSA-VALUES). MUSA-VALUES addresses two levels of social bonding: interpersonal and intergroup. These two levels refer to the possibility that music can foster social bonding between individuals and between groups. The MUSA-VALUES model is substantiated by elements of three theories: interpersonal attraction theories (e.g., Byrne, 1961; Newcomb, 1953), Self-Categorization Theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and Attitude-Function Theory (Katz, 1960). Two studies are presented which aim to present first evidence supporting the proposed MUSA-VALUES model. The chapter closes with a discussion of findings, the validity of MUSA-VALUES, an outline of limitations as well prospects for the proposed MUSA-VALUES model.

Developing a musical social bonding model:

MUsic Sharing and social Attraction supported by VALUES (MUSA-VALUES)

Previous psychological research has revealed that music preferences serve a social bonding function. However, research to date has only fragmentally examined the underlying processes of this function. In the current section, I propose a value-based model (MUSA-VALUES), which explains the social bonding process that shared music preferences induce. MUSA-VALUES contains three parameters: (similarity in) music preference, value (similarity), and social attraction, as illustrated in Figure 5. I embed these parameters in two alternative theoretical frameworks: interpersonal and intergroup theories. These two frameworks incorporate the possibility that music can foster social bonding between individuals (interpersonal context; e.g., Selfhout et al., 2009) or between groups (intergroup context; e.g., Tarrant et al., 2002). Hence, elements of two theoretical frameworks are relevant for the process, which offer alternative explanations of underlying mechanisms. MUSA-VALUES incorporates the three parameters music preference similarity, value similarity, and social attraction into an integrated process model of social bonding.

In the next section, I develop the theoretical basis of MUSA-VALUES (Figure 5) for the two levels separately. I propose that the value-expressive function of music plays an integral part in the social bonding process. Therefore, value similarity cued by shared music preferences takes a central position in the proposed MUSA-VALUES model (see Figure 5).

Previous research on music preferences and social bonding either focussed on enhanced liking through shared music preferences (e.g., Selfhout et al., 2009; Tarrant et al., 2002) or on music preferences as a cue for values and personality similarity (Rentfrow & Gosling, 2003). The major gap in previous studies on music preferences is that similarity and liking - although they are strongly liked (e.g., Byrne, 1997) – have not been incorporated or tested within one model. There is also a lack of theoretical frameworks in social psychological research on music, which has recently provoked calls for novel approaches (Giles, Denes, Hamilton, & Haja, 2009; North & Hargreaves, 2008).

Social bonding: overview of frameworks on similarity and social attraction

Social bonding is based on two parameters: similarity and attraction. Similar individuals like each other more than dissimilar individuals, or vice versa, individuals who like each other are more similar to each other than individuals who do not like each other. This phenomenon has received considerable scholarly attention over the last six decades (e.g., Blau, Blum, & Schwartz, 1982; Brewer, 2003; Byrne, 1961; Heider, 1958; Luo & Klohnen, 2005; Newcomb, 1963; Billig & Tajfel, 1973; Hogg, 1992). Three perspectives in the similarity – attraction link can be distinguished: interpersonal theories, intergroup theories and macro-sociological theories.

First, psychological theories on interpersonal attraction propose that individuals' similarity, for instance, in attitudes and values, promotes interpersonal attraction by validating ones own attitudes and values (see next section for detail). This is due to rewarding or pleasant effects of perceived similarity between two individuals and punishing or unpleasant effects of perceived dissimilarity. Second, social-psychological intergroup theories suggest that individuals perceive each other as members of groups. Ingroup members are perceived to have accentuated similarity (assimilation) whereas outgroup members are perceived to have accentuated dissimilarity (dissimilation) leading to ingroup favouritism and outgroup derogation (see next section for detail). Third, macro-sociological theories argue that individuals who are similar in socio-demographic variables, such as age, education, ethnicity, and social status, are more likely to interact with each other (Mark, 1998; McPherson, 1983) and are therefore more likely to be acquainted (Blau, Blum, & Schwartz, 1982).

The first two streams of research – interpersonal theories and intergroup theories - are most relevant for the present research and are described in more detail below. I interpret previous research on music preferences within these two theoretical frameworks and I highlight the importance of values for the social bonding process. Finally, the value-expressive function of music preferences is integrated into the proposed frameworks (see Figure 5).

**Value-expressive function
of musical attitudes**

**Similarity-Attraction Paradigm :
Reinforcement / Cognitive balance**

Shared music preference
→ Similar musical attitude ⟶ Similar value orientations ⟶ Positive interpersonal attraction

Different music preferences
→ Dissimilar musical attitudes ⟶ Dissimilar value orientations ⟶ Negative interpersonal attraction

| MUSIC PREFERENCE | *communicates* ⟹ | VALUE SIMILARITY | *facilitates* ⟹ | SOCIAL ATTRACTION |

Shared music preference
→ Musical ingroup ⟶ Congruence with ingroup value prototype ⟶ Ingroup favouritism

Different music preference
→ Musical outgroup ⟶ Divergence with ingroup value prototype ⟶ Outgroup derogation

**Prototype activation based on
social categorisation**

**Prototype congruence elicits
positivity bias**

Figure 5. The MUSA-VALUES model (MUsic Sharing and social Attraction Supported by VALUES)

Table 11

Theory and research on music preferences

Interpersonal framework

Theory	*Previous research on music preferences*	*Remaining questions*
➢ There is a positive association between interpersonal similarity and interpersonal liking (e.g., Byrne, 1997)	➢ Similarity in music preferences fosters interpersonal attraction (e.g., Selfhout et al., 2009)	
➢ Attitudes can express values (e.g., Katz, 1960)	➢ The value-expressive function of music preferences provides value inferences about the listener (e.g., Rentfrow & Gosling, 2003)	
➢ Value similarity facilitates interpersonal relationships (e.g., Hill & Stuck, 1981)		➢ Is the association between similarity in music preference and liking facilitated by value similarity?

Intergroup framework

Theory	*Previous research on music preferences*	*Remaining questions*
➢ Group categorisation leads to ingroup favouritism (e.g., Tajfel & Turner, 1986)	➢ Music preferences provide the basis for salient social categorisations, and these musical social categories elicit ingroup favouritism (e.g., Tarrant et al., 2002)	
➢ Social categories are cognitively represented by value prototypes (e.g., Turner et al., 1987)	➢ Musical social categories are represented by value prototypes (e.g., Rentfrow et al., 2009)	
➢ Value prototype similarity of others ascertains social attraction (e.g., Hogg, 1992)		➢ Is social attraction to others facilitated by similarity to values associated with musical social categories?

Value based social bonding through shared music preferences at the interpersonal level (Level 1)

Starting with level 1 of MUSA-VALUES (see upper part in Figure 5 and Table 11) I first review the most relevant theories on interpersonal attraction. I highlight the importance of value similarity for interpersonal relationships. Subsequently, I review previous research on music preferences and interpersonal bonding. This section on interpersonal theories closes with an integration of the value-expressive function of music preferences according to Attitude-function theory and the predictions derived from MUSA-VALUES.

The similarity - attraction paradigm

The similarity - attraction paradigm (for a recent review and application see Byrne, 1997; Schreurs, Druart, Proost, & De Witte, 2009; Westmaas & Silver, 2006) was explained using interpersonal reinforcement theories (Byrne, 1973; Byrne & Clore, 1970) and cognitive theories (Heider, 1958; Newcomb, 1961) theories. Byrne's (1961, 1973) reinforcement theory of interpersonal attraction proposes that rewards are gained if an interaction reveals similarity in attitudes between two communicating individuals, whereas dissimilarity is perceived as reciprocal punishment. It is through consensual validation that similarity exposes reward and dissimilarity exposes punishment. Reciprocal rewards or punishments are determining factors for interpersonal attraction. The attraction effect of reciprocal rewards is present when similar persons interact, given that similarity enhances communication ease and provides self-validation (Coombs, 1966). In addition, similarity increased the exchange of positive affect which enhances attraction (Coombs, 1966).

Byrne and colleagues offer extensive experimental evidence that attitude similarity is the main variable determining interpersonal attraction (Byrne, 1961; Byrne & Griffitt, 1973; Moss, Byrne, Baskett, & Sachs, 1975) compared with less consistent variables, such as affiliation need (Byrne, 1961), similarity in specific behaviour, stimulus condition and the respondent's personality (Byrne, 1973). However, Byrne's research has received criticism for reliance on experimental designs, which have limited its applicability to real life settings (e.g., Sunnafrank, 1992; Wright & Crawford, 1971). Byrne's response to those critics is that experimental settings control for environmental and other factors, which may be present in the complexity of social reality (Byrne, 1992).

Newcomb's (1953) theoretical approach to the similarity – attraction phenomenon employs the cognitive theory of balance (Festinger, 1952; Heider, 1958). This cognitive theory considers the relations of a triadic system consisting of two individuals and an object of communication (e.g., opinion, knowledge, or behaviour). The system is balanced if both individuals' evaluations of an object are in the same direction (either both positive or both negative). The system is unbalanced if both individuals' evaluations of the object are in opposite directions. Balanced systems are received as psychologically pleasant, whereas unbalanced systems are unpleasant. Therefore, individuals strive towards balanced systems. Individuals who share attitudes or who are similar in other regards experience balanced systems that produce pleasantness leading to interpersonal attraction. Newcomb (1953) conducted a social study inviting students to live in a student hall free of costs in exchange for their participation in the study. Their process of getting acquainted provided the data for Newcomb's (1953) study. Findings revealed that participants' attraction was based on balanced systems (similarity) at the onset of the study, and that the balance was maintained throughout the duration of the study. If liking or similarity of participants changed, this was balanced by either changing their perception of other's orientations or by changing their sense of attraction.

The interpersonal similarity – attraction paradigm has found application in other approaches, such as in the theory of assortative mating (Luo & Klohnen, 2005), or the filtering theory of friendship formation (Duck & Craig, 1978). Assortative mating refers to partner selection based on similarity. Research regarding Duck and Craig's (1978) filter theory of friendship suggests that at various stages of a friendship, similarity in varying domains becomes salient, such as visible and easy accessible traits at the onset of a friendship. Less accessible domains such as values become salient in later stages. They concluded that "those partners who, at any point in a relationship, appear not to provide adequate personality support, are dropped from, or "filtered out" of, any continuing and more intimate relationship" (Duck & Craig, 1978). Thus, individuals are filtered out with proceeding relationship due to dissimilarity (Duck & Craig, 1978).

Interpersonal liking and similarity in values and personality

While Byrne's and Newcomb's seminal work focussed on the development of theories on the general influence of attitudes similarity on interpersonal attraction,

many empirical studies have since been conducted to systematically examine the unique contribution of similarity in value orientations, personality and other domains on interpersonal attraction. Rushton and Bons (2005) reported that similarity between friends and spouses is highest in background variables (age, ethnicity, education), followed by opinions and attitudes (which include value orientations), and then intelligence and cognitive ability. Limited similarity was evident for personality and physical characteristics (Rushton & Bons, 2005). Their findings support the notion that value similarity is an important determinant for interpersonal attraction. Coomb's (1966) value theory of homophily and homogamy presents an interesting extension of Byrne's work. According to this value theory of interpersonal attraction, "value consensus fosters mutually rewarding interaction and leads to interpersonal attraction" (Coombs, 1966, p. 166). Thus, homophily and homogamy are based on rewards provided by value consensus between friends and romantic partners, respectively. In contrast, disagreement is more likely in dissimilar dyads, which is "ego-threatening since it challenges one's values and sense of social reality" (Coombs, 1966, p. 168).

Numerous studies have supported the link between value similarity and interpersonal attraction (e.g., Berscheid & Walster, 1978; Curry & Kenny, 1974; Duck & Craig, 1978; Hill & Stull, 1981; Lea & Duck, 1982; Lee et al., 2009; Sprecher, 1998; see Coombs (1966) for earlier evidence). Sprecher (1998) provided convincing evidence that similarity in value orientations was more important for interpersonal attraction than similarity in other domains, such as background characteristics or personality. Lea and Duck (1982) concluded from their differential analysis of value similarity that value similarity in important and uncommon values is a strong predictor for friendship based on the premise that support in uncommon values is harder to find in the social world.

Research has found similarity in personality to have little association with interpersonal attraction, or that only similarity in the Big Five personality trait Openness to Experience played a role in the formation of relationships (Chen, Bond, & Fung, 2006; Eysenck, 1990; Finkel & McGue, 1997; Funder, Kolar, & Blackman, 1995; Lee & Bond, 1998; Lee et al., 2009; McCrae, 1996; Watson, Hubbard, & Wiese, 2000; Wong & Bond, 1999). While Byrne's (1971) studies revealed that similarity in personality and values both predict interpersonal attraction when examined in the laboratory, Curry and Kenny's (1974) field study investigated the magnitude of the effect between self-rating based and perceived similarity in personality and value

orientations on interpersonal attraction. Their findings emphasise the unique contribution of value similarity on interpersonal attraction, as both self-rating based and perceived similarity[14] were strongly related to attraction, with self-rating based similarity becoming more important over time. However, neither perceived nor self-rating based similarity in personality seemed to be associated with attraction in Curry and Kenny's study (1974).

In a more recent study, Lee et al. (2009) found that similarities in the two HEXACO personality dimensions Honesty – Humility and Openness to Experience were related to acquaintanceship. The authors established an intriguing link between value similarity and personality similarity. They provided empirical evidence for the argument that personality similarity is strongly related to similarity in basic value dimensions proposed by Schwarz (1992, Self-Enhancement vs. Self-Transcendence and Conservatism vs. Openness to Change, cf. Chapter Two). Thus, Lee et al. (2009) concluded that similarity in these two personality dimensions "can be understood in terms of the relevance of those dimensions to the domain of values. Apparently, values are an important part of people's social relationships: people […] tend to develop relationships with those whose values are similar to their own" (Lee et al., 2009, p. 469).

At this point we can conclude that there is convincing evidence for the importance of value similarity in interpersonal relationships, while other variables such as similarity in background variables and potentially some personality traits also play an important role (e.g., Coombs, 1966; Rushton & Bons, 2005).

Music preferences and interpersonal perception

Only a handful of studies have been conducted to investigate music preferences and their associations with interpersonal similarity. Music plays an important role in the onset of acquaintanceship as a preferred topic of conversation (Rentfrow & Gosling, 2006). Furthermore, Rentfrow and Gosling (2006) revealed that music preferences of a person provide a valid source for inferences about this person's personality and values. They provided the 10 most favourite songs of 74 university students as stimuli to eight

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[14] Self-rating based similarity is the similarity calculated based on self-report scores from two individuals. Perceived similarity is the similarity to a particular person as it is perceived by an individual. The distinction between these two similarity concepts is relevant for interpersonal perception (e.g., Cronbach, 1955; Lee et al., 2009) and the current research. Hence, I elaborate on the two concepts in more detail in Study 3.

judges. The judges were asked to rate the personality, values and affect of each person based on the 10 favourite songs. The interobserver agreement was significant for 4 of 5 personality traits, 3 of 12 terminal values, 4 of 6 instrumental values and none of 3 affect scales. Observer accuracy with persons' self-ratings was significant for 4 of 5 personality traits, 6 of 12 terminal values, 2 of 6 instrumental values and 1 of 3 affect scales. This study showed that music preferences convey some consistent and accurate messages about persons' personalities and values. Rentfrow and Gosling's (2006) findings highlight the importance of music preferences for interpersonal perception by providing cues about personality and values. Furthermore, the findings tie closely to the value-expressive function of music preferences. Rentfrow and Gosling's (2006) study confirms that music preferences express values and additionally that these values are perceived by others through individuals' music preferences. Their study points towards potential links to interpersonal similarity and interpersonal liking. However, these links were not tested.

Selfhout and colleagues (2009) investigated the role of music preference similarity in the formation and continuation of friendship. Dutch same-sex friend dyads in their early adolescence were surveyed in two waves over a period of one year. Best friends were highly similar in their music preferences in both waves. Similarity in preferences for non-mainstream music and overall music genre in Wave 1 were related to friend selection in Wave 2. Furthermore, similarity in particular music preference factors revealed stronger effects on friendship (more details on the operationalization of music preference similarity are provided in Study 3). These findings demonstrate the significance of similarity in music preferences for the selection of friends. Music preferences seem to convey useful information that provides a basis for friendships. These findings are in line with the Duck and Craig's (1978) filtering argument. Wood (2005, cited in Rentfrow, McDonald, & Oldmaedow, 2009) reported higher satisfaction of roommates and continued rooming if music preferences were similar between roommates. Similarly, self-selected roommates tended to be somewhat more similar in music preferences than random roommates[15] (Rozin, Riklis, & Margolis, 2004). These findings associated with music preferences are directly in line with the similarity - attraction hypothesis.

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[15] Although this effect was not statistically significant - potentially due to small sample size – this finding still contributes to the limited number of studies in this area.

An indirect account of music preferences for social bonding was proposed by Ilari (2006). She investigated the impact of shared music preferences on romantic attraction by conducting an experiment where music preferences of a potential romantic partner were manipulated. Although music preferences did not relate directly to interpersonal attraction, they provided information about personality, attitudes and values of the person. This was suggested to have indirect implications for social bonding.

In summary, research has found that similarity in music preferences relates to interpersonal attraction and that music preferences provide value-related information about the listener. There is also some evidence that music preferences are related to interpersonal attraction in an indirect way. These findings suggest that attraction is associated with similarity in music preferences because music preferences induce inferences about value orientations.

Linking value-expression and interpersonal bonding through music preferences

The previous review provided two insights into how social bonding is processed in interpersonal settings. First, there is a positive association between interpersonal similarity and interpersonal attraction. Second, value similarity is particularly important in interpersonal relationships.

As outlined in Chapter Two, value orientations guide people's lives. They influence lifestyle, attitudes, choices, occupation, how and why we express ourselves and so forth. Learning about someone's value orientations tells a great deal about who this person is. Hence, it is not surprising that value similarity plays a particularly important role in the formation of interpersonal relationships, since similarity in attitudes, lifestyles and so forth can be assumed based on matching value orientations.

However, information about value orientations is not easily accessible information when individuals first get to know each other. Therefore, external indicators or cues are used to make inferences about individuals' value orientations. Value-expressive attitudes serve this function: attitudes that are linked to individuals' value orientations are expressed so that others can make inferences about underlying value orientations. Value-expressive attitudes are accessible proxies for value orientations. Consequently, value-expressive attitudes may facilitate the association between value similarity and interpersonal attraction.

Propositions for music preferences and interpersonal attraction

Three predictions regarding the role of music preferences in interpersonal relations can be drawn based on the interpersonal theories and the value-expressive function of music preferences (see Table 11, p. 86). First, similarity in music preferences fosters interpersonal attraction. Second, the value-expressive function of music preferences supports that shared music preferences indicate similarity in value orientations. Third, shared music preferences induce interpersonal attraction through similarity in value orientations.

Previous research on music preferences in interpersonal relations has confirmed the first prediction (Selfhout et al., 2009). The second prediction has been examined by evidence regarding the value-expressive function of music. Empirical evidence showed that the value-expressive function of music preferences provides consistent and valid value inferences about the listener (cf. Chapter Two). It has been suggested that attraction relates to similarity in music preferences in an indirect way because music preferences induce inferences about value orientations. However, this has not been examined empirically, leaving the third prediction unexplored.

Level 1 of MUSA-VALUES (Figure 5) advances research by providing theoretically sound explanation for the social bonding functions of music preferences between individuals. The following propositions are posited based on the preceding review. Study 3 tests the propositions empirically.

Proposition 1 (Level 1 - shared music preferences):

Shared music preferences indicate similar value orientations based on the value-expressive function of music. Similar value orientations elicit positive interpersonal attraction due to self-validation, reinforcement and cognitive balance.

Proposition 2 (Level 1 - different music preferences):

Different music preferences indicate dissimilar value orientations based on the value-expressive function of music. Dissimilar value orientations elicit negative interpersonal attraction due to self-falsification, punishment and cognitive imbalance.

Now, I will develop the second part of the proposed model, which underlines the social bonding function of shared music preferences between groups.

Value based social bonding through shared music preferences at the group level (Level 2)

In the following section, I introduce relevant concepts of intergroup research. These are ingroup favouritism and prototypes based on social categorisation. I review each concept and link them to studies that investigated music preferences.

Ingroup favouritism

Theoretical basis

Similarity and dissimilarity are important facets in the perception between members of social groups. The social cohesion model describes the intragroup process of group formation and group solidarity being rooted in interpersonal similarity and attraction among members of small groups (Hogg, 1992). However, intergroup research differentiates between interpersonal and group processes, providing an alternative theoretical explanation for the link between similarity and social attraction (Hogg, 1992). In short, intergroup research deals with the underlying social-psychological processes of ingroup favouritism and outgroup derogation. The theoretical framework of Self-Categorisation Theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) is based on the following premises (Brewer, 2003). First, individuals use categories to cognitively structure the world around them, and social categories are used to categorise the social world. Differences within categories are minimized whereas differences between categories are accentuated (Billig & Tajfel, 1973). Second, given that individuals are members of social categories, other persons are perceived as either members of the same group (ingroup), or of another group (outgroup). When social categories are self-relevant, the social categorisation becomes "a superimposed category distinction with affective and emotional significance" (Brewer, 1996, p. 292). Social situations involving groups feature a basic intergroup schema that has three principles (Brewer, 1996): (a) the intergroup accentuation principle, (b) the ingroup favouritism principle, and (c) the social competition principle.

(A) The intergroup accentuation principle contends that members within a category are perceived as more similar than members of an outgroup (Hewstone, Rubin & Willis, 2002). (B) Ingroup favouritism denotes a categorical positive affect, such as liking, trust, cooperation and empathy, towards ingroup members but not towards outgroup members (Brewer, 1996; Hewstone, Rubin, & Willis, 2002). This positivity bias creates an automatic positive evaluation of ingroup members (Hewstone, Rubin, &

Willis, 2002). (C) The social competition principle refers to social comparisons between groups with negative interdependence between ingroup and outgroup. Successful social comparison creates positive social identity for ingroup members and thus, satisfies the need for positive self-esteem (Abrams & Hogg, 1990). A vast amount of studies conducted in the last four decades corroborate these principles (for reviews see Brewer & Kramer, 1985; Hewstone, Rubin, & Willis, 2002; Tajfel, 1982).

The conclusion at this point is that individuals who belong to the same group like each other more and perceive each other as more similar than individuals who belong to two different groups. In the previous paragraph I examined group membership with regard to a single category. Social reality naturally involves a more complex system of groups. Every individual is a member of multiple groups, thus, when interacting with other individuals we interact with members of various ingroups and outgroups at the same time. The issue of multiple group membership and the use of music for improved intergroup relations will be discussed in more detail in section 3. In order to develop my theoretical argument I focus on a simplified version of reality involving only one social category (e.g., a category elicited by music preferences).

Music preferences and ingroup favouritism

A number of studies have investigated how music preferences relate to social perceptions with regard to ingroup and outgroup categorisation in light of the social identity framework. In a recent paper, Lonsdale and North (2009) showed in two studies that musical preferences elicit ingroup favouritism. The first study revealed that fans of different music styles hold more positive stereotypes of fans of their own music than of fans with different music preferences. The second study used the minimal group paradigm and showed that greater rewards were allocated to those who were believed to share the same music preferences. Similar findings have been revealed in another study where music preferences were the basis for ingroup and outgroup categorisation with subsequent ingroup favouritism (North & Hargreaves, 1999). Participants responded more positively towards fans of the same music – showing ingroup favouritism. Interestingly, participants did not respond negatively to fans of other music; outgroup derogation was not exhibited. Thus, music preferences seem to have positive social consequences if they are shared, but they do not have negative consequences if they are not shared (North & Hargreaves, 1999). In another study, music preferences were used to evaluate the ingroup positively. Prestigious music preferences (that were music

styles entailing a positive image) were a measure for ingroup favouritism: the ingroup was rated to prefer prestigious music styles more than the outgroup, whereas non-prestigious music styles were rated as being more preferred by the outgroup (Tarrant et al., 2001). Knobloch, Vorderer, and Zillmann (2000) conducted an experiment to examine the role of music preferences for potential friendship. Shared musical preferences elicited positive character evaluation and enhanced friendship aspiration. The authors concluded that potential friends' music preferences convey stereotypic attributes which lead to positive evaluation.

In summary, there is convincing evidence that music preferences play an important role in the social perception of individuals as music preferences provide a basis for categorisation, and category information is used to evaluate individuals leading to ingroup favouritism (for further review see North & Hargreaves, 2008).

Tarrant et al. (2002) proposed two statements about music preference and its meaning for social identity in adolescence. First, peer groups are affiliated with certain music preferences and adolescents associate those groups with the meta-information they hold about such music affiliation. Meta-information is the representative, accumulated attributes of a group, also called prototype (or stereotype). Second, intergroup comparison enhances or reduces this affiliation depending on the value connotation of the meta-information and social identity needs. The notion of meta-information (prototype) introduces an important facet of social perception.

Social categorisation

Categorisation and prototype similarity

Self-categorization theory in particular explains the social perception of group members in terms of accentuated prototypicality or stereotypicality (Turner et al., 1987). Each group is represented by a prototype, which is the cognitive representation of the defining features of a social category (Hogg, 1992). "Prototypes encompass the whole range of interrelated properties that define the group and differentiate it from relevant outgroups, or from people who are not in the group" (Hogg, 1992, p. 94). Group norms and stereotypes are cognitively represented in a prototype. The prototype encompasses, for instance, values, attitudes and behaviour (Hogg, 1992; Turner et al., 1987). All members of the group share the prototype, and, as a consequence,

categorisation implies the similarity between ingroup members and the group prototype[16].

The essence of Self-Categorisation Theory is that group membership produces similarity to the prototype. Thus, categorisation accentuates the similarity between group members' values, attitudes and behaviour (Hogg, 1992; Turner et al., 1987). Reicher, Hopkins, Levine, and Rath (2005) stated that self-stereotyping occurs when individuals see themselves as members a group. The process leads individuals to ascertain group norms, values and understandings and conform to them. The individual behaviour of group members will vary from context to context as different categories become salient. Reicher et al. (2005) stress that "this is a genuine process of conversion: we act on the basis of the group ideology not because we succumb to the power of others or because we seek their approval but because it defines who we are and what counts for us" (p. 625).

Prototypes are important elements for the self-concept and in the perception of persons as members of groups. Since group membership produces prototype similarity, ingroup members are perceived as similar to the ingroup prototype – and therefore similar to the self. This similarity or dissimilarity (based on ingroup membership vs. outgroup membership) varies with the importance of the group category and therefore, with the importance of the group ideology (prototype) in our life. Thus, the salience of group membership is an important facet of social perception. Group salience is context – dependent, so that social self-concepts vary with the specific categorisations present in social interactions (Brewer, 2003; Hogg, 1992). From a cognitive perspective, individuals try to maximise the meaning of social contexts and therefore make categorisations that best account for similarities and differences among stimuli (Hogg, 1992). Two components determine which categories are engaged: category accessibility and fit (Bruner, 1957, cited in Brewer, 2003). Category accessibility refers to the frequency or importance of a category to the perceiver (Brewer, 2003; Hogg, 1992). Category fit[17] is the match between category prototype and stimuli. The process of

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[16] "This is what is meant by depersonalization: self and others are perceived not as unique persons but as embodiments of the prototype" (Hogg, 1992, p. 94). The term depersonalisation is very relevant for the theory, however, not for the current research. Hence, depersonalisation is not further specified.

[17] The perceived fit has two aspects, a comparative aspect and a normative aspect (Oakes, Haslam, & Turner, 1994). The comparative fit refers to fewer differences within a category than between categories, whereas normative fit refers to efforts to meet expectations to match with a certain category prototype (cf. self-to-prototype matching, Niedenthal, Cantor, & Kihlstrom, 1985; Setterlund & Niedenthal, 1993).

category accessibility and fit is guided by individuals' intentions and previous experiences (Hogg, 1992).

Musical prototypes

What determines the content of prototypes or categories? A prototype is the accumulated knowledge about the "best fitting" member of a group (Oakes, Haslam, & Turner, 1994; Turner, Oakes, Haslam, & McGarty, 1994). Prototype knowledge originates in previous experiences, such as personal contact, socialisation or the public images received through mass media (Hogg & Reid, 2006). Music is the most popular leisure activity for young people – encompassing not only listening, but also reading music magazines, watching MTV or other music television and talking about music (North & Hargreaves, 2008; Rentfrow & Gosling, 2006). Fans of various music styles are represented by clear prototypes in the media (Hogg & Reid, 2006; Reid, Giles, & Abrams, 2004) and in the mind of young people (Rentfrow & Gosling, 2007). These musical prototypes are likely to be essential for individuals' self-concept (similarity of self to prototype), as well as for the perception of other people (similarity of others to prototype), if salient group categorisations are based on music preferences.

Rentfrow and colleagues (2007, 2009) investigated music genre stereotypes in depth with regard to their content and validity in the UK and the US. Stereotypes of 14 music styles were investigated in a US American sample of college students (Rentfrow & Gosling, 2007). Stereotypes were rated with regard to personality, personal qualities, value orientations and drug preferences by 9 to 15 judges per music style. Inter-judge agreement was above the benchmark[18] for 11 music styles with regard to personality and personal qualities, and for 12 music styles with regard to value orientations and drug preferences. The content of rock music fan stereotypes, for instance, was that they are: high in openness and extraversion, low on conservatism, they value an exciting life and courage, they do not value family security and salvation, and they also engage in drinking behaviour and the use of other drugs (Marijuana). Stereotypes of rap fans were characterised by extraversion, being athletic, valuing self-respect and self-recognition, not valuing national security and a world of beauty, and they engage in drinking behaviour and the use of other drugs. Stereotype validity (cf. kernel of truth debate,

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[18] Benchmarks for evaluating results were established relying on Kenny and colleagues' (1994) meta-analysis of interpersonal perception studies. According to this, correlations for consensus above 0.12 and correlations for accuracy above 0.15 indicate meaningful results in zero-acquaintance studies.

e.g., Hogg, 1992) of the 14 music styles was assessed by comparing music stereotype patterns in personality, personal qualities and value orientations with the responses of 87 undergraduate music fans. The stereotypes were valid for seven music styles with regard to personality, for four music styles with regard to personal qualities and for eight music styles with regard to value orientations.

Rentfrow, McDonald, and Oldmeadow (2009) replicated the previous study in the UK investigating stereotypes of six music styles. The stereotypes rated by 12 to 14 judges per music style significantly corresponded with the US stereotypes for three music styles with regard to personality, for five music styles with regard to personal qualities and for all six music styles with regard to value orientations. Additionally, the social categories of ethnicity and social class were assessed as stereotype information conveyed by music preferences. All six music styles seemed to convey consensual information about ethnicity and social class of their fans when assessed using the same inter-judge agreement benchmarks as in the previous study (Rentfrow & Gosling, 2007). For instance, the rap music stereotype was associated with Black and Mixed Black ethnicity and working and lower-middle class, whereas the rock music stereotype was associated with white ethnicity and middle class. Rentfrow and colleagues (2007; 2009) concluded that music preferences send cues about personality, values, characteristics and social categories of a person. The previous chapter provided cross-cultural evidence that values are consistently associated with music preference factors. Hence, value orientations seem to be a particularly stable, consensual and valid component of musical stereotypes. However, it remains uncertain whether these music genre stereotypes induce perceived similarity and whether they relate to favourable evaluation.

Tekman and Hortacsu (2002b) revealed that stereotypes of six categories of music style fans were characterised by three dimensions. The similarity of music fans to respondents' ideals (prototypes) in at least one dimension was dependent on whether or not the music style was liked by the respondents. These results may be a first indication that music preferences convey prototype information that is relevant to perceive similarity. However, it was not assessed whether the similarity is related to liking of the stereotypical person.

A further study by North and Hargreaves (1999) suggests that adolescents hold consensual normative beliefs about the values and characteristics of fans of certain music styles. In a series of studies they showed that young and older adolescents have

consistent prototypes about music fans' value orientations. Furthermore, pop music fans attempted to match their self-concept with prototypical pop fans. The self-to-prototype match (cf. Niedenthal, Cantor, & Kihlstrom, 1985) was associated with the extent participants' preferred one music styles over another music style, and with self esteem. The same article investigated ingroup favouritism based on music preferences. North and Hargreaves' (1999) article provides intriguing insights into two components relevant to the current research: musical ingroup favouritism and musical prototypes. It overall links prototype match and ingroup favouritism conceptually, however, the link was not assessed empirically. It remains unexplored whether musical ingroup favouritism – or the liking of a musical group member – is associated with the similarity to a music prototype. An extension of this series of studies would be that the self-to-prototype match could be assessed not by positive and negative statements (as it was done in this series of studies), but also by value patterns that were revealed in the musical prototypes.

In summary, these findings suggest that prototypes of music fans are commonly shared among young adults in Western culture. Furthermore, these musical prototypes exhibit validity and stability in the value information they convey. It is particularly likely that young individuals draw inferences about value orientations from musical prototypes as they learn of other people's music preferences, given the high prevalence of music in conversations among young individuals (Rentfrow & Gosling, 2006).

Linking value-expression and intergroup bonding through music preferences

The intergroup framework provided three insights about social bonding as a group phenomenon. First, group categorisation leads to more positive evaluations of ingroup members compared to outgroup members (ingroup favouritism). Second, social categories are cognitively represented by prototypes. Third, the prototype of one's group is part of one's self-concept and therefore, prototype similarity is facilitating factor for social attraction.

The accentuation principle implies that ingroup members are perceived as more similar to each other than to outgroup members. Similarity mainly refers to group relevant attributes, which are represented in the group's prototype. A prototype represents group norms, values, attitudes, and behaviour. Given that values are an integral part of prototypes, this has implications for the value-expressive function of music preferences at the group level. If music preferences define groups, then these

groups are associated with prototypical value orientations. Group prototypes according to Self-Categorisation Theory can be applied to explain the link between music preferences and value orientations at the group level.

Propositions for music preferences and social attraction

Three predictions regarding the role of music preferences in group relations can be drawn based on the insights of Self-Categorisation Theory and the value-expressive function of music (see Table 11 and Figure 5, pp. 85-86). First, if music preferences provide the basis for salient social categorisations, these musical social categories should elicit ingroup favouritism. Second, musical social categories represent value prototypes. Third, the value prototype of one's musical social category is part of one's self-concept and therefore, social attraction to others is facilitated by the similarity to the value prototype.

The first two predictions have been examined and supported in previous research. However, the direct association between social attraction and value prototype similarity has not been investigated. Research suggested that the existence, consistency and accuracy of musical stereotypes alone are evidence for social bonding through shared music preferences. This notion implies that prototype similarity elicits the social bonding effect; however, this assumption has not been tested in music preference research.

Proposition 3 (Level 2 - shared music preferences):

Shared music preferences indicate social categorisation into the same musical group. Social categorisation activates the ingroup's value prototype. Ingroup members share similarity to the value prototype. Prototype congruence elicits positive social attraction (ingroup favouritism).

Proposition 4 (Level 2 - different music preferences):

Different music preferences indicate social categorisation into different musical groups. Social categorisation activates the value prototype of the ingroup and outgroup. Outgroup members are perceived to have a different value prototype. Prototype divergence elicits negative social attraction (outgroup derogation).

The current research

As summarized in Table 11 and Figure 5 (see pp. 85-86), facets of interpersonal and intergroup theories in conjunction with the value-expressive function of music and previous research on music preferences suggest that value similarity is related to the processes underlying social bonding through music. However, this process has remained unexplored in previous empirical accounts. I argue that value similarity is a fundamental component in the social bonding function of music preferences. Alternative processes may apply. For instance, Rentfrow and Gosling (2003) suggested that personality traits expressed in music preferences might facilitate social bonding effects. Research demonstrated that musical attitudes and behaviour are associated with personality traits (e.g., Cattell & Saunder, 1954; Chamorro-Premuzic & Furnham, 2007; Rentfrow & Gosling, 2003). However, empirical evidence for the facilitating role of (similarity in) personality traits in social relationships is not consistent (e.g., Chen, Bond, & Fung, 2006; Eysenck, 1990; Watson, Hubbard, & Wiese, 2000), while there is support for the facilitating role of value similarity in social relationships (e.g., Curry & Kenny, 1974; Duck & Craig, 1978; Sprecher, 1998). Nevertheless, alternative models should be tested in order to reveal the differential contribution of value similarity and personality similarity induced by shared music preferences in social relationships.

Figure 5 illustrates the components of the proposed social bonding model (MUSA-VALUES): music preferences, value orientations and social attraction. Music preference similarity is the input component, value similarity is the facilitator component and social attraction is the output component in MUSA-VALUES. The congruency of input, facilitator and output components among the two-level processes indicate that the two frameworks applied to musical social bonding provide alternative theoretical explanations for quite similar phenomena.

Two studies were conducted to test MUSA-VALUES assuming underlying interpersonal processes in Study 3 and group processes in Study 4. The first study in the chapter (Study 3) aimed to test MUSA-VALUES using a survey based approach. Dyads of randomly assigned roommates were investigated. These dyads exhibit naturally occurring variability in similarity and attraction to each other. Furthermore, real-life dyads expose ecologically valid interpersonal dynamics. Hence, it can be assumed that the interpersonal framework underpins the dynamics examined in Study 3. The interplay in dyads' similarity in music preferences, value similarity and interpersonal attraction is examined to test MUSA-VALUES.

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The second study in this chapter (Study 4) examines MUSA-VALUES using an experimental approach. This study is a social perception experiment examining whether prototypes of group memberships with regard to music preferences and cultural background account for perceived value similarity and social attraction. The underlying dynamics in Study 4 are assumed to root in group processes given that group prototypes are being activated.

The two studies entail an interpersonal field study and a social perception experiment. These studies provide first evidence for the ecological validity of MUSA-VALUES and the unique contribution of music preferences when competing with alternative group memberships. Study 3 and Study 4 are set in two distinct cultural settings in order to test the applicability of MUSA-VALUES in a Western and an Asian culture.

INTRODUCTION

Aim of Study 3

The current study aims to test MUSA-VALUES using a survey based approach. This dyadic study investigates whether shared music preferences promote social bonding via shared value orientations. Dyads of roommates in university dormitories in Hong Kong were asked to indicate their music preferences and value orientations, how similar they perceive their roommate and how they get along with their roommate. Roommate dyads in university dormitories in Hong Kong were chosen as participants for this study. This was for two reasons. First, most of previous research on the social bonding function of music was conducted in Western settings, which suggests a lack of evidence from non-Western cultures. Second, at the beginning of each academic year, undergraduate students are assigned to roommates in dormitories at the Chinese University of Hong Kong. The allocation of roommates is random, therefore a naturally occurring experiment. Hence, roommate dyads are characterized by a variability of similarities and differences in values, attitudes and music preferences between the roommates. Study 3 utilizes this intriguing variability to test MUSA-VALUES.

Study 3 advances previous research by making three major contributions: first, the general assumption that music preferences promote social bonding will be tested in a sample of an Asian culture. Thus, this study is the first to test possible universal or culture restrictive conclusions about previous findings. It could be argued that previous research has mainly been conducted in Western samples and these finding may not be applicable to Asian contexts since there is a possibility of Eurocentric bias in previous research.

Second, this is the first validation of MUSA-VALUES in a naturally occurring experimental setting. The dyadic nature of the data enables the use of similarity coefficients based on self-ratings of two dyad members (for detail see below). Third, I included a measure of perceived similarity in addition to self-rating based similarity coefficients. Both perceived and self-rating based similarity play important and possibly differential roles in the social bonding process and shall thus be included in the analysis. The differential assessment of similarity provides an in-depth exploration of the newly developed MUSA-VALUES model.

Before I proceed with specifying the hypotheses, I briefly describe research on music preferences in Hong Kong. Furthermore, I discuss an issue that has been raised in non-experimental research on interpersonal similarity (Curry & Kenny, 1974; Lee & Bond, 1998; Lee et al., 2009; Watson, Hubbard, & Wiese, 2000). That is the difference and interplay between perceived and self-rating based similarity.

Music preferences in Hong Kong

This study sought to cover a more comprehensive range of music preferences compared to Studies 1 and 2. Given that Study 3 is a mono-cultural study, culture-specific music styles were included in addition to the global music styles and relevant music styles from other cultures. This addresses the limitations discussed in the previous studies concerning an exclusive focus on global music preferences. Thus, preferences for culture specific music styles and music styles from other cultures were included in the analysis. Culture specific music styles in the Chinese context are Chinese traditional and Chinese popular music styles (Fung, Lee, & Chung, 1999), similar to the categorisation of Western styles into classic and popular styles. The ethnomusicological literature highlights the importance of Chinese traditional styles, such as Chinese Classical Music, Chinese Instrumental Music, Chinese Folk Song, and Chinese Opera (Beijing Opera and Cantonese Opera) in contemporary Chinese culture (Jones, 1995).

Chinese popular music is admired within and outside Chinese culture (Jones, 1992; Fung, Lee, & Chung, 1999). C-Pop is a broad category encompassing most Chinese popular music styles, such as Cantonese Pop (Canton-Pop) and Mandarin Pop. Additionally, other popular sub-genres have recently emerged, such as Chinese Rock, Chinese Hip-hop, Chinese Heavy Metal (Chinese Punk and Chinese Thrash Metal) (Fung, Lee, & Chung, 1999; Wong, 2005). Besides Chinese styles, music originating in other cultures is also popular in Hong Kong. Japanese music styles have the most significant influence due to the growing popularity of Japanese cultural assets among young Asians (Ng, 2008). Furthermore, various Western music styles and music from other Asian cultures, such as Korea, India and Indonesia play significant roles in the music landscape of Asian cultures (Craig & King, 2002). A comprehensive list of music styles is compiled, and its relevance and structure is assessed in the contemporary Hong Kong context.

Self-rating based similarity vs. perceived similarity

Self-rating based similarity is similarity calculated on self-ratings provided by two individuals, while perceived similarity refers to the similarity between two persons as it is perceived by the individuals[19]. Most personality psychologists, for instance, have employed self-rating based similarity indicators (McCrae, 2008) rather then experimentally manipulated or perceived similarity, which were applied in Byrne's and Newcomb's approaches. Great discrepancies have been reported between those two kinds of similarity measures, indicating major implications for theory and methodology (Cronbach, 1955; Newcomb, 1961; Watson, Hubbard, & Wiese, 2000). Various studies have reported less support for the attraction – similarity link when similarity is operationalized by self-ratings compared to the assessment of perceived similarity (e.g., Curry & Kenny, 1974; Hill & Stull, 1981, Lee et al., 2009). Thus, the method of assessment of similarity is a crucial issue when replicating and studying the similarity - attraction link (Lee & Bond, 1998; Lee et al., 2009; Watson, Hubbard, & Wiese, 2000).

Furthermore, only by considering the link between self-rating based and perceived similarity can social reality (to a certain extent) be understood. A suggested explanation for this discrepancy is that, in order to induce attraction, similarity needs to be perceived (Hoyle, 1993; Lee & Bond, 1998). Thus, only similarity that is part of individuals' social reality can be rewarding (Byrne, 1971) or expose a cognitively balanced system (Newcomb, 1961).

Initial evidence for this suggestion was provided regarding value similarity. For instance, Newcomb (1961) showed that at the onset of friendship only perceived value similarity was related to attraction, whereas at a later point self-rating based similarity in values became more relevant (cf. Hill & Stull, 1981). Curry and Kenny (1974) investigated the link between self-rating based similarity and perceived similarity in values in more detail. Their findings revealed that actual similarity in values caused perceived similarity. Curry and Kenny (1974) showed that perceived similarity acts as a mediating variable in the link between value similarity and attraction. In summary, the assessment of self-rating based and perceived similarity is fundamental to the investigation of value similarity and attraction in field studies. Research to date did not

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[19] Various other terms have been used throughout the literature referring to perceived similarity and self-rating based similarity. For instance, perceived similarity has been called 'assumed similarity' (e.g., Lee et al 2009; Watson, Hubbard, & Wiese, 2009). Self-rating similarity has been called simply 'similarity' or 'actual similarity' (Lee et al., 2009). I prefer the use of the terms 'self-rating based similarity' and 'perceived similarity' as they do not have an ambivalent connotation. For instance, the terms 'assumed' and 'actual' similarity may imply that 'assumed similarity' as non-actual, which is in contrast with Hoyle's (1993) claim that similarity needs to be perceived in order to be 'real'.

distinguish between perceived similarity and self-rating based similarity in the association between value similarity and liking facilitated by shared music preferences. The current study assessed both similarity concepts. Hence, the posited prepositions need to be further specified with regard to the roles of self-rating based value similarity and perceived similarity.

Contextualizing MUSA-VALUES

The general proposal of Study 3 is along propositions 1 and 2 introduced in the previous section: roommates who share music preferences will get along better than roommates who do not share music preferences. This is based on premise that shared music preferences indicate shared value orientations which enhance perceived similarity between roommates. In turn this increases interpersonal attractiveness.

The findings in Study 1 suggest that the value-expressive function of music preferences applies to an Asian culture. However, it remains to be explored whether this also applies when culture specific music preferences are included. This is the first study to test the value-expressive function of music preferences including culture specific music styles. The individual value hypotheses proposed in Study 1 are assumed to apply in the case that the factor structure of music preferences in the current sample is comparable. Previous research on the factor structure of music preferences including culture specific music styles and global music styles has suggested comparability of structures (Pimentel, 2004; Pimentel, Gouveia, & Vasconcelos, 2005).

The value hypothesis was tested first. This was followed by the assessment of the MUSA-VALUES model in a sequence of three social bonding hypotheses as illustrated in Figure 6. The three hypotheses specify the intermediate relationship between self-rating-based value similarity and perceived similarity incorporated in prepositions 1 and 2.

Value Hypothesis:

Music preferences are associated with value orientations

Social bonding hypothesis 1:

Similarity in music preferences is associated with similarity in value orientations between roommates.

Social bonding hypothesis 2:

Similarity in value orientations is associated with perceived similarity between roommates.

Social bonding hypothesis 3:

Perceived similarity is related to interpersonal liking.
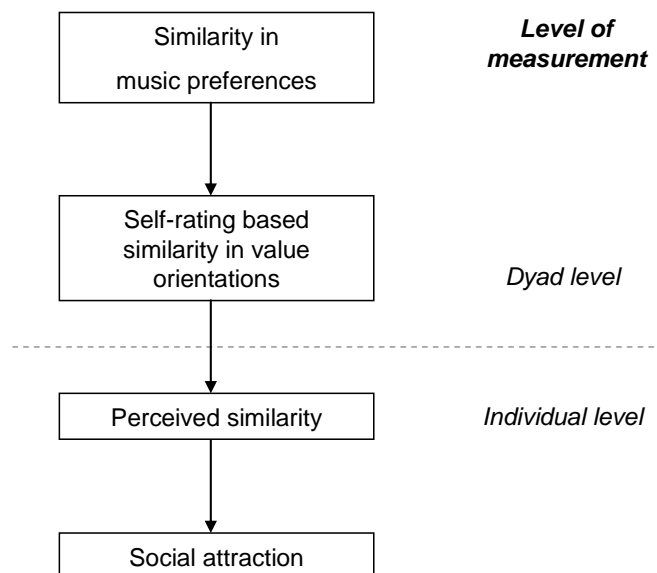
Figure 6. Testing the MUSA-VALUES in Study 3

Before proceeding with Study 3, I elaborate on methodological characteristics of dyadic data, which influence the current study.

Methodological characteristics of dyadic data

Dyadic data of same-gender roommates requires different analytical approaches than individual data. This is caused by two special features: dyad members are *nonindependent* and *indistinguishable* (Kenny et al., 2002; Kenny, Kashy, & Cook, 2006). Furthermore, Study 3 includes concepts that are measured at *multiple levels*: individual level attributes (music preferences, personal values, perceived similarity, and interpersonal attraction) and dyad level attributes (similarity in music preferences, similarity in value orientations, and similarity in background variables) are assessed. I will briefly discuss these issues as they have major implications for the analytical procedure.

Dyad members are often more similar (or dissimilar) than random pairs (Kenny, Mannetti, Pierro, Livi, & Kashy, 2002), which makes the data of dyad members

nonindependent. Hence, their responses will be positively correlated if dyad members are similar to each other or they will be negatively correlated if dyad members are dissimilar to each other. The nonindependence of data points violates the basic assumption of many individual level data analysis methods, such as regression or ANOVA (Kenny et al., 2002; Tabachnick & Fidell, 2007). Sources of nonindependence can be threefold, based on compositional effects, common fate or by mutual influence (Kenny et al., 2002). The last source has arguably the highest impact on the data in study 3 as the roommates share their living space and relate to each other on a daily basis. Additionally, dyad members in Study 3 were asked for the perceived similarity and attraction to their roommates. Therefore, the responses of roommates refer to each other. This is another source of interdependence of data points, considering that a reciprocal perception of dyad members can be assumed: if roommate A perceives roommate B as similar and likes him/her a lot it is very likely that roommate B also perceives roommate A also as similar and likes him/her to a similar degree. The nonindependence in the present study requires appropriate data analytical strategies, because ignoring them may lead to biased or incorrect results.

Same-sex roommate dyads differ from for instance heterosexual couple dyads in the sense that the members of an heterosexual couple can be clearly distinguished into a male and a female member, whereas same-sex roommate dyads can be arbitrarily divided into roommate A and roommate B. However, no objective determines who will be A and who will be B. Thus, roommate dyad members are *indistinguishable* (Kenny et al., 2006; Kenny et al., 2002). The indistinguishability of dyad members has major implications for theory and data-analysis (Kenny et al., 2006). Quantitative methods for distinguishable dyad members are relatively straight forward as members can be identified by a theoretically meaningful categorical variable (e.g., sex in heterosexual couples; Kenny et al., 2006). This is not the case for members that are indistinguishable. However, analytical designs and applied statistical analyses are available for data of indistinguishable dyad members as described below.

The design of this study incorporates concepts at individual and dyad levels (see Figure 6) requiring *multi level* analysis. Similarity between roommates was assessed using two approaches: perceived similarity and self-rating based similarity. While perceived similarity is measured at the individual level (each roommate gives his/her rating about his/her perceived similarity of the roommate), the self-rating based similarity is calculated between the self-ratings of both roommates and it is therefore a

dyad measure. Self-rating based similarity in music preferences and value orientations are included in the model (Figure 6). The inclusion of dyads' similarity based on self-ratings by-passes the indistinguishability issue for the variables music preferences and value orientation, given that the applied similarity indices are suitable for indistinguishable dyad data. Similarity indices will be discussed in more detail in the method section.

The present study deals with nonindependent data of indistinguishable dyad members and it includes two level measurements. Multi level data analytical approaches take nestedness of data into account (Bickel, 2008; Snijders & Bosker, 1999). Nestedness refers to a facet of nonindependence of data where observations are hierarchically nested in units. For instance, pupils are in classrooms, which are in schools, and schools are in towns. In this example there are four levels. The present study includes only two levels: individual and dyad level. The nonindependence of nested observations is incorporated in Hierarchical Linear Modelling (HLM) by taking the shared variance of nonindependent units into account. Pupils in one classroom share more variance than they do with pupils from other classrooms, classrooms within one school share more variance than they do with classrooms from other schools and so forth. Thus, HLM resolves the multilevel issue in the current data as well as the nonindependence issue. Furthermore, HLM is particularly suitable for indistinguishable dyads (Kenny et al., 2006) given that the analytical procedure is insensitive to distinguishability.

METHOD

Participants

Participants were ninety-four undergraduate students at Chinese University of Hong Kong who were randomly assigned as roommates in student hall dormitories (see Appendix D2 for survey). Participants had an average age of 20.44 ($SD = 1.19$) and 36% of them were female. They comprised 47 same sex flatmate dyads (30 male dyads and 17 female dyads). Characteristics of participants and dyads are shown in Table 13.

Measures

Personal Values

A 10 item short version of the Schwartz Value Survey (for similar use see Milfont, 2007) was used to measure personal value indicators for the 10 universal

human values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Schwartz, 1992). Each value indicator consisted of the value and the value definitions as published in Schwartz (1992). The value indicators were rated on a 7-point-Likert scale (1 – not important at all; 7 – extremely important). These were collated into the four value domains (Schwartz, 2001; cf. Study 1): conservatism (tradition, conformity, and security; *Cronbach's alpha* = 0.78), self-transcendence (universalism and benevolence; *Cronbach's alpha* = 0.85), self-enhancement (power and achievement; *Cronbach's alpha* = 0.76) and openness to change (hedonism, stimulation, and self-direction; *Cronbach's alpha* = 0.56).

Music preferences

Music preferences were assessed on a range of Chinese music genre and music styles from other cultures, which are relevant for college students in Hong Kong. The list of music styles was compiled with the assistance of two graduate students in Hong Kong. The initial list consisted of 41 music styles:

- 3 Chinese traditional music styles: Chinese Classical, Chinese Opera, and Chinese Folk
- 4 Chinese popular music styles: Canton-Pop, Mandarin-Pop, Chinese Rock and Chinese Hip-hop
- film music (soundtracks)
- 25 Western music styles[20]: Classical & Opera, College Punk, Country, Crossover, Dub, EBM & Industrial, Electronica, Emo, Folk music, Funk & Soul, Gospel, Hardcore, Hip-hop & Rap, Indie, Jazz & Blues, Metal, New Age, Pop, Punk, R'n'B, Reggae & Ska, Rock/Alternative/Grunge, Surf music, Techno & Dancefloor, and World Music,
- 3 Japanese styles: J-Pop, Japanese Rock, and Japanese Hip-hop
- 5 other styles: Bhangra, Bollywood music (Filmi), K-Pop (Korean Pop), Pop Indonesia, and Rai.

Participants rated their like or dislike of each music style on a 7-point Likert scale (1 - I don't like it at all; 7 - I like it very much; 0 - I don't know this music style, coded as missing value). However, from these 41 music style, only 16 were known by at least

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[20] In similar vein as Study 1, a comprehensive list was used in order to determine the spreading of Classic, popular and "new" Western styles, such as Emo or College punk, among college students in Hong Kong. Most of the included styles overlap with the styles used in the previous two studies.

75% of the participants. Therefore, these 16 music styles were used in the following analyses.

The structure of music preferences was assessed by conducting a PCA with Oblique rotation (cf. Study 1). Four factors were extracted based on the criteria of Eigenvalue above 1. The four music factors explained 61% of the variance (Table 12). The first factor comprised Western music styles, including Rock and Metal, Hip-hop, R'n'B, Electronica, Jazz and Blues. The second factor represented predominantly Chinese Classical styles (Chinese Classical, Chinese Opera, and Chinese Folk) and Folk. The third factor encompassed Popular styles, including Mandarin-Pop, Canton-Pop, international Pop and Soundtracks. The fourth factor contained two Japanese music styles J-Pop and J-Rock.

Music preference scales were calculated based on the items suggested by the PCA. The scales were measured with adequate internal consistency (Western styles: *Cronbach's alpha* = 0.80; Classics styles: *Cronbach's alpha* = 0.75; Pop styles: *Cronbach's alpha* = 0.77; Japanese styles: *Cronbach's alpha* = 0.75).

Table 12

Results of exploratory factor analysis on music preferences (Study 3; N = 94)

	Factor loadings*			
	Western styles	Classics styles	Pop styles	Japanese styles
Metal	0.87			
Hip-hop & Rap	0.75			
Rock	0.71			
R'n'B	0.62			
Jazz & Blues	0.60			
Electronica	0.46			
Chinese Folk		0.83		
Chinese Classical		0.77		
Chinese Opera		0.75		
Folk music		0.61		
Canton-Pop			-0.83	
Mandarin-Pop			-0.73	
Pop			-0.72	
Soundtracks			-0.70	
J-Pop				-0.83
J-Rock	0.49			-0.64
Eigenvalue	3.71	2.54	2.27	1.24
% of Variance	23.17	15.87	14.20	7.75

Note. *Extraction Method: PCA; Rotation Method: Oblique with Kaiser Normalization; Loadings above 0.40 are displayed.

Interpersonal attraction

Attraction between roommates was assessed using an adapted version of the Social Attraction sub-scale developed by McCroskey, McCroskey, and Richmond (2006) as part of their Interpersonal Attraction Scale (McCroskey & McCain, 1974). The scale consisted of 12 (containing both positive and reversed) items measuring the socio-emotional component of interpersonal attraction. Items were adapted so they fitted the roommate context (e.g., "My roommate is pleasant to be with", "My roommate just wouldn't fit into my circle of friends"). Participants indicated their agreement with each item on a 1 to 7 Likert-scale (1 − strongly disagree; 7 − strongly agree). The social attractiveness sub-scale was designed as a uni-dimensional construct. The 12 items showed a high level of internal consistency (*Cronbach's alpha* = 0.82).

Perceived similarity

The perceived similarity between roommates was measured using an adapted version of McCroskey and colleagues' Perceived Homophily Measure (McCroskey, Richmond, & Daly, 1975). The scale is comprised of 8 similarity items (e.g., My roommate has a lot in common with me, My roommate behaves like me) and 7 dissimilarity items (reversed coded; e.g., My roommate is unlike me; My roommate expresses attitudes different from mine). Perceived similarity has shown to be a uni-dimensional construct (McCroskey et al., 1975). One item had a negative item total correlation and was therefore omitted. The remaining 14 items showed a high level of internal consistency (*Cronbach's alpha* = 0.93).

Additional variables

Various demographic variables were assessed that may provide additional cues for similarity. These variables were nationality (Hong Kong, Mainland China, or other countries), subject of study at university, and age. Dissimilarity indicators[21] were coded for these three variables: nationality (0 − same, 1 − different), subject of studies (0 − same, 1 − different), and age (absolute difference between dyad members' ages in years). Additionally, the amount of time roommates have known each other was an important variable to control for. Although roommates were randomly assigned to each other, most roommates had known each other before (*M* = 20.07 months, *SD* = 26.57,

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[21] Given that age difference is naturally a dissimilarity indicator, I decided to code the other indices in this block as dissimilarity indicators. All three indicators are coded in the same direction.

range: 1.50 – 110 months)[22]. Research suggested that contact between persons may enhance their social attraction and perception of similarity to each other (Allport, 1957). These variables provide alternative models, which can contribute to social bonding between roommates. Hence, these variables will be included and controlled for when testing the hypotheses in order to rule out alternative explanations. A summary of participants' and dyads' characteristics is shown in Table 13.

Table 13

Characteristics of participating individuals and dyads (Study 3)

	Individual participants	Dyads
N	94	47
Age	20.44 ($SD = 1.19$)	-
Female/male	34/60	17/30
Duration of knowing each other	-	20.07 months ($SD = 26.57$)
Similarity in nationality	-	38 similar (81%)
		6 dissimilar (19%)
Similarity in study subject	-	18 similar (38%)
		29 dissimilar (62%)
Age difference	-	0.83 years ($SD = 0.84$)

Translation of the questionnaire

The questionnaire was designed in English and then translated into Chinese by two bi-lingual graduate students. The translation procedure involved the translation and back-translation. I examined the back-translation and provided feedback. The translation has subsequently been corrected and refined.

Analytical procedure

Similarity indicators

Similarities between dyad members' music preferences and personal value orientations were calculated based on the self-ratings of each dyad member. Several methods are available to assess self-rating based similarity (Selfhout et al., 2009). These methods can be grouped into either variable centred or couple centred approaches (Luo & Klohnen, 2005). Couple and dyad research often applies variable centred approaches that aim to show agreement (correlation) between two self-ratings in a given population (e.g., married couples, self-other agreement). In variable centred

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[22] A reason for this could be that roommates were randomly assigned from a pool of students who applied for residency in a particular dormitory. These applicants may have lived in this dormitory before and have known each other because they were living in the same house. Roommates' ratings of length of knowing each other were highly consistent ($r = 0.90$, $p < 0.001$). Therefore, the average between both roommates' ratings was used.

approaches, Pearson correlations between two ratings can be calculated if dyad members are distinguishable (e.g., married couples) or self and other ratings are being studied. If members are indistinguishable, intra-class correlation (ICC(2)) is a suitable alternative to obtain variable centred similarity estimates for a given population.

However, the proposed model uses similarity as a varying attribute of dyads. Therefore, similarity needs to be calculated for each dyad. This means that a couple centred approach to similarity assessment is more appropriate for the current study.

Couple centred similarity indicators can be calculated in two ways: first, based on level differences between dyad members' mean scores and second, based on the relative importance dyad members put on certain items or constructs (Luo & Klohnen, 2005). The level of similarity between dyad members' scores can be assessed, for instance, by the squared difference, absolute difference or distance between the two mean scores (Kenny et al., 2006). The smaller the difference the more similar dyad members' scores are in a given domain. For this reason these measures are also called dissimilarity measures (Kenny et al., 2006). However, distances or difference scores are mostly calculated on a scale level, thus important information about individual item ratings are not taken into account (Luo & Klohnen, 2005).

The relative importance of items or constructs can be assessed by profile agreement (also called similarity correlation or profile correlation; Luo & Klohnen, 2005). More precisely, the profile of responses of dyad member A is correlated with the profile of responses of dyad member B. Luo and Klohnen (2005) argue that profile indicators of similarity provide more information compared to level based similarity indicators. This is because profile similarity indicators can range from being negative (minimum -1) indicating opposite response formats to a given domain, to being zero if responses are independent, or to being positive (maximum +1) indicating similarity (Cohen, 1969). Difference scores can only range from zero, indicating equal scores in a given characteristic, to some positive value indicating a difference in this characteristic. Thus, profile indicators seem the more appropriate option to use in the current study.

Several formulas were proposed to calculate profile indicators. I included two alternative profile agreement indicators in order to cross-validate findings (Kenny, Kashy, & Cook, 2006) by assessing the consistency between two alternative indicators. Most commonly *Pearson's correlation r* is used to assess profile similarity between two profiles of ratings (Cohen, 1969; Luo & Klohnen, 2005; McCrae, 2008). Pearson's r is calculated based on the shape of two profiles. Profile elevation however is not

included in Pearson's r (Cattell, 1949; Cohen, 1969; McCrae, 2008). Furthermore, Cohen (1969) argued that measurement scales have an arbitrary direction. This makes Pearson's r vulnerable for shifts in scale direction. Cohen (1969) developed an alternative correlation coefficient for assessing profile similarity (*Cohen's rc*), adding the reversed set of ratings (e.g., 6 to 1 scale) to the original ratings (e.g., 1 to 6 scale). Cohen's rc can be interpreted as an index of paired deviations from the neutral scale midpoint (Cohen, 1969). Thus, Cohen's rc takes the relative elevation and shape of two profiles into account and is invariant over scale reflection. Other profile correlation indices are available, such as Intra Class Correlation with double entry (ICC(de), McCrae, 2008). However, most of these indices do not show the same properties as Cohen's rc does. More specifically, other measures are not invariant over scale reflection, for instance ICC(de) amplifies the issue of invariance over scale reflection. Therefore, I apply the most common (Pearson's r) and the most pertinent (Cohen's rc) profile agreement coefficient in this study.

Several methodological considerations need attention when calculating the profile similarity coefficient Pearson's r. First, theoretically only two items or scores are required for calculating a correlation coefficient. However, I regard two scores as imprecise information leading to overestimated or underestimated similarity coefficients (Cohen, 1969). Therefore, cases with missing values providing less than three scores were excluded. Furthermore, correlation coefficients cannot be calculated if one variable (the profile of one dyad member) is constant. In order to prevent loosing cases due to constants I adjusted a randomly selected item of the profile set by adding 0.001 to each dyad member's score. The latter adjustment was made for Cohen's rc if the original profile constant was 4. This was necessary given that the reverse score of 4 on the applied scale (1 to 7 Likert scale) is also 4, hence leading to constant figures. This was not necessary for other constants in the original profile, because the inverse scores were added (e.g., if 2 was the original score, the reverse score was 6)

Profile similarity indicators Pearson's r and Cohen's rc were calculated for dyad members' similarity in music preferences and value orientations. *Music preference similarity indicators* were assessed for each of the music preference factors. Unfortunately, one of the four music preferences factors – Japanese styles - only consisted of two items, which does not provide sufficient information for calculating profile similarity indicator. Thus, indicators were calculated for three music preference factors Western styles, Classic styles and Pop styles. Other profile assessments of

music preference similarity were possible, for instance, the profile of mean scores of the four music preference factors, or the profile of all included music styles (Selfhout et al., 2009). I regarded the separate examination of similarity in music preference factors as most appropriate because it may be sufficient for two people to find agreement on a limited number of music styles in order to perceive each other as similar and thus, to like each other.

Value orientation similarity indicators were calculated over the profile of mean scores of the four value domains self-enhancement, self-transcendence, conservatism and openness to change. Two of the four value domains were measured only on two items. Hence, domain specific profile similarities were not measurable. Taking the mean scores of all four value domains into account provides a holistic theory bound assessment (cf. Chapter Two) of structural value similarity between dyad members.

Data analysis

Three sets of analyses were conducted to test the value hypothesis and the three social bonding hypotheses. The value hypothesis that music preferences are associated with personal value orientations was assessed by partial correlation controlling for age and gender. This was equivalent to the procedure in Study 1. This analysis was conducted on individual level data. Social bonding hypothesis 1 at the dyad level was tested using multiple hierarchical regressions. Similarity in value orientations between dyad members was regressed on three regression models: first, the dyad characteristics gender and the duration of knowing each other, second, similarity in background variables nationality (same = 0, different = 1), study subject (same = 0, different = 1), and absolute age difference, and third, profile similarity in preferences for the three factors Western music styles (including Metal, Hip-hop & Rap, Rock, R'n'B, Jazz & Blues, and Electronica), Classic music styles (including Chinese Folk, Chinese Classical, Chinese Opera, and Folk music), and Pop music styles (including Canton-Pop, Mandarin-Pop, Pop, and Soundtracks).

Social bonding hypothesis 2 and 3 required analytical procedures that take cross-level data into account (see Figure 6). HLM is particularly suitable for the current analyses for the reasons discussed earlier. Other analytical procedures would also be suitable for the current data, for instance, the Actor-Partner Interdependence Model (APIM; Kenny et al., 2002) or SEM. However, these alternative approaches would result in complex designs because the main effects (e.g., music preferences and value

orientations) would need to be included in addition to interaction terms (Kenny et al., 2002). The current number of participants would not be sufficient for such an extended model. Therefore, a rather simple but informative model was chosen which provides appropriate statistical power in HLM.

HLM6 (Raudenbush, Bryk, Cheong, & Congdon, 2005) was used for this analysis. A common rule of thumb regarding sample sizes in HLM requires a minimum of 20 participants in each group (Snijders & Bosker, 1999). This rule of thumb is not applicable for dyadic data simply because only two participants can make up a dyad. With only two participants in each group there is not enough data points to calculate variability in the slope of X and Y within groups. Kenny and colleagues (2006) suggested a restriction for the use of HLM with dyadic data to address this problem. They advise to include only fixed effects models for effects of X on Y omitting random effects due to restricted variability. Therefore, only fixed effects models were analysed to test hypotheses 2 and 3. All variables were centred around the grand mean. A restricted maximum likelihood estimation was used given that this method provides an unbiased estimate of variance compared to the alternative maximum likelihood estimation (Kenny, Kashy, & Cook, 2006).

Multiple hierarchical regressions and HLM were conducted twice, first using Pearson's r and second using Cohen's rc as method for profile similarity assessments. Missing values were imputed using multiple imputations suggested by Tabachnick and Fidell (2007).

RESULTS

Descriptive statistics

Descriptive statistics and correlations of participants' music preferences, value orientations, perceived similarity and interpersonal attractiveness are reported in Table 14. The reported correlations neglect the nonindependence of data points in the current data set. Due to the nonindependence issue the significance test need to be treated carefully. While being aware of this issue, I decided to report them given they provide important initial information that will be helpful for understanding some of the following results.

From the four music preference factors, Pop music styles were the most preferred ($M = 5.39$, $SD = 0.88$). This finding is not surprising since this music factor contains C-Pop, which is known to be the most popular music style in Hong Kong (Fung et al.,

2000) and other Chinese countries. Interestingly, Pop music styles were followed by Japanese music styles ($M = 4.33$) in their popularity in the current sample. Japanese popular culture is becoming increasingly popular around the world, particularly in Asian countries, such as Hong Kong (Ng, 2008). Western music styles and Classics are less preferred in the current sample, while still being on the favourable side of the scale (Western styles, $M = 3.97$; Classics styles, $M = 3.96$). Preferences for Japanese styles are strongly correlated with preferences for Western styles ($r = 0.56$, $p < 0.001$) and also with Pop styles ($r = 0.25$, $p < 0.05$), whereas preferences for Classics styles are unrelated to the other preference factors.

Regarding value orientations, participants' strongest principle in life were self-transcendence values, whereas self-enhancement values were least preferred as guiding principles in life. This is a common value orientation pattern in university students (Sagiv & Schwartz, 2000). The correlations between other value domains were surprisingly high for conservatism and openness to change values. Social desirability may have influenced the response styles or agreement response sets might have stressed these intercorrelations. This may indicate that individual response sets should be controlled for when testing the basic value assumption. On the other hand, one could argue that controlling for individual response styles sets artificial limits to values as an entity. Considering that values are not limited resources and it was decided that they should not be controlled for (Fischer, 2004). This also takes into account that the aspiration to conform to socially desirable requests is part of or related to certain value domains, such as conformity and tradition. Controlling for these would diminish informative and important parts of the variance that is being investigated.

Interpersonal liking received a high mean value ($M = 5.93$, $SD = 0.70$). Its range ($Min = 3.63$, $Max = 7$) indicates that all participants liked their roommates. This results in an asymmetrical distribution with negative skewness ($Skewness = -0.59$, $SE = 0.25$). Perceived similarity ranged from fairly dissimilar to highly similarity ($M = 4.00$, $SD = 0.88$, $Min = 2.21$, $Max = 6.15$). Interpersonal attraction and perceived similarity were not directly correlated with music preferences or value orientations, except for conservative values being positively associated with perceived similarity ($r = 0.35$, $p < 0.001$).

Next I investigated the descriptive properties of value orientation and music preference similarity indicators Pearson's r and Cohen's rc as presented in Table 15, because non-normality could bias the results. All profile similarity correlations were

positive indicating that roommates on average tended to be more similar to each other than dissimilar, which is consistent with previous research (e.g., Cronbach, 1955; Luo & Klohnen, 2005). This resulted in negative skewed distributions as can be seen in Table 15. Particularly, Cohen's rc for value similarity and similarity in Pop music preferences feature high negative skewness. Skewness violates the assumption of normality but violating this assumption is less substantial if the variables show skewness in the same direction (Tabachnick & Fidell, 2007). In the present data all variables are negatively skewed; thus, they share a similar distribution which is the main focus of the normality assumption. This by-passes the normality violation in the current data[23]. Furthermore, HLM centres all variables around their grand mean. This transfers variables into a normal distribution.

For all scales, Pearson's r and Cohen's rc were correlated within each target of similarity (music preferences, value similarity), indicating inter-method validity. This correlation was only marginal for Pop music similarity. As I have discussed earlier, the level of related 'artificial' additional similarity in Cohen's rc was particularly prevalent in Pop music preferences, thus, making it less associated with the "shape-only" oriented profile indicator Pearson's r.

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[23] In order to ensure that this argument applies to the current data, regression analyses testing the social bonding hypothesis 1 were repeated with transformed variables. Transformations for moderate negative skewness suggested by Tabachnick and Fidell (2007) were computed by applying the following formula: SQRT(K-X). This reduced the skewness to an optimal level (average skewness: S (r) = -0.16; S (rc) = 0.17). The beta weights between transformed data and non-transformed data were tested for homogeneity. Tests revealed that regression coefficients were equivalent for the hypothesised associations (similarity in Pop music preferences: F (1, 90) = 0.03, *ns.*; similarity in Classic music preferences: F (1, 90) = 0.01, *ns.*, similarity in Western music preferences: F (1, 90) = 0.05, *ns.*, regressed on value similarity using Pearson's r; similarity in Pop music preferences: F (1, 90) = 0.16, *ns.*; similarity in Classic music preferences: F (1, 90) = 0.00, *ns.*, similarity in Western music preferences: F (1, 90) = 0.17, *ns.*, regressed on value similarity using Cohen's rc).

Table 14

Descriptive statistics and correlations of individual level variables (Study 3, N = 94)

	M	SD	1	2	3	4	5	6	7	8	9	10
1 Western music styles	3.97	1.00	*0.80*									
2 Classic music styles	3.96	1.00	0.07	*0.75*								
3 Pop music styles	5.39	0.88	0.25*	0.08	*0.77*							
4 Japanese music styles	4.33	1.33	0.56***	0.08	0.24	*0.75*						
5 Self-transcendence values	5.33	1.12	0.11	0.08	0.24*	0.02	*0.85*					
6 Self-enhancement values	4.16	1.15	0.01	-0.06	0.02	-0.17	0.13	*0.76*				
7 Conservatism value	4.94	1.04	0.11	0.25*	0.21*	0.01	0.67***	0.24*	*0.78*			
8 Openness to change values	4.93	1.00	0.23	0.14	0.14	0.24*	0.45***	0.40***	0.42***	*0.56*		
9 Perceived similarity	4.00	0.88	0.01	0.15	0.04	-0.06	0.15	-0.01	0.35**	0.03	*0.93*	
10 Interpersonal liking	5.93	0.70	0.05	0.13	-0.08	0.08	0.09	0.05	0.20	0.12	0.40***	*0.82*

Note. Cronbach's alphas are provided in italics. All variables were measured on a 1 to 7 Likert-scale. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 15

Profile similarity coefficients Pearson's r and Cohen's rc for music preferences and value orientations (Study 3, N = 47 dyads)

	M	SD	Skewness	SE	1	2	3	4	5	6	7	8
1 r Values orientations	0.33	0.53	-0.70	0.35	1							
2 rc Values orientations	0.63	0.32	-1.34	0.35	0.41**	1						
3 r Western music styles	0.43	0.43	-1.00	0.35	0.21	0.35*	1					
4 rc Western music styles	0.36	0.39	-0.75	0.35	0.03	0.25[†]	0.39**	1				
5 r Classics music styles	0.29	0.49	-0.72	0.35	0.17	-0.07	-0.04	0.18	1			
6 rc Classics music styles	0.28	0.50	-0.54	0.35	0.06	-0.05	0.18	0.13	0.68***	1		
7 r Pop music styles	0.36	0.54	-0.87	0.35	0.24	0.12	0.17	0.14	0.23	0.12	1	
8 rc Pop music styles	0.61	0.50	-1.56	0.35	-0.16	-0.07	-0.12	0.24	0.01	-0.17	0.26[†]	1

Note. [†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Value hypothesis

First, I assessed whether music preferences are associated with value orientations in the current sample. Table 16 shows the partial correlations between participants' preferences for Western, Classic, Pop, and Japanese music styles and four value orientations. Preferences for Western and Japanese music styles were associated with openness to change values. The more participants strived for openness to change values, such as stimulation and self-direction, the more they were inclined to like non-Chinese music styles from the West and from Japan. Considering that both music preference factors include Rock music styles (Rock, Japanese Rock) these findings are in line with one facet of the *individual value hypothesis 1* in Study 1. Preferences for Classics styles were associated with conservative values. The more conservative participants were in their value orientations the more they liked Classics music styles. This finding is in line with a component of the *individual value hypothesis 3* in Study 1. This is an intriguing result considering that this hypothesis was not confirmed in Study 1. Preferences for Pop music styles were related to self-transcendence values and conservative values. Both associations were not hypothesised in Study 1. They provide an interesting insight into the relationship between popular music – mostly Chinese Pop - and value orientations that are otherwise associated with Classic music (cf. *individual value hypothesis 3*). Overall, the results confirm the basic assumption that music preferences are associated with personal value orientations.

Table 16

Partial correlations of associations between values and music preferences (testing the Value Assumption, Study 3, N = 94; correlations controlled for age and gender)

Value domains	Music preferences			
	Western styles	Classic styles	Pop styles	Japanese styles
Self-transcendence	0.10	0.10	0.26*	0.00
Conservatism	0.10	0.27*	0.22*	0.00
Openness to change	0.24*	0.15	0.17	0.25*
Self-enhancement	0.03	-0.07	0.02	-0.16

Note. *$p < 0.05$

Social bonding hypotheses

The first social bonding hypothesis was tested in three multiple hierarchical regression models. Table 17 presents the results using Pearson's r and Table 18 presents the results using Cohen's rc as profile similarity assessments. Dyads' similarity in value orientations was regressed on three regression models: dyad characteristics (Step 1), background similarity (Step 2) and similarity in music preferences (Step 3). Collinearity diagnostics and condition indices were examined in

order to rule out multivariate multicollinearity between predictor variables. The variance inflation factor (VIF < 1.50), tolerance scores (tolerance > 0.71) and condition indices (CI < 8) remained in an appropriate range (Garson, 2003); thus, the collinearity assumption was not violated.

Table 17

Multiple regression analysis predicting dyads' similarity in value orientations (testing Social Bonding Hypothesis 1 using Pearson's r for profile similarity, Study 3, N = 47 dyads)

	Step 1	Step 2	Step 3
Gender	-0.10	-0.13	-0.14
Duration of knowing	0.07	0.16	0.21
Nationality similarity		0.06	0.07
Study subject similarity		-0.23	-0.28†
Age difference		0.39*	0.30†
Western music style preference similarity			0.30*
Classics music style preference similarity			0.14
Pop music style preference similarity			0.18
F	0.38	1.96	2.24*
R²	0.02	0.19	0.32
Δ*R²*	0.02	0.18*	0.13†

Note. † $p < 0.10$; *$p < 0.05$

Dyad characteristics (gender and duration of knowing) did not explain variance in value similarity when similarity was assessed using Pearson's r. Background similarity explained significant variance in value similarity ($R^2 = 0.19$, $p < 0.05$). More precisely, age difference between dyad members predicted unique variance in value similarity ($\beta = 0.39$, $p < 0.05$), whereas the other background variables did not show significant effects on value similarity. Interestingly, the higher the age difference between roommates, the more similar they were in their value orientations. However, the significant age difference effect disappeared once similarity in music preferences entered the regression equation. Similarity in preferences for Western music styles was significantly associated with value similarity ($\beta = 0.30$, $p < 0.05$). Although the third model marginally explained an additional amount of variance in value similarity ($R^2 = 0.32$, $p = 0.09$), the final model as a whole reached statistical significance in explaining variance in value similarity ($F (8, 38) = 2.24$, $p < 0.05$).

Interestingly, only similarity in preferences for Western music styles was a significant predictor of value similarity in dyad members ($\beta = 0.34$, $p < 0.05$) when profile similarity in value orientations and music preferences was assessed using Cohen's rc (Table 18). All other variables did not contribute to dyads' value similarity.

Thus, the previously identified trends for age and subject of study were not stable. The findings provide valid evidence that similarity in preferences for Western music styles is a consistent indicator for value similarity between dyad members. This is in line with the social bonding hypothesis 1.

Table 18

Multiple regression analysis predicting dyads' similarity in value orientations (testing Social Bonding Hypothesis 1 using Cohen's rc for profile similarity, Study 3, N = 47 dyads)

	Step 1	Step 2	Step 3
Gender	0.10	0.13	0.06
Duration of knowing	-0.10	-0.12	-0.14
Nationality similarity		0.10	0.06
Study subject similarity		-0.12	-0.18
Age difference		-0.05	0.00
Western music style preference similarity			0.34*
Classics music style preference similarity			-0.16
Pop music style preference similarity			-0.19
F	0.48	0.43	1.01
R²	0.02	0.05	0.18
Δ*R²*	0.02	0.03	0.13

Note. $*p < .05$

Next, social bonding hypotheses 2 and 3 were tested using HLM. First, the association between similarity in value orientations and perceived general similarity was investigated (hypothesis 2). I argued earlier that similarity in background variables and dyad characteristics might impact on similarity between dyad members. Thus, the additional background similarity variables as well as dyads' gender and duration of knowing each other were regressed on perceived similarity. The results of HLM (and the third model of multiple hierarchical regressions) are depicted in Figure 7a and 7b.

SIMILARITY in MUSIC PREFERENCES

| Pop styles | Classics styles | Western styles |

.18   .14   .30*

SIMILARITY in VALUE ORIENTATION

SIMILARITY in
BACKGROUND VARIABLES

.07

Nationality

-.28†

Study subject

.30†

Age Difference

.84**   -.14   .21

.39†

-.08

DYAD
CHARACTERISTICS

Gender (female)

Duration of
knowing

-.11

.00

.40*

Perceived GENERAL SIMILARITY

.27***

SOCIAL ATTRACTION
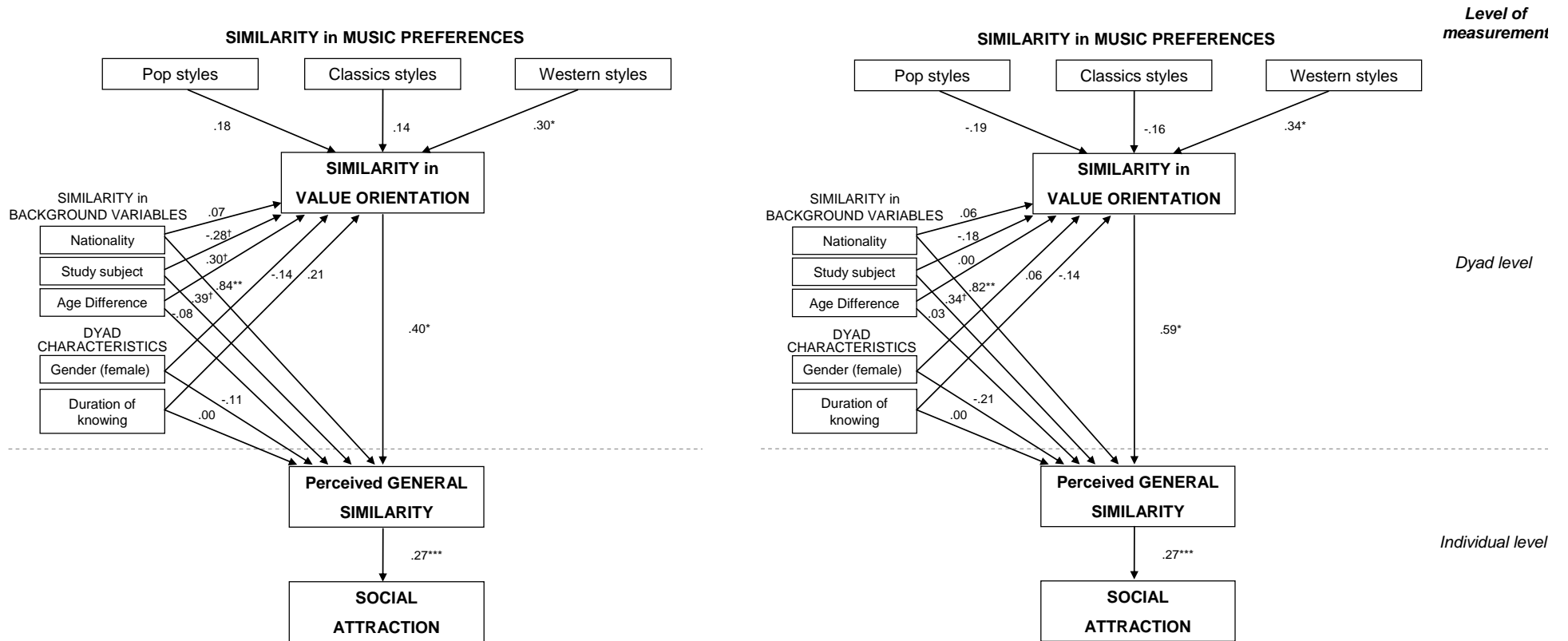
Figure 7a. Multiple regression analysis and HLM testing MUSA-VALUES using Pearson's r for profile similarity (Study 3, *N* = 47 dyads; †*p* < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001)

SIMILARITY in MUSIC PREFERENCES

| Pop styles | Classics styles | Western styles |

-.19   -.16   .34*

SIMILARITY in VALUE ORIENTATION

SIMILARITY in
BACKGROUND VARIABLES

.06

Nationality

-.18

Study subject

.00

Age Difference

.82**   .06   -.14

.34†

.03

DYAD
CHARACTERISTICS

Gender (female)

Duration of
knowing

-.21

.00

.59*

Perceived GENERAL SIMILARITY

.27***

SOCIAL ATTRACTION

Dyad level

Individual level

Figure 7b. Multiple regression analysis and HLM testing MUSA-VALUES using Cohen's rc for profile similarity (Study 3, *N* = 47 dyads; †*p* < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001)

The findings indicate that similarity in value orientation is strongly associated with general perceived similarity between roommates, providing support for the social bonding hypothesis 2. This finding was consistent for both operationalizations of value similarity (Pearson's r model: $\beta = 0.40$, $p < 0.01$; Cohen's rc model: $\beta = 0.59$, $p < 0.01$). Interestingly, neither the duration of knowing each other, nor gender and age had an impact on the perceived similarity between roommates. However, similarity in nationality was strongly associated with perceived similarity in both models (Pearson's r model: $\beta = 0.84$, $p < 0.01$; Cohen's rc model: $\beta = 0.82$, $p < 0.01$). Roommates who had diverse nationalities perceive each other as more similar. Potential explanations for this rather unexpected finding will be proposed in the discussion section. Similarity in subject of study explained additional variance in perceived general similarity in the both models. Although the standardized beta weights were sizable, this effect was only marginally significant (Pearson's r model: $\beta = 0.39$, $p < 0.10$; Cohen's rc model: $\beta = 0.34$, $p < 0.10$).

Finally, interpersonal liking for one's roommate was regressed on perceived similarity, testing the social bonding hypothesis 3. Perceived general similarity was significantly associated with interpersonal liking ($\beta = 0.27$, $p < 0.001$). The more similar dyad members perceived each other, the more they liked each other. This finding supports the social bonding hypothesis 3.

Figure 7a and 7b show the final model with all the control variables and coefficients as reported above.

DISCUSSION

This dyadic study among roommates in Hong Kong was conducted in order to test the newly developed model (MUSA-VALUES). The findings provide further support for the value hypothesis and first support for the three social bonding hypotheses. Preferences in Western music styles expressed openness to change values of its listeners. The more roommates shared their preference for Western music styles, the more they had shared value orientations. This similarity in value orientations contributed to perceived similarity between roommates, leading to higher interpersonal liking. The cross-method design with regard to similarity indicators (profile agreement) strengthens the validity of the findings.

The first intriguing question arising from the results is: why is only similarity in preferences for Western music styles associated with value similarity, although all

music styles are associated with value orientations? Two explanations are at hand. First, similar findings were found by Selfhout et al. (2009; cf. Section 1). The authors showed that particularly similarity in 'non-mainstream' styles preferences were important for friendship formation in Dutch friend dyads. The Western music preference factor in the present study includes music styles generally seen as 'non-mainstream' styles, such as Rock, Metal and Electronica. The "non-mainstreamness" of these music styles may have fostered the value-similarity. This is based on Lea and Duck's (1982) argument that uncommon attitudes and values are challenging to validate in the social world. This implies that it is hard to find friends with similar preferences and similar values. A friend who shares an uncommon attitude would also share uncommon values based on the value-expressive function. Once such a friend is found, the bond may be strong and lasting due to its uniqueness. Thus, it may be the uncommonness of the Western music preference factor that particularly fosters the relationship between roommates and their similarity in value.

An alternative explanation may be rooted in the value that is expressed by the Western music style factor: openness to change values. Openness to change values are related to the personality trait openness to experience (Dollinger, Leong, & Ulicni, 1996; Olver & Mooradian, 2003). Openness to experiences has been found to be important in social relationships. In Lee and colleagues' (2009) study friend dyads showed particularly high (self-rating and perceived) similarity in the trait openness to experience (Lee et al., 2009). The authors suggested that the value relevance of this trait underpin this finding. This indicates that similarity in openness to change values has a particularly strong impact on social relationships. Preferences for Western music styles may serve as a proxy for this important value in social relationships.

Some other results need further exploration. The association between conservatism and preferences for Pop music is a curious finding as it contrasts with previous Western research at the individual level. Previous research associated Pop music with self-enhancement and openness to change values (cf. Chapter Two). However, research did not investigate value-associations of music preferences in Asian culture, with the exception of a recent study by Boer, Fischer, and Mendoza (under review) and Chapter Two in this thesis.

Boer, Fischer, and Mendoza (under review) undertook a detailed analysis of global and culture-specific music preferences and value-associations in a Filipino student sample. Preferences for Filipino Popular music were associated with

conservative and traditional values. However, preferences for global music styles were in line with predictions from Western literature. The authors suggested that music preferences for global and culture specific music styles – although structured similarly – are independently underpinned by value orientations. While value-associations for global music preferences may be adopted from other cultures of origin, culture specific music styles – although they may be musically adopted particularly in the case of Pop music – are localised by enriching them with local meaning and content including values. In the present study this may also be the case for Chinese Pop. In an attempt for assertion from competing influences of other cultures, Chinese Pop may be an expression for conservative, traditional Chinese values, and therefore, be a patriotic symbol similar to Pinoy Pop in the Philippines (Boer, Fischer, & Mendoza, under review).

A further finding that needs consideration is the unexpected effect of dissimilarity in nationality and subject of study on perceived similarity. Roommates who have different subjects of study or different nationalities perceive each other as more similar. This effect may be explained by social desirability. An empirical indication for social desirability may be that both effects were only present in association with perceived similarity; however there were no effects on self-rating based similarity. This highlights the meaningfulness of implementing both similarity measures – perceived and self-rating based similarity – in the social bonding research.

Limitation and conclusion

An interesting finding in the current study was that the association between music preferences similarity and social attraction was indirect. Why? Is this a limitation? The notion of indirect effects has been suggested in previous survey research. Previous research contended that an indirect process may underpin the social bonding through music while direct effects were often only marginal (e.g., Ilari, 2005). MUSA-VALUES provides the first theoretically grounded model to explain the 'indirect' social bonding function of music via value similarity as facilitator. MUSA-VALUES was confirmed in this study providing evidence from an interpersonal framework. The indirect relationship however may suggest the need to include additional facilitating factors. An alternative facilitating factor may be personality fit.

Research on the link between musical attitudes and personality has expanded lately (e.g., Chamorro-Premuzic & Furnham, 2007; Chamorro-Premuzic et al., in press;

Delsing, ter Borg, Engels, & Meeus, 2008; Pimentel & Donnelly, 2008; Zweigenhaft, 2008). Although value orientations and personality traits are interrelated, their conceptual underpinnings are quite different. Personality traits are endogenous basic tendencies underlying biophysiological response systems (Costa & McCrae, 1998; Eysenck & Eysenck, 1985; McCrae & Costa, 1996, 1999; Olver & Mooradian, 2003). Values are concepts and beliefs about desirable end states and behaviours, that transcend specific situations, guide the selection and evaluation of behaviour and events, and are relative in their importance. (Bilsky & Schwartz, 1994; Schwartz & Bilsky, 1987). Hence, personality traits are endogenous, whereas, values are acquired through socialisation (Schwartz, 1992). Research suggested that music preferences are used to send information about one's personality to others (Rentfrow & Gosling, 2003). As outlined earlier, these encoded personality messages have been found to be decoded correctly by others (Rentfrow & Gosling, 2003). Although previous research on similarity in personality was not as consistently related to social attraction as similarity in value orientations, this may be an alternative source for enhanced perceived similarity cues by shared music preferences.

The next study provides an experimental examination of MUSA-VALUES (level 2). Study 4 was conducted assuming underlying intergroup processes. Furthermore, personality as alternative source of similarity was included in the study in order to test its applicability vis-à-vis the value hypothesis.

INTRODUCTION

Aim of Study 4

Study 4 aimed to test MUSA-VALUES using an experimental design. Experimental designs provide controlled causal assessments of anticipated effects. This study considered intergroup processes in musical social bonding. MUSA-VALUES refers to only one social category, namely categorisation based on music preferences. The design of the current experiment extended the MUSA-VALUES model beyond a single social category towards a more ecologically valid stimulus design. This study aimed to achieve a somewhat realistic yet experimentally controlled social experiment by presenting a variety of information about the stimuli while manipulating two competing social categories (including control conditions for both categories). The social categories were music preferences and ethnicity. These two social categories competed for salience in the present study. The question is: Which group membership is more important to young German participants: belonging to a music fan community or belonging to a cultural group (or an interaction of both)?

I manipulated a stimulus person who is characterized by two features: liking a particular music (vs. no particular music taste) and coming from a particular culture (vs. no particular culture). This social perception experiment assessed whether shared music preferences are used as a basis for perceived value congruence leading to ingroup favouritism despite a present outgroup category (culture). Or to put it simply: is musical ingroup favouritism facilitated by value prototype congruence, and does this apply for cultural outgroups? Furthermore, the role of value congruence as predicted in MUSA-VALUES is tested against an alternative cue for ingroup prototypicality, namely, personality congruence, as suggested by Rentfrow and colleagues (2003, 2007, 2009).

In the next part, I explore intergroup models that implement more than one social category. Furthermore, I review research on music in intergroup relations before the hypotheses for Study 4 are stated.

Music preferences and ethnicity

How could the two social categories relate to each other?

In Section 1, I discussed music preferences as an indicator for single group membership. Social reality naturally involves a more complex system of groups. Every individual is a member of multiple groups. Thus, when interacting with other individuals we interact with members of various potential ingroups and outgroups at the same time. For instance, when a female, Dutch psychologist with a preference for Rock meets a female, Malay statistician with a preference for Rock, there are four group categories present, gender, ethnicity, occupation, and music preferences, including two overlapping group memberships (gender and music) and two non-overlapping groups (ethnicity and occupation). Groups vary in their relevance or salience. Social bonding between those two women will depend on the salience of these four categories for the two women. In the social field it will depend on category accessibility, comparative and normative category fit, but also on the context that influences which category prototype is most salient and which category is activated during the social interaction. For instance, if the two women meet at a Rock concert, the musical social category would likely be the most salient social category for their interaction. In the current study, the context was a controlled experimental setting so that category accessibility and category fit could be examined.

Ethnicity and music preferences are cognitively easily accessible social categories. Extensive literature has corroborated that ethnicity, cultural background and nationality are among the most accessible and salient social categories that lead to ingroup favouritism in experimental and real life settings (Brewer, 2003; Hogg, 1992; LeVine & Campbell, 1972; Oakes, Haslam, & Turner, 1994; Pettigrew, 1998; Prentice & Miller, 1999). On the other hand, previous research has suggested that music preferences serve as a basis for salient social categorisation in adolescent and young adult samples (e.g., North & Hargreaves, 2008). Hence, both social categories were assumed to be easily accessible in the current experiment.

Research on intergroup relations has developed various models, which explain the underlying dynamics of multiple group memberships. Most of these models were developed in an attempt to improve negative intergroup relations by altering the cognitive representation of intergroup relations through increased intergroup contact (Allport, 1957). Three approaches can be distinguished (Brewer & Gaertner, 2004; Hewstone, Rubin, & Wallis, 2002): a) reducing salience of category distinction through

decategorization, subcategorization or recategorization, b) maintaining the salience of category distinction through mutual intergroup differentiation, and c) increasing the complexity of social categorisation through dual identity or cross-categorization. I discuss two models which have received most attention and empirical applicability. These are the common ingroup identity model, which is based on recategorization, and the cross-categorization model, which is based on increasing complexity to ensure optimal distinctiveness. Both models provide alternative theoretical specifications to extend MUSA-VALUES with a second social category.

The common ingroup identity model uses social recategorization to reduce subgroup identity by providing an inclusive superordinate group identity (Gaertner & Dovidio, 2000). The distinction between two groups is the most severe barrier for overcoming intergroup bias (Brewer, 2003). Hence, the common ingroup identity model focuses on creating a bonding '*we*-identity' among the members of two subgroups through a unifying superordinate category that reduces the distinction between the two subgroups (Brewer, 2003). The model aims to overcome group distinction not by eliminating subgroups boundaries but by eclipsing them (Hornsey & Hogg, 2000).

If musical categorization creates a common ingroup identity, then the outgroup distinction based on cultural categorization would disappear. Musical categorization would then provide a superordinate identity binding cultural subgroups together. Recategorization models have received extensive experimental validation (e.g., Dovidio et al., 1995, 1997). However, they have been criticised as they do not meet the need for optimal distinctiveness, and therefore, provide inconsistent results (Brewer, 1996, 2000).

Optimal distinctiveness theory argues that ingroup identification has a strong influence on individual behaviour, given that every individual has a need for belonging. At the same time the human need for differentiation needs to be met. Thus, individuals identify with specific groups in order to achieve optimal distinctiveness by satisfying both needs (Brewer, 1996). The cross-categorization model addresses both needs by allowing multiple group memberships (Brewer, 1996, 2003). The model claims that multiple identifications with non-hierarchical groups provide multiple cross-cuttings of social roles (Brewer, 2003). The cross-cutting ensures the maintenance of distinctiveness by allowing mutual cooperation between groups (Brewer, 2003). Applying cross-categorization to musical and cultural categories would create

overlapping musical identities across the cultural groups while maintaining opportunities for cultural distinctiveness.

Both intergroup models predict somewhat different outcomes for the interplay between two social categories. While the common ingroup identity model would expect that one social category would fully override the other social category, the cross-categorisation model would anticipate the parallel functioning of two social categories.

Music for improving interethnic relations

Social psychological interest in music as vehicle for improving intergroup or interethnic relations has arisen only recently. Research has investigated two aspects: first, how music can promote a common ingroup identity (Bakagiannis & Tarrant, 2006; Bodner & Gilboa, 2009) and second, how music can change or strengthen (implicit and explicit) attitudes towards outgroups (Bensimon, 2009; Sousa et al., 2005; Rodriguez-Bailon, Ruiz, & Moya, 2009). Both research streams are related and employ intergroup frameworks.

Bakagiannis and Tarrant's (2006) study divided participants into arbitrary groups and informed participants that the other group (outgroup) had either a similar music taste or a dissimilar music taste. Outgroups with similar music preferences received more positive attitudes compared to a control group. Outgroups with similar music preferences were also anticipated to provide more positive ratings about the participant's ingroup. Interestingly, outgroups with different music tastes also received positive intergroup attitudes. The authors concluded that music can function as a bridging element to create a common ingroup identity among outgroups. Dissimilar music preferences did not show negative effects in this minimal group experiment.

The next two studies examined the common musical ingroup hypothesis in a real intergroup setting. Bodner and Gilboa (2009) conducted a study examining the impact of crisis songs[24] on two conflicting groups (Religious and Secular Jews) and their unifying effects in experimental settings. The authors showed in three experiments that crisis songs affected intergroup bias by decreasing stigma and prejudice among Religious and Secular Jews when songs were played or just imagined. Crisis songs triggered unifying themes, for instance, nationalism, unity and group based emotions such as sorrow and grief, while neutral love songs failed to trigger associations of

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[24] Crisis songs are "songs that are widely used in times of crisis" (Bodner & Gilboa, 2009, p. 85), referring to the Israeli – Palestine conflict.

collective unity. This study showed that music can induce awareness of a superordinate identity, a common Jewish identity within the Israeli – Palestine conflict.

A further study looked at the relationship between Israelis and Palestinians during the Israeli disengagement from the Gaza stripe (Bensimon, 2009). Intergroup conflict and proximity was investigated in an interview study with 14 Palestinian security forces and 14 Israeli protesters who sang a variety of songs during protests. Negative feelings were evoked in security forces when protesters sang Jewish songs or Israeli folk songs. On the other hand, empathy was evoked when protesters sang emotional and spiritual songs. The emotional content and religious or historical meaning of songs determined whether singing increased intergroup conflict or increased intergroup proximity based on emotional reactions. This study demonstrated "how collective singing contributed to the reinforcement of intergroup dynamics in the context of a tense encounter" (Bensimon, 2009, p. 406). This particular intergroup encounter (temporarily) ended non-violently with the support of music.

The next two studies demonstrated the positive effect of music for reducing prejudicial attitudes. Rodriguez-Bailon, Ruiz, and Moya (2009) activated the positive side of the Gypsy stereotype by making salient that Flamenco music is part of Gypsy culture. The results showed that the activation of stereotype consistent positive features reduced negative attitudes in the Spanish student sample assessed by the Implicit Association Test. Similar effects were shown in a musical programme for reducing negative attitudes towards dark-skinned people in Sousa and colleagues' (2005) study with light skinned Portuguese children. Pupils learned Cape Verdean songs in addition to Portuguese songs (musical program condition) or only Portuguese songs (control condition). Nine to 10 year old participants' negative attitudes towards dark skinned individuals were significantly reduced in the musical program condition, whereas participants' negative attitudes remained the same in the control condition. The authors linked their results to a reversed similarity-attraction association by stating that "if you like the music produced by some people, you tend to recognize that you have something in common with these people. In a certain way, you are led, at least partly, to identify yourself emotionally with them" (Sousa et al., 2005, p. 312)

In summary, music had positive effects on intergroup perceptions when examined experimentally and in real life settings. However, in real life settings music's content and contextualized meaning also determines its impact on intergroup relations. The reviewed studies highlight that the intercultural context itself has an important impact

on how music can foster positive relationships between cultural or ethnical groups. While most previous studies focussed on culture specific music styles that were somewhat linked to the outgroup identity, it remains unclear whether music can create bonds only to a particular outgroup, or whether the bonding works across various boundaries. As discussed earlier in this thesis, global music styles are most prevalent among young people around the globe. The current study seeks to determine whether shared preferences for two global music styles (Hip-Hop and Metal) have the power to (at least partially) override multiple ethnic outgroup categorizations in a German sample. The initial relationship between cultural or ethnic groups is also considered as it determines the context of the musical bonding process.

Target population

I chose two music fan communities (Metal and Hip-Hop) as target populations for this study. This was for two reasons. First, members of music fan communities have a high involvement with music. This controls for variability in category salience regarding music preferences. Second, Studies 1 and 2 revealed that music preferences for global Rock (including Metal) and global Pop (including Hip-hop) were associated with quite distinct sets of values. Furthermore, preferences for both music factors were negatively related in the German sample (see Study 1). This suggests that opposing values expressed in both music preferences may be a source for intergroup bias (according to proposition 4 in MUSA-VALUES). Hence, MUSA-VALUES is tested in these two music fan communities.

Contextualizing MUSA-VALUES

Two social categorizations are assumed to be salient in the present study. In the proposed MUSA-VALUES model it is argued that social categorisation through music preferences activates the value prototype of the ingroup due to the value-expressive function of music preferences. Thus, ingroup members share similarity with the value prototype, and prototype congruence elicits positive social attraction (ingroup favouritism). Or vice versa, different music preferences indicate social categorisation into different musical groups, which activate value prototypes of the ingroup and outgroup. Outgroup members share a different value prototype and, therefore, prototype divergence elicits negative social attraction (outgroup derogation).

Categorisation hypothesis   Mediated social bonding hypotheses
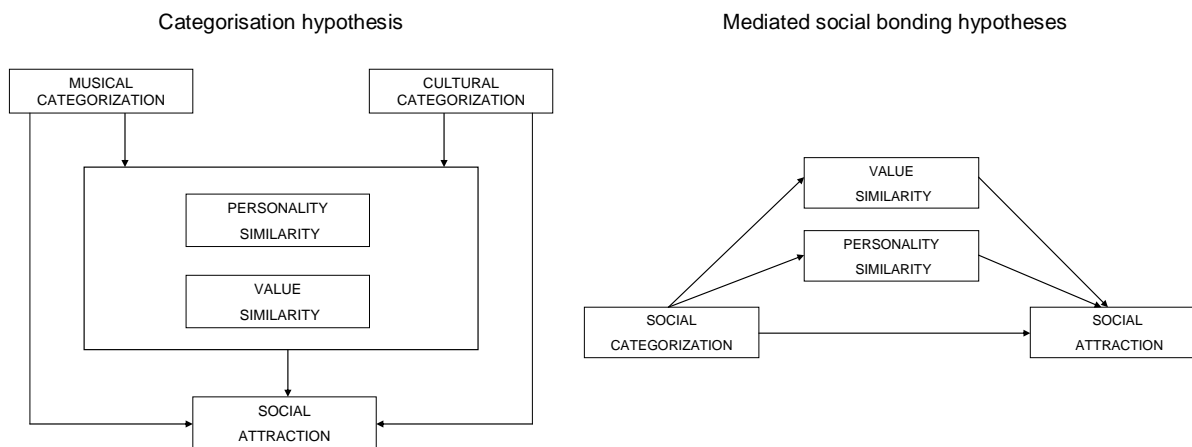
Figure 8. Testing MUSA-VALUES in Study 4

Similar dynamics as described above (MUSA-VALUES, level 2) might apply to cultural categorization (in line with the common ingroup identity model and the cross-categorization model). The posited propositions are specified in the following hypotheses (illustrated in Figure 8). First, the categorisation hypothesis tests whether the two social categories elicit ingroup favouritism (social attraction) and prototype similarity (similarity in values and personality). This integrates the propositions 3 and 4 outlined in section 1. The mediated social bonding hypothesis then examines in detail whether social attraction is facilitated by similarity to the value prototype of the social categories under study (Figure 8). An alternative mediated social bonding hypothesis tests the facilitating effects of personality similarity.

Categorisation hypothesis:

> Musical/cultural categorisation elicits ingroup favouritism (social attraction) and prototype similarity (similarity in values and personality).

Mediated social bonding hypothesis (value similarity):

> The association between musical/cultural categorisation and social attraction is mediated by value similarity.

Alternative mediated social bonding hypothesis (personality similarity).

> The association between musical/cultural categorisation and social attraction is mediated by value similarity.

METHOD

Data collection

The current study targeted Hip-hop and Metal fans. The Internet has shown to provide excellent access to diverse samples (Gosling, Vazire, Srivastava, & John, 2004) or groups of special interest (Reips, 2000; Skitka & Sargis, 2005). Therefore, data was collected online by posting the link to the survey (see Appendix D3) on websites of Metal and Hip-hop communities (see Appendix B1 for list). I applied the multiple site entry technique suggested by Reips (2000). This technique reduces self-selection bias in Internet sampling. Two strategies were pursued. First, editors of four online music magazines specialized in local and international Metal and Hip-hop, respectively, were contacted and asked to publish an invitation to participate in the survey on their main website. Two editors of a Hip-hop magazine and a Metal magazine responded positively and published the invitation. The other two editors suggested posting the invitation in the forums for their online magazine. Hence, the second acquisition strategy was to post the link to the online survey in discussion boards of Metal and Hip-hop websites. The websites were selected though a Google site search with search terms "discussion board" or "forum" and "Metal music", "Hip-hop" or "Rap". The first ten relevant and available websites with discussion boards were chosen. I registered as a member of each discussion board and familiarized myself with the terms and conditions.

Participants

Participants were two-hundred-and-seventeen members of Metal and Hip-hop fan communities. Initially 331 participants started filling in the survey, however, 108 participants withdrew before the end of the survey and were therefore excluded from analysis. Elevated drop-out rates are a well reported disadvantage of online surveys (Reips, 2000). Compared to other studies the drop-out rate of 33% in the current study was in the normal range (Reips, 2000). Additionally, six participants were excluded as they were neither Metal nor Hip-hop fans. The remaining 217 participants[25] had an average age of 20.92 (SD = 5.58; 9 participants did not state their age), 17% of them

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[25] Missing values were allowed if more then 70% of responses were provided. The missing value patterns increased as the survey proceeded: social attraction (6%), value similarity (28%) and similarity in personality (31%). Listwise deletion resulted in a total sample of N = 149.

were female, 81% were male and 2% did not state their gender. The final sample included 78 Hip-hop fans and 139 Metal fans.

Material and procedure

At the beginning of the study, each participant was informed that the study investigated music preferences and first impressions of a person. Detailed debriefing was given at the end of the study. Participants were informed that completing the survey involved giving consent that the data could be used for academic purposes. The survey consisted of two parts: self report on music preferences, and the experimental component. Both parts were presented in random order to control for order effects.

Music preferences were assessed in order to categorize participants into the musical ingroup or outgroup. Participants rated their like or dislike of each music style on a 7-point Likert scale (1 - I don't like it at all; 7 - I like it very much). Preference ratings were given for the two broad music genres Metal and Hip-hop/Rap and a list of specific Metal and Hip-hop sub-genre. General genre and sub-genre were included given that two kinds of music fans can be distinguished: first, fans who like the general music genre including all (or most) sub-genres, and second, fans who like only few specific sub-genres, who disregard the overarching music category in order to create a distinct sub-group. In order to detect both kinds of fans, participants were categorized based on one of the following indicators: a) preference for the general genre Metal or Hip-hop above the rating of 5, or b) specific preference for at least two Hip-hop or Metal sub-genres above the rating of 5. The lists of specific sub-genres[26] were compiled with the assistance of two professional musicians in Metal and Hip-hop, and two professional editors of music magazines in Metal and Hip-hop.

Experimental manipulation

In the experimental scenario (see Table 19), a stimulus person was introduced. In the scenario, the participant was asked to imagine oneself interacting with an unknown person in a party setting. The stimulus person (the unknown person) was characterised by cultural background and musical taste. Additional scenario features, such as description of party setting, were controlled.

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[26] Hip-hop sub-genres: Old-School Rap, Conscious Rap, Gangster Rap, Boom Bap Rap, Black /Clubmusic; Metal sub-genres: Death Metal, Heavy Metal, Speed Metal, Power Metal, Nu Metal, Metalcore, Grindcore, Doom Metal, and Black Metal.

Table 19

Experimental scenario in Study 4

> *Please imagine you are invited to a friend's party. It is a BBQ party in a garden with a nice setup of chairs under a tree, good food and music coming from a stereo. You arrive at the party but your other friends are not there yet. Many people are standing and sitting around talking to each other, so you kind of stand alone. Another person you don't know just arrived, who also doesn't have a chat partner yet. The person joins you and you talk for a while about your hobbies, places you travelled to and so on. The person tells you that he/she is a student and …*
>
> Culture manipulation:
> > …*lives in your street* [no culture]
> > …*just moved to the town you live in* [no culture]
> > …*just moved from Sweden to the town you live in* [positively stereotyped cultural outgroup]
> > …*just moved from Brazil to the town you live in* [positively stereotyped cultural outgroup]
> > …*just moved from Poland to the town you live in* [negatively stereotyped cultural outgroup]
> > …*just moved from Turkey to the town you live in* [negatively stereotyped cultural outgroup]
>
> Music manipulation:
>
> No music condition: stimulus ends here.
>
> Music condition:
>
> *When the host changed the music you start talking about your favourite music. You find out that the person…*
> > … *likes Metal and Rock music and doesn't like HipHop and Rap* [Metal version]
> > … *likes HipHop and Rap and doesn't like Metal and Rock music* [Hip-hop version]
>
> *The person likes to go to concerts and festivals and tells you about his/her latest music purchase.*
>
> Further Instructions:
> Please tell us, what you think about this person by filling in the following questionnaire.

The stimuli were manipulated in a 3 (music) x 3 (cultural background) design. Music preference manipulation consisted of three conditions: no music condition and two music conditions (musical ingroup and musical outgroup). In the music condition, the stimulus person liked Hip-hop (or Metal) and did not like Metal (or Hip-hop; see Table 19). Participants' music preferences varied (Metal and Hip-hop) and this resulted in a quasi-experimental categorisation of participants in the music conditions: participants were categorised according to their music preferences into musical ingroup (same music taste) and musical outgroup (different music taste). In the musical ingroup condition, a stimulus person who liked Hip-hop was presented to Hip-hop fans and a stimulus person who liked Metal was presented to Metal fans. In the musical outgroup condition a stimulus person who liked Hip-hop was presented to Metal fans and a stimulus person who liked Metal was presented to Hip-hop fans. No information about musical preferences were given in the no music condition. This served as control condition. It was assumed that similar processes underpinned musical social bonding in both music communities. Therefore, I collapsed the data of Metal fans and Hip-hop fans.

The cultural background of the stimuli was also systematically manipulated. Three conditions were presented: the no culture condition (no particular cultural

background) and two cultural outgroup conditions (positively stereotyped cultural background, and negatively stereotyped cultural background). These conditions were developed in a committee approach that included four German post-graduate students and an academic staff member. Participants in the committee session found consensus that Sweden and Brazil may be positively stereotyped cultures, whereas Turkey and Poland may be negatively stereotyped cultures for prototypical Germans.

Table 20

Cell distribution of experimental conditions music taste and cultural background (Study 4; N = 217)

| *Stimulus conditions* | | |
culture	*music*	*N*
no culture	same music taste	24
	different music taste	21
	no music	26
	total	71
positive outgroup	same music taste	34
	different music taste	38
	no music	22
	total	94
negative outgroup	same music taste	18
	different music taste	16
	no music	18
	total	52

Two different versions were used for each condition in order to enhance the generalizability of findings. Additionally, ethnic visibility in the cultural conditions was systematically varied in order to avoid confounding visibility effects. Hence, each cultural outgroup condition (positively stereotyped vs. negatively stereotyped) was presented by one visible ethnic outgroup and one invisible ethnic outgroup. The committee agreed that Turkish and Brazilian are visible ethnic outgroups, whereas Swedish and Polish are invisible outgroups. It was also confirmed by the committee that the specifications of a "person just moved to your town" and "lives in your street" are culture free[27] (no culture condition; see Table 19). Sample sizes ranged from 16 to 38 participants per cell. The cell distribution by stimuli conditions is summarized in Table 20.

---

[27] However, both versions may elicit the assumption that the stimulus person comes from one's own culture due to a general assimilation tendency. Thus, the culture free condition may possibly be interpreted as a cultural ingroup condition.

Dependent Variables

Social attraction. Social attraction towards the stimulus person was assessed with an adapted version of the scale used in the Study 3 (McCroskey, McCroskey, & Richmond, 2006). The behavioural component (three items) of this scale was omitted. This was to shorten the survey, considering that this component was not relevant in this study. The included nine (positive and reversed) items were rephrased so they fitted the context of this experimental study (e.g., "This person would be pleasant to be with", "This person just wouldn't fit into my circle of friends"). Participants indicated their agreement with each item on a 1 to 7 Likert-scale (1 – strongly disagree; 7 – strongly agree). The scale showed a high level of internal consistency (*Cronbach's alpha* = 0.88).

Similarity in Personal Values and Personality. Perceived similarity in value orientations and personality dimensions between participants and stimuli were assessed using adaptations of the short version of Schwartz' value survey and the Ten Item Personality Inventory (TIPI, Gosling, Rentfrow, & Swann, 2003). The response scale was adapted into a similarity measure asking "Please indicate how similar or different THIS PERSON is to you regarding the following value orientations and characteristics". Participants then rated their similarity regarding the 10 value orientations (Schwartz, 1992) and the personality traits in TIPI (Costa & McCrae, 1992; McCrae & Costa, 1999) on a 1 to 6 Likert scale (1 – very different from me; 6 – very similar to me). Value similarity and personality similarity are one-dimensional concepts showing adequate internal consistency (Value similarity: *Cronbach's alpha* = 0.91; Personality similarity: *Cronbach's alpha* = 0.88). Additionally, one item assessed the *perceived similarity in music preferences* between the participant and the stimulus person. This item served as manipulation check for musical categorisation.

Translation of the material

The study was designed in English and then translated into German, except for TIPI which was available in German (Muck, Bell, & Gosling, 2007) and was used for the adapted personality similarity scale. I translated the remaining survey from English into German. The translation was checked and refined by two bi-linguals and revisions were made.

Analytical procedure

Before the hypotheses were tested, a series of Analyses of Variance (ANOVAs) assessed the effectiveness of the musical manipulation, gender effects and the appropriateness of merging the two versions of the cultural condition on dependent variables. The categorisation hypothesis was assessed using ANOVA, testing the main effects of musical categorisation and cultural conditions as well as their interaction on the dependent variables.

Multiple mediation analysis suggested by Preacher and Hayes (2004, 2008) were used to assess the effects of value similarity and personality similarity to explain the impact of social categorisation on social attraction (mediated social bonding hypotheses). Even though Baron and Kenny's (1986) recommendations to establish mediation are widely used, their procedure has also been criticized for a lack of statistical power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Baron and Kenny's (1986) approach requires a significant association between X and Y, which is significantly reduced when the mediator M is entered. Shrout and Bolger (2002) argued that the significance of the X – Y association should not be a requirement for a mediation model if the effect size is assumed to be small or if suppressor effects might be possible. Instead it was suggested to test the null hypothesis that the indirect effect significantly differs from 0. The Sobel test is a formal test of mediation that is commonly used for this purpose (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Sobel, 1982). However, the classical version of this test requires distributional assumptions that may not be met in small sample sizes ($N < 200$; Preacher & Hayes, 2004; Shrout & Bolger, 2002). Preacher and Hayes (2004) advanced a resampling method for mediation analysis based on bias corrected and accelerated confidence intervals for the effects (see also Preacher & Hayes, 2008).

Bootstrap methods use multiple resampling of the data to build an approximation of the sampling distribution for indirect effects, which are unlikely to be normally distributed in relatively small samples. Comparisons of different mediation tests (Preacher & Hayes, 2004, 2008) found that an advanced version of the Sobel test using a bootstrapped sample was the most appropriate method in terms of power, vulnerability to violations of normality, and the ability to detect true relationships among variables (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Recently, this method has been extended to the assessment of multiple simultaneous mediators.

Preacher and Hayes (2008) provide a macro for SPSS that allows the evaluation of the unique contribution of each mediator and a contrast comparison between mediators.

Preacher and Hayes' (2008) procedure provides three effects: total effect (initial association between X and Y), direct effects (association between X and Y after mediators are entered) and indirect effects (total and specific for each mediator). Differences between the total and direct effect is the total indirect effect of all mediators. Total and specific indirect effects of mediators are assessed by a point estimate and a bias corrected and accelerated bootstrapped confidence interval (BCa 95% CI for 5000 bootstrap iterations). The indirect effect is significant if zero is not included in the confidence interval.

RESULTS

Preliminary analyses

First, an ANOVA was conducted to check whether the manipulation of music categorisation was successful. The results indicated that the manipulation was successful (F (2, 150) = 91.62, $p < 0.001$): participants categorised as 'musical ingroup' indeed perceived the stimulus person as having similar music preferences ($M = 5.23$), whereas participants in the 'no music condition' rated stimulus' music preferences in the indifferent range ($M = 3.28$), and participants in the 'musical outgroup' perceived the stimulus' music preferences as different ($M = 1.91$).
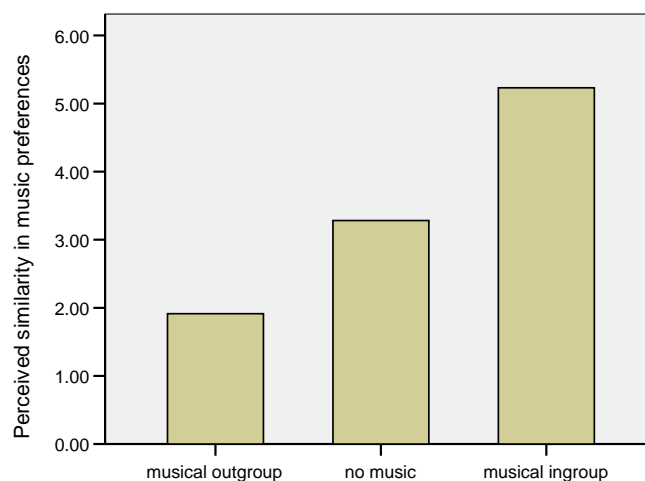
Figure 9. Manipulation check of musical categorisation

Next, ANOVAs examined the effect of survey order (experimental part and participants' self-report) on the dependent variables. None of the dependent variables was affected by the survey order (all Fs < 0.78, ps > 0.37). Additional ANOVAs

examined gender effects on the dependent variables. None of the dependent variables was affected by participants' gender (all $Fs < 1.02$, $ps > 0.31$).

The next series of ANOVAs sought to determine whether the two versions for each culture condition were compatible (e.g., version Brazil and version Sweden in the positively stereotyped cultural outgroup condition). Only data from the no music condition was included in order to elude confounding effects. A series of ANOVAs was conducted to compare means of dependent variables of the two versions of the no culture condition, the positively stereotyped outgroup condition, and the negatively stereotyped outgroup condition. The analyses revealed that there were no differences between the two versions in any of the conditions (all $Fs < 1.47$, $ps > .24$; see Appendix B2 for details). Therefore, the two versions of ethnicity were merged in further analyses.

Categorisation hypothesis

The following analyses examine the *categorisation hypothesis* for musical categorisation and cultural categorisation. ANOVA tested the main effects and interaction effect of musical categorization and cultural background on social attraction and similarity indicators (value similarity and personality similarity; see Figure 10).

ANOVAs revealed strong main effects of musical categorisation on social attraction ($F (2, 203) = 13.43$, $p < 0.001$) and the two similarity indicators (value similarity: $F (2, 146) = 10.64$, $p < 0.001$; personality similarity: $F (2, 140) = 3.95$, $p < 0.05$). The musical ingroup was perceived as more likable and more similar than the musical outgroup with regard to similarity in values and personality traits. The stimuli without references to music preferences were perceived as more likable and similar than the musical outgroup. However they were perceived to be less likable and less similar than the stimulus person from the musical ingroup. The categorisation hypothesis was thus supported for musical categorisation.

The culture of the hypothetical interaction partner did not show main effects on social attraction nor value similarity and personality similarity (all $Fs < 0.91$, $ps > 0.40$). There were no interaction effects between the culture condition and the music condition on the similarity indicators (all $Fs < 1.26$, $ps > 0.28$). However, these was an interaction effect between musical categorisation and cultural condition with regard to social attraction ($F (4, 201) = 2.46$, $p < 0.001$).

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In order to rule out confounding effects of ethnic visibility, I tested the main effects and interaction effects of ethnic visibility. This allowed to examine the impact of the varying visibility in the cultural outgroup condition, which was systematically manipulated as well (no culture, visible outgroup, non-visible outgroup). In an additional ANOVA, effects of visibility were assessed in conjunction with the music conditions. No main effects or interaction effects were found for ethnical visibility (both Fs < 1.85, ps > 0.12). The categorisation hypothesis was not supported for cultural categorisation.
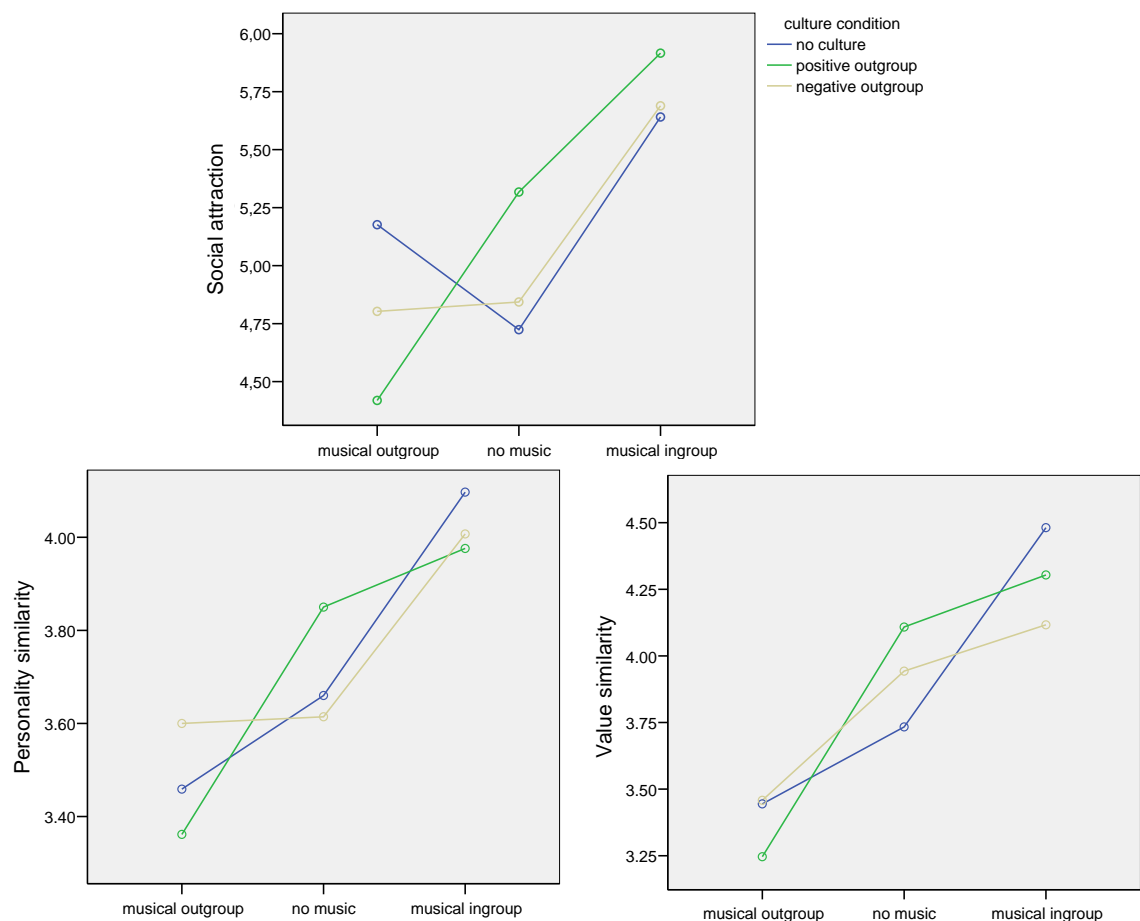
Figure 10. Effects of musical categorisation by cultural conditions (Study 4; social attraction measured on a 1 to 7 Likert scale; perceived similarity in value orientations and personality measured on a 1 to 6 Likert scale)

Cultural background did not affect social attraction and similarity in a direct way. Hence, we can assume that cultural background does not have a direct contribution to social bonding in the current sample. However, the interaction effect on social attraction may indicate that cultural background affects social bonding in conjunction with musical categorisation. These findings provide evidence that musical

categorisation facilitates social bonding and that cultural background may play a intermediate role.

Mediated social bonding hypotheses

The following analyses provide a detailed picture of the social bonding process of musical categorisation and cultural categorisation. For descriptive purposes, zero-order correlations are presented, which revealed that all similarity indicators were significantly associated with social attraction (Table 21).

Table 21

Zero-order correlations between similarity indicators and social attraction (Study 4)

	1	2	3	4
1 Social attraction	1			
2 General similarity	0.59***	1		
3 Value similarity	0.56***	0.65***	1	
4 Personality similarity	0.42***	0.50***	0.76***	1

Note. ***$p < 0.001$

The question is now in which sequence these variables relate to each other in the process of musical social bonding. The role of cultural categorisation in this process needs to be included since interacting effects might be present, as suggested by the ANOVA. Since no main effects for cultural categorisation on social attraction were found in the preceding analyses, cultural categorisation was entered as covariate in order to control for the intermediate effects of cultural categorisation. A multiple mediation analysis according to Preacher and Hayes (2008) examines a) the mediating effect of value similarity on the link between musical categorisation and social attraction (mediation social bonding hypothesis), b) the mediating effect of personality similarity on the link between musical categorisation and social attraction (alternative mediation social bonding hypothesis), and c) the partial effect (covariate effect) of cultural background on the link between musical categorisation and social attraction.

Musical categorisation was a categorical independent variable (IV) in the current analysis. Hayes (2009) suggests to run k − 1 models for k categories in the independent variable. Since musical categorisation has three categories (no music, musical ingroup, musical outgroup), two models needed to be tested (see Figure 11). Each model included one dummy coded variable as IV and the remaining dummy coded variables as covariates. Two dummy codes were created for musical categorisation: musical ingroup (1) vs. others (0), and musical outgroup (1) vs. others (0). The two models that were tested are in line with proposition 3 and 4 testing the

social bonding model for musical ingroup processes and musical outgroup processes, respectively. The effects of covariates are presented as partial effects in the current analysis (Hayes, 2009). Covariates serve to control for additional effects.

Cultural categorisation also consisted of three categories and hence were entered as covariates using two dummy codes (dummy code 1: positively stereotypes outgroup (1) vs. others (0); dummy code 2: negatively stereotypes outgroup (1) vs. others (0)). Results for the two multiple mediation analyses are shown in Table 22 and Figure 11.
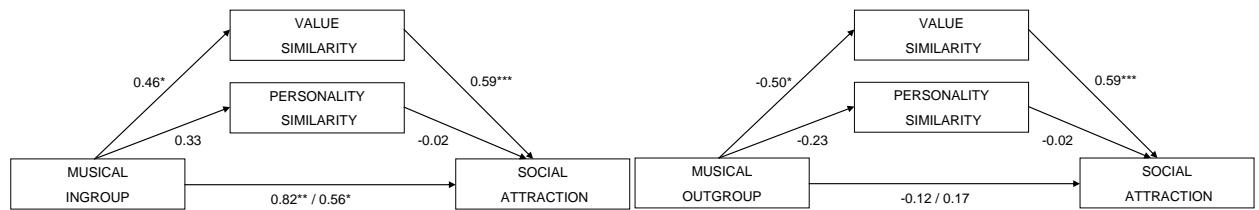
Figure 11. Mediated social bonding hypothesis (Study 4; IV: musical ingroup (left); IV: musical outgroup (right); $*p < 0.05$; $**p < 0.01$; $***p < 0.001$)

Starting with the mediation analysis testing MUSA-VALUES for musical ingroups, there was a significant initial relationship between musical ingroup and social attraction (*Beta* = 0.82, *SE* = 0.24, $p < 0.001$). This association was reduced after controlling for the two mediators (*Beta* = 0.56, *SE* = 0.22, $p < 0.001$). This indicates that the two similarity indicators taken together mediated the relationship between musical categorisation and social attraction. Specific indirect effects analysis showed that only value similarity was a significant mediator (value similarity: *point estimate* = 0.27, *BCa 95% CI* = 0.03 / 0.63), whereas personality similarity was not a mediator (*point estimate* = -0.01, *BCa 95% CI* = -0.16 / 0.81). The covariate effects were not significant (all *Beta*s < 0.18, all *p*s > 0.43). This means that musical outgroup and cultural background did not contribute to the social bonding effects that the musical ingroup elicited. The overall regression accounted for 32% of the variance in social attraction ($F (6, 142) = 22.60, p < .001$).

In the second mediation analysis testing MUSA-VALUES for musical outgroups, similar results were found regarding the mediators. Value similarity was a significant mediator (value similarity: *point estimate* = 0.29, *BCa 95% CI* = -0.62 / -0.02), whereas personality similarity was not a mediator (*point estimate* = -0.01, *BCa 95% CI* = -0.07 / 0.15) for the relationship between musical outgroup and social

attraction. At the same time, the initial and mediated association between musical outgroup and social attraction were not significant (total effect (initial): *Beta* = -0.12, *SE* = 0.21, *ns*; direct effect (mediated): *Beta* = 0.17, *SE* = 0.22, *ns*). The covariate effect of the musical ingroup was significant (*Beta* = 0.56, *SE* = 0.22, *ns*), while the cultural background variables were not significant (all *Beta*s < 0.04, all *p*s > 0.86). This means that musical ingroup additionally contributed to explain the social bonding. The overall regression accounted for 32% of the variance in social attraction (F (6, 142) = 13.63, p < 0.001).

Table 22

Multiple mediation analysis (Study 4; testing mediated musical social bonding hypotheses)

Effects	Coefficient	SE	t	BCa 95% CI
IV: Musical Ingroup (vs. others)				
total effect	0.82**	0.24	3.31	
direct effect	0.56*	0.22	2.55	
partial effects of covariate:				
musical outgroup	0.17	0.21	0.78	
positive cultural outgroup	0.04	0.20	0.22	
negative cultural outgroup	0.03	0.22	0.14	
indirect total effect of mediators	**0.26**			0.02 / 0.26
indirect specific effects of mediators:				
value similarity	**0.27**			0.03 / 0.63
personality similarity	-0.01			-0.16 / 0.81
IV: Musical outgroup (vs. others)				
total effect	-0.12	0.25	-0.49	
direct effect	0.17	0.22	0.78	
partial effects of covariate:				
musical ingroup	0.56*	0.22	2.55	
positive cultural outgroup	0.04	0.20	0.22	
negative cultural outgroup	0.03	0.22	0.14	
indirect total effect of mediators	**-0.29**			-0.59 / -0.03
indirect specific effects of mediators:				
value similarity	**-0.29**			-0.62 / -0.02
personality similarity	0.00			-0.07 / 0.15

Note. N = 149 due to listwise deletion; 5,000 bootstrap samples; BCa 95% CI bias corrected and accelerated 95% confidence intervals; social attraction (DV) regressed on IV; moderators: value similarity and personality similarity; covariates: musical outgroup, positive cultural outgroup, negative cultural outgroup; total effect – IV on DV before mediators were entered; direct effect – IV on DV after mediators were entered; partial effects – effects of covariates on DV; indirect effects – effects of mediators on IV – DV association;
Significant mediations (indirect effects) in bold since they are assessed by bootstrapped confidence intervals (see *BCa 95% CI*); the other effects are assessed by conventional significance tests:
*p < 0.05, **p < 0.01, ***p < 0.001

In summary, it can be concluded that value similarity mediates the social bonding effects of musical categorisation, supporting the mediated social bonding hypothesis. The alternative mediated social bonding hypothesis was not supported.

DISCUSSION

The current study revealed that musical categorization is a salient and strong source of social bonding among German Hip-hop and Metal fans. Persons in one's musical ingroup, that is the group of people who share one's music taste, were liked more than persons from a musical outgroup, that is a group of people who do not share one's music taste. Cultural background seems not to matter in the musical social bonding process: participants relied on music preferences and not on cultural background in deciding who they like. This intriguing finding may be underpinned by (at least) four potential explanations.

First, the current sample could be an unprejudiced population. Unknown persons (experimental stimuli) from different cultural backgrounds were no more or less liked than unknown persons who were not characterized by any particular cultural background. This finding may be an indicator that participants were free of prejudice, because the current sample did not perceive the assumed negatively stereotyped outgroups (Turkish and Polish) in a negative light. However, this interpretation is inconclusive, as other mechanisms may be present. A further explanation may be that social desirability undermined the cultural background effects. That is, participants may have understood the intention of the study and showed socially desirable ratings in order to portray an unprejudiced image of themselves (political correctness). A third possible explanation targets the overarching salience of musical categorization, which may have overridden potential effects of cultural background. Considering that the current sample was acquired in a musical context (online music magazines and forums), this explanation may be more convincing. Active participation in these forums enhances the salience of musical identification, which may have overridden other possible identities, such as cultural categorization in the present study. Thus, shared music preferences can create a common ingroup identity. A last explanation for the lack of cultural effect considers that the experimental manipulation of culture effects may simply not have worked. I did not include a manipulation check for the cultural manipulation, hence I cannot disregard this potential weakness in the experimental manipulation. However, the appearance of an interaction effect between cultural background and musical categorisation may indicate that the experimental manipulation in the current study did affect participants' responses.

Although cultural background did neither show main effects on social attraction nor on similarities, the interaction between musical categorisation and cultural

categorisation influenced social attraction. As can be seen in Figure 10 (upper figure), the patterns for musical ingroups and musical outgroups differed with regard to cultural background. That is, musical ingroup members were liked more than persons without particular music preferences. This effect applied to all three cultural conditions similarly. However, the effect of musical outgroup differed between the cultural conditions. That is, a musical outgroup member without particular cultural background was perceived as more favourable than a person without particular cultural background and without particular music preferences. However, a musical outgroup member from a positively stereotyped culture was perceived as less favourable than a person with the same cultural background and without particular music preferences. Furthermore, a musical outgroup member with a negatively stereotyped cultural background was perceived as favourable as a person from the same cultural background and without particular music preferences.

These findings suggest that musical ingroup favouritism appeared in all three cultural conditions, whereas musical outgroup derogation only appeared in the positively stereotyped group, but not in the other two cultural conditions. Interestingly, the lack of outgroup derogation was found in previous studies on musical categorisation (e.g., Bakagiannis & Tarrant, 2006; North & Hargreaves, 1999). Bakagiannis and Tarrant (2006) reported more positive evaluations of a group with similar music preferences (ingroup favouritism) as well as more positive evaluations of a group with different music preferences (thus a lack of outgroup derogation), compared to a control group. Bakagiannis and Tarrant's (2006) findings are in line with the current results in the no culture condition. It could be that the information about "liking music" in general might be enough to elicit social attraction even if the particular music liked is not one's favourite, particularly in conditions where not much information is given about "group members" or "persons" (as it was the case in the current study and in Bakagiannis & Tarrant, 2006). Furthermore, recent intergroup research suggested that ingroup favouritism is not necessarily accompanied with outgroup derogation (Brewer & Brown, 1998; Cuddy et al., 2009; Mummendey & Wenzel, 1999), as proposed by intergroup theories (e.g., Allport, 1957; Tajfel & Turner, 1986). The lack of outgroup derogation in intergroup processes might potentially appear if the outgroup is not threatening for the ingroup (Brewer & Brown, 1998; Cuddy et al., 2009; Mummendey & Wenzel, 1999). More research is needed to further explore the distinct mechanisms of musical ingroup favouritism and (the lack of) musical outgroup derogation.

Study 4 demonstrated that musical categorization is a robust vehicle for social bonding. Musical social bonding was facilitated by value similarity, supporting MUSA-VALUES. Musical categorisation activated the value prototype of the musical ingroup and similarity with the value prototype, eliciting positive social attraction (musical ingroup favouritism). Furthermore, musical categorisation also activated the value prototype of the musical outgroup and dissimilarity with the value prototype, which elicited negative social attraction. The latter effect is somewhat surprising since the direct association between musical outgroup and social attraction was not significant. Nevertheless, the value prototype similarity explains an indirect effect of musical outgroup derogation. Although members of a musical ingroup were assumed to have similar personality traits, and members of a musical outgroup were assumed to have less similar personality traits (as revealed in the ANOVA), personality similarity did not contribute to social attraction (as revealed in the multiple mediation analysis).

In summary, the present study validated MUSA-VALUES by a) providing experimental evidence in an intergroup setting, b) ruling out an alternative explanation for similarity cues (personality similarity), and c) indicating robustness against an alternative social category (cultural background).

Summary

The present section introduced a novel model to provide insight into the social bonding function of shared music preferences (MUSA-VALUES). MUSA-VALUES applied components of three theories, namely, interpersonal attraction theories, Self-Categorisation Theory and Attitude-Function Theory. MUSA-VALUES refers to two kinds of social relationships, interpersonal and intergroup relations which enhances the ecological validity of MUSA-VALUES. The value-expressive function of music preferences plays a crucial role in musical social bonding. MUSA-VALUES predicts the association between three components: similarity in music preferences as the input component, value similarity as the facilitator, and social attraction as the output component.

The two studies revealed first empirical support for the proposed MUSA-VALUES model for young people. A dyadic study among roommates in Hong Kong (Study 3) demonstrated that roommates who shared their preferences for Western music styles had similar value orientations. This similarity in value orientations contributed to perceived similarity between roommates, leading to higher interpersonal liking. The social perception experiment (Study 4) among German Metal and Hip-hop fans showed that shared music preference with a musical ingroup member was a robust vehicle for social bonding. Musical social bonding was facilitated by value similarity. Cultural background seemed not to matter in the musical social bonding process in Study 4: participants relied on music preferences and not on cultural background when deciding who they like.

Contributions

The two studies validated the MUSA-VALUES model, contributing to increased understanding of musical social bonding in multiple ways:

1) The role of value-expression in music preferences was theoretically integrated in the musical social bonding process.

2) The theoretical basis explains musical social bonding in interpersonal and intergroup settings.

3) Two studies provide empirical evidence for the applicability of MUSA-VALUES in interpersonal relations and intergroup settings of young people.

4) MUSA-VALUES was tested in samples of young people from two distinct cultural settings, East Asia and Western Europe.

5) In interpersonal settings different kinds of similarity need to be considered. These are self-rating based similarity (incl. diverse methods of assessing those) and perceived similarity. Self-rating based value similarity contributed significantly to perceived similarity. Study 3 differentiated between the two similarity indicators and implemented them in MUSA-VALUES making it more ecologically valid and applicable to naturally occurring interpersonal relationships.

6) The impact of value similarity for musical social bonding was tested against an alternative explanation (personality similarity) in the intergroup setting, which did not show effects in musical social bonding.

7) The interpersonal field study indicated that additional factors contributed to social relationships (e.g., similarity in the subject of study). At the same time, the experiment controlled for external influences and showed that musical social bonding was robust against a competing social category (cultural background).

Limitations of MUSA-VALUES

The proposed MUSA-VALUES model has some unexplored factors that require future refinements. The first point considers that I implemented Attitude-Function Theory in the two theoretical frameworks, while only focussing on one facet of the theory (value-expressive attitude function). How does MUSA-VALUES relate to the other three attitude functions (object appraisal, ego-defence, social adjustment; cf. Chapter Two)? I argued that value similarity plays an important role in social relationships. Therefore, the value-expressive function of attitudes was thought to provide the most intriguing insight for the social bonding model. However, MUSA-VALUES may also relate to the other three attitude functions. For instance, music preferences may be associated with the social adjustment function of attitudes because of its reinforcing effects. Value reinforcement may facilitate social adjustment since social bonding is based on the need for affiliation. Furthermore, social identity needs are motivated by enhanced self-esteem and positive identity according to SIT, which

may relate to the ego-defence function of attitudes. Positive self-esteem and positive identity provide security against external threats, hence musical social bonding may be motivated by ego-defence mechanisms. However, it remains unexplored whether music preferences serve all attitude functions according to Attitude-Function Theory.

This bridges to the next issue, which is the link between social bonding and other functions of music. Is musical social bonding linked to other functions of music? Are value-expressions really the most important function of music preferences for musical social bonding? Emotional expression or mood management are very important functions of music (e.g., Juslin, 2005; Saarikallio & Erkkilä, 2007). Their importance is reflected in the academic dominance on emotion related topics in studies conducted by music psychologists (cf. content analysis in Chapter One). The impact of emotions in music and the seemingly universal character of social bonding through music may indicate an intriguing relationship between these two functions. Whether these 'personal' functions of music relate to social bonding remains to be explored (cf. Chapter Four).

The next chapter explores the relationship between social functions of music and other functions. Chapter Four aims to capture a comprehensive topography of the functions of music, in order to position and relate the social functions of music to other functions. If relationships between social bonding and functions of music besides the value-expressive function are present, then the MUSA-VALUES model may offer interesting opportunities for including other facilitating components in the social bonding process. The model could then be extended to multiple musical functions as a facilitator of social bonding (applying both Attitude-Function Theory and Value Expectancy Theory). Before proceeding to the next chapter, I propose a further possible extension that the current social bonding model offers.

Extension of MUSA-VALUES

Music preferences as value-expressive attitudes compose the centre of the social bonding model. If value-expression is the facilitator of social bonding as proposed in MUSA-VALUES, then the model may apply to all value-expressive attitudes. Previous research suggested that, for instance, other media preferences, food, or clothing, serve as value-expressive attitudes (e.g., Allen & Ng, 2003). The current framework posits that the value-expressive attitude function is the main facilitator of social bonding. Hence, shared preferences for other media (e.g., newspapers), food (e.g., vegetarian or

omnivore) and clothing (e.g., high fashion or second-hand look) may also foster social attraction between individuals or groups. The current model provides a theoretically sound framework for this notion.

Individuals hold value orientations which are relatively stable over time and situations (Bilsky & Schwartz, 1994). It may be the case that various value-expressive attitudes are indeed interrelated if they express similar values. For instance, individuals may tend to prefer particular media, dress in a certain way, eat certain food and listen to particular music because all these attributes are consistent with their value orientations. Their friends may show very similar patterns in these attitudes. Hence, music preferences may be one particular facet in real-life social relationships in addition to other aspects such as subject of study (as indicated in Study 3). Nevertheless, music is a consistent and strong facet in social relationships as shown in the two studies. The extent to which the proposed social bonding process applies to other populations besides young people remains to be explored.

Conclusion

The current chapter advanced music preference research in a number of ways. First, it addressed multiple gaps in research by explaining the social bonding process of shared music preferences (Table 11, p. 86). Second, it provided a theoretically sound framework. MUSA-VALUES responds to recent calls for a 'theoretical evolution' in the field of social psychological music research (Giles, Denes, Hamilton, & Haja, 2009; North & Hargreaves, 2008). Lastly, empirical evidence of the new model MUSA-VALUES has advanced our understanding of how music fosters social bonding between young people by providing expression of shared values. It was shown that value-expression in music is meaningfully intertwined with social bonding. However, it remains unexplored how the musical function social bonding relates to various other functions of music. The next chapter explores the position and relation of social functions of music within a comprehensive topography of musical functions.

CHAPTER FOUR

Distinguishing personal, social and cultural functions of music listening across cultures [28]

In previous chapters, I elaborated on two social functions of music in detail. In the current section, I expand my focus beyond these social functions and discuss a more holistic picture of musical functions at individual, social and cultural levels and their interrelatedness. By doing so, I will be able to integrate the previous chapters into the larger literature on functions of music. Hence, this chapter provides a further integrated cross-cultural examination of musical functions.

The current chapter explores a holistic topography of functions of music listening by taking diverse cultural perspectives into account. Musical behaviour has been explored in various disciplines, including ethnomusicology, sociology and psychology. As North and Hargreaves (2008) point out, the level of analysis in the study of musical behaviour can vary from intra-individual to ideological. Similarly, each person can experience music as an individual (e.g., having memories of our adolescence when listening to Nirvana or Led Zeppelin), as a social experience (e.g., when visiting a festival or club with friends) or as a cultural phenomenon (e.g., feeling proud of Stephan Raab as a fellow German at the European song contest 'Eurovision').

In order to gain a holistic picture, this chapter explores these three levels of musical experiences by drawing upon functions discussed in the psychological, sociological and ethnomusicological literature. Further, I introduce previous cross-cultural approaches to psychological functions of music and methodological issues related to these approaches. I present two studies exploring personal, social and cultural functions of music and develop a comprehensive model of musical functions. Thus, this chapter aims to identify a holistic set of functions of music by taking cultural perspectives into account. Furthermore, it examines the structure of musical functions as well as cross-cultural similarities and differences in the three levels of musical functions using qualitative (Study 5a and 5b) and quantitative (Study 6) methods.

The holistic view on functions of music listening in this chapter enables the examination of relationships between social functions, such as social bonding through

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[28] Some of the ideas expressed in this chapter are accepted for publication in *Psychology of Music* (Boer & Fischer, accepted with minor revisions; particularly Section 1 and 2).

music and the value-expression in music, with functions at personal and cultural levels. The current chapter provides a synopsis of the relationship between the previously examined social functions in this thesis as well as a broader view on these two functions in relation to a comprehensive topography of musical functions. This broader focus allows an integration of the previous examined social functions into the overall picture of musical functions and psychological music research.

Music serves functions at the individual level, social and at the cultural level. Psychological processes underpin all three levels of musical experience. However, most psychological research lacks a comprehensive consideration of these three different levels (cf. North & Hargreaves, 2008). Much of the (Western) psychological literature assumes that music listening is an individual practice being experienced alone. Thus, there is a predominant focus on cognitive and emotional functions of music at the individual level while ignoring more collective aspects of musical experiences. The dominance of investigations on individual focussed functions of music has received growing criticism by various psychological scholars (e.g., Hallam et al., 2009; Juslin, 2005; Juslin & Laukka, 2004; Lehmann, 1994; MacDonald, Hargreaves, & Miell, 2001; North & Hargreaves, 2008; Rentfrow & Gosling, 2006). The identification of research gaps examining all functions simultaneously led to two studies examining a more holistic set of functions (Studies 5 and 6).

THREE LEVELS OF MUSICAL EXPERIENCE

Individual experiences with music

Summary of individual functions

The individual level of musical functioning has received attention in the study of cognitive and emotional domains. Functions of music listening in the cognitive domain are investigated in studies on the perception, recognition and memory of musical elements and characteristics, such as pitch, melody, rhythm, structure or complexity (e.g., Addessi & Caterina, 2005; Ockelford, 2004; Deliège & Sloboda, 1997). Furthermore, studies have examined the immanent ability of music to trigger autobiographical memory (e.g., Cady, Harris, & Knappenberger, 2008; Schulkind, Hennis, & Rubin, 1999), and music's influence on cognitive performance (e.g., Furnham & Stephenson, 2007; Rauscher & Shaw, 1998; Schellenberg, Nakata, Hunter, & Tamoto, 2007; Lesiuk, 2005).

The emotional domain has received attention in research about emotions perceived in music; emotions and physical reactions induced through music; and emotions expressed through music (e.g., Juslin, 2005; Juslin & Laukka, 2004; Nawrot,

2003; Sloboda, 2005). In everyday life, music can be used for mood regulation (e.g., Husain, Thompson, & Schellenberg, 2002; Saarikallio & Erkkilä, 2007); to cope with crisis (e.g., Behne, 1997; Lehmann, 1994); or as stress reliever (e.g., North, Hargreaves, & O'Neill, 2000; Tarrant et al., 2000).

Cross-cultural approaches to individual functions

There are a number of studies that have taken a cross-cultural psychological perspective when investigating cognitive and emotional functions of music listening. In a comprehensive review of comparative music perception and cognition, Carterette and Kentall (1999) gathered convincing support for the universality of sensory, perceptual, and cognitive processes involved in musical activities independent of social or cultural settings. Nevertheless, they reviewed equally strong evidence that these processes "are conditioned by social and cultural forces" (Carterette & Kentall, 1999, p. 727). More recently, Stevens and Byron (2009) reviewed the literature and posited general claims about universal music processing. They assessed universals in music processing, such as the perceptual organization principles in music (grouping and segmentation); perceptual and cognitive constraints; and high-order processes in music cognition. However, Stevens and Byron (2009) also argue that these hypotheses "require investigation and falsification in as many and varied cultural contexts as possible" (Stevens & Byron, 2009, p. 14).

In the emotional domain, for instance, Saarikallio and Erkkilä (2007) examined the use of music for mood regulation. First, they identified seven mood-regulatory strategies used by Finnish adolescents (Saarikallio & Erkkilä, 2007). These are entertainment, revival, strong sensation, diversion, discharge, mental work, and solace. A subsequent cross-cultural study revealed that Finnish and Kenyan adolescents used music similarly for mood regulation (Saarikallio, 2008). However, the latter study also found some cross-cultural differences in how the regulation of mood was realized. More precisely, Kenyan adolescents verbalized three additional processes of mood regulation, namely the use of music to gain concentration, energy, and as an expression of happiness.

Balkwill and Thompson (1999) explored emotional sensitivity to music. Their results revealed that Western listeners were sensitive to musically expressed emotions in Hindustani raga excerpts. This sensitivity was facilitated by psychophysical cues, such as tempo, rhythm and melody. Gregory and Varney (1996) conducted a study on

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the affective responses to music comparing European and Asian listeners. They found that European and Asian listeners responded differently to Western and Asian music. Gregory and Varney (1996) suggest that the affective responses to music seem to be determined by the cultural background of the listener. Similarly, Nercessian (2002) presented a cross-cultural study assessing the capacity of an audience from one culture to experience the music from another culture in a meaningful way. Armenian duduk[29] music was played to an Armenian and a Greek sample. The results showed that the Armenian music had meaning in both cultural samples, "at some level, dependent on culture, and at another, independent of cultural constraints" (Nercessian, 2002, p. 96). More precisely, concrete meanings played a more important role within the culture than attributive or affective meanings, which are nevertheless important for the overall formation of musical meaning.

Previous cross-cultural research on cognitive and emotional functions of music revealed that 1) the functions seem to show similar processes across cultures, and 2) culture seems to determine some content specific features of these functions.

Social experiences with music

Summary of social functions

The social psychological functions of music as an expression of values and for fostering social bonding have been discussed in detail in the preceding chapters. Hence, only additional aspects of social functioning of music are mentioned below. Music preferences as expression of personality have received growing interest in recent years. Research has revealed associations between personality traits and music preferences or functions of music (Cattell & Saunder, 1954; Chamorro-Premuzic & Furnham, 2007; Chamorro-Premuzic, Gomà-i-Freixanet, Furnham, & Muro, in press; Delsing et al., 2008; Pimentel & Donnelly, 2008; Pearson & Dollinger, 2004; Rentfrow & Gosling, 2003; Rentfrow et al., 2009; Zweigenhaft, 2008). The link between personality and musical attitudes or behaviour has been investigated within various cultures (but not across cultures), including Brazil, the Netherlands, Malaysia, Spain, UK, and the US. This link has intra-individual components (e.g., music preferences vary according to average resting arousals in introverts vs. extroverts, Chamorro-Premuzic & Furnham,

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[29] Duduk is the national instrument in Armenia.

2007; Rentfrow & Gosling, 2003) as well as social components (e.g., expressing personality in music preferences, Rentfrow & Gosling, 2003).

Recently, Clayton (2009) discussed broad functions of music that are concerned with relations between the individual and the social. Two functions of music (somewhat analogue to Merriam, 1964) identified were music as a tool for interaction between self and others, and music a symbolic representation. The interaction function refers to interpersonal communication for instance in interpersonal and group settings or in spiritual contexts. Symbolic representations of music can signify affect, identity, alterity or relationship. Furthermore, dancing has significant influences on social behaviour (e.g., Crozier, 1997; Giles, Denes, Hamilton, & Hajda, 2009; Hagen & Bryant, 2003). Dance can indicate interest between two individuals (Crozier, 1997) or 'coalition' between groups (Hagen & Bryant, 2003).

Cross-cultural approaches to social functions

Clayton (2009) proposed these functions from a cross-cultural perspective, referring mostly to ethnomusicological and sociological literature. One might expect these functions to apply cross-culturally. However, there is little culture comparative psychological research on the social functions of music. Three studies are noteworthy that have investigated personal and social functions of music in diverse cultural contexts. Tarrant et al. (2000) compared the reasons for music listening between British and American adolescent samples. They revealed that both samples used music to satisfy emotional and social needs. Rana and North's (2007) study with Pakistani participants identified striking similarities in the role of music in everyday life compared to those revealed in a British study (North, Hargreaves, & Hargreaves, 2004). However, responses from the British and Pakistani samples were not directly compared. Finally, Schäfer, Sedlmeier, and Tipandjan (2008) examined a number of emotional, cognitive and social functions of music and how they were related to music preferences in a German and an Indian sample. Their results revealed that in India music seemed to fulfil the same functions in everyday life as in Germany. Yet, the link between these functions and music preferences was not as strong as in the German sample.

In summary, a few studies have revealed that music serves social functions in diverse cultures. While culture comparative approaches are rare, Studies 1 to 4 in this thesis provided evidence for similar processes in two interrelated social functions of music across cultures.

Cultural experiences with music

Summary of cultural functions

One may argue that the above-mentioned social functions of music also apply to the cultural experiences of music, as culture is an extended social context. However, cultural experiences with music rarely appear in psychological research. Sociologists and ethnomusicologists remind us of collective aspects of music as a fundamental feature that contributes to social and cultural settings (Baacke, 1984; DeNora, 2000; Frith, 1987; Merriam, 1964; Mitchell, 1996). As discussed earlier in this thesis, music can serve as a symbolic expression of social and cultural values and identities (Merriam, 1964), and it can communicate values and identities to others (Baacke, 1984; Frith, 1987). Clayton (2009) argues that music is used to facilitate coordinated action and that this often strengthens social bonds, collective emotions and shared ideologies. This function of music includes the maintenance or creation of 'tradition' and ethnic or cultural identity. Recent studies showed that music can mediate or hinder intercultural or interethnic relationships (Bensimon, 2009; Dixon, Yuanyuan, & Conrad, 2009; Reyna, Brandt, & Tendayi Viki, 2009; Rodríguez-Bailón, Ruiz, & Moya, 2009).

Certain music expresses and encourages political attitudes and protest (Baacke, 1984; Bodden, 2005; Schilt, 2003). Political attitudes convey individuals' opinions about political stances, societal processes and intra-societal as well as inter-societal issues. Hence, political attitudes represented in music help to position individuals within societies. Individuals use music to create a self-definition and find a place within society (Frith, 1987). Frith (1996a) takes a broad and flexible definition of identity by stating that experiencing popular music is both the experience of individuality and collective identity. DeNora (2000) argues that music is a resource for producing social life. As an everyday activity, music furnishes "the social space with material-cultural resources for feeling, being and doing. This is part of how the habitat for social life – its support system – is produced and sustained" (DeNora, 2000, p. 129). Thus, the transmission of cultural identities, norms and values in music can support conformity and validate societies, thereby, contributing to cultural continuity and integration (Merriam, 1964).

Cross-cultural approaches to cultural functions

Cultural functions of music are expected to apply to most cultures (e.g., Clayton, 2009; Frith, 1987, 1996a; Merriam, 1964). However, research on cultural

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functions of music has primarily taken culture-specific perspectives (cf. Chapter Two) and has neglected direct comparative approaches. Boer and Fischer (2008) propose a novel approach comparing preferences for culture specific music styles and its relation to national identity across four cultures. Their approach links culture-specific components of music with universal processes of identification by introducing the concept of musical ethnocentrism. Musical ethnocentrism is proposed as a general tendency to prefer music originating in one's culture. In two individualistic and two collectivistic cultures, preferences for national music styles were associated with musical ethnocentrism (culture specific component), which in turn related to national identity (universal process). Musical ethnocentrism mediated the link between preferences for national music styles and national identity in all four cultures. This study demonstrated that universal concepts or processes might help to understand culture specific links allowing for both the preservation of culture specific content and the empirical analysis of generalizable psychological processes in a cross-cultural perspective.

Interrelatedness of levels

Clayton (2009) noted four possible principles that determine the salience of multiple functions of music. First, there might be situations in which one function of music is the principal function. Second, the balance between functions may vary between cultures, genres, or even moments of performance. Third, it is generally more possible that multiple functions operate simultaneously. Fourth, "the very intensity of [musical] experience provides a basis for its many effects and interpretations" (p. 42). Clayton (2009) concluded that musical functions are distinct but interrelated and that music performs functions at multiple levels simultaneously.

Merriam (1964) presented one of the most detailed summaries of uses and universal functions of music in societies (cf. Hargreaves & North, 1999; Lehmann, 1994). His list of musical functions can be categorised into individual (emotional expression, aesthetic enjoyment, entertainment, and physical response), social (communication and symbolic representation), and cultural functions (enforcing conformity, validating institutions, cultural continuity, and integration). Merriam (1964) highlighted that the three levels of musical functioning include each other consequently: the individual level is part of the social, the social level in turn is included in the cultural level (Merriam, 1964). This is based on the premise that social

phenomena require individuals and that the human ability to create culture is rooted in the human ability to form socially cohesive groups (Cross, 2006). This inclusion of levels suggests an interrelatedness of all functions of music, but particularly between individual and social functions, and between social functions and cultural ones.

Referring to the interrelatedness between individual and social functions of music, Juslin (2005) suggested that social effects might have a major impact on emotional functions of music. Resent research has integrated social elements in the investigation of emotional functions of music. For instance, Egermann and colleagues (in press) examined social influences on immediate emotional effects of music. His study demonstrated that individuals' emotional reactions to music converged around alleged emotional reactions of others. However, a more holistic approach is needed in order to fully understand the interrelatedness of functions of music, particularly across the three levels of experience.

GAPS IN RESEARCH AND RESEARCH OBJECTIVES

Gaps in research

I have repeatedly mentioned the under-representation of social components in music psychological research; yet, the neglect of culture in music psychology is even more profound (Hallam et al., 2009; North & Hargreaves, 2008; Walker, 2005). A substantial number of models have been developed proposing a more or less holistic set of psychological functions of music listening (e.g., Behne, 1997; Lehmann, 1994; North, Hargreaves, & O'Neill, 2000; Tarrant et al., 2000; Sloboda, 2005). Further articles have been published listing psychological functions of music listening based on previous literature (e.g., Schäfer & Sedlmeier, in press). However, cultural aspects of musical experience are hardly considered in these sources. Merriam's ten functions model remains the only one that explicitly includes all three levels of musical functioning. Given its ethnomusicological background, important psychological functions are missing, such as the memory function or the alleged performance enhancing function of music. Additionally, the world has changed dramatically since Merriam's time, considering that globalisation and technical developments introduce new music from around the world to audiences and new technical devices to appreciate music (Hargreaves & North, 1999b). These developments may have caused considerable changes in how music is used and what functions it serves. Hence, an

update in the research of functions of music and their interrelatedness is needed while considering various levels of musical functioning and input from diverse cultures.

Furthermore, the interrelatedness of functions of music has not received much attention. The current chapter aims to advance research by simultaneously examining individual, social and cultural experiences with music. The consideration of all three levels aims to capture a holistic picture of psychological functions of music beyond the conventional focus on individual experience. Therefore, I explicitly focus on cultural experiences in musical functioning, addressing this first gap in music psychological research. Another gap is a lack of research on non-Western audiences in psychological research (Hallam et al., 2009; North & Hargreaves, 2008). Only a very limited number of psychological studies investigated musical experiences in non-Western samples (e.g., Tekman & Hortaçsu, 2002) or compared limited numbers of samples from Western and non-Western settings (e.g., Balkwill & Thompson, 1999; Eerola, Himberg, Louhivuori, & Toiviainen, 2006; Gregory & Varney, 1996). Studies 5 and 6 aim to provide a holistic perspective on functions of music by taking culture into account in the examined musical experience as well as in the sampling approaches. Before I present Study 5 and 6, some methodological issues need to be addressed.

Methodological issues

The cross-cultural studies discussed earlier suggest that there are general universalities, as well as some cultural specificities in the functions of music listening. Again, these studies predominantly focus on the individual functions of music, while collective aspects appear only sporadic. Furthermore, instruments measuring functions of music were developed based on findings from Western samples. Those instruments were then applied in non-Western samples aiming to replicate or generalize findings from Western samples. The pitfalls of such an approach have been intensively discussed in the cross-cultural psychological literature (e.g., Berry, 1989; Segall, Lonner, & Berry, 1998). When models are constructed in Western settings and then applied in non-Western settings, it is questionable whether the examined construct is exhaustively captured in non-Western settings (e.g., Berry, 1989; Segall, Lonner, & Berry, 1998). A methodological issue in such an imposed approach is construct bias.

Domain under-representation is one facet of construct bias, which is present when "important aspects of the domain that a theoretical variable is assumed to account for are not represented in the measurement instrument" (Fontaine, 2005, p. 803). To

address this bias, Berry and colleagues (for details see Berry, 1989; Segall, Lonner, & Berry, 1998) proposed a derived etic approach which incorporates various cultural perspectives on a phenomenon and then draws conclusions about psychological similarities and differences across cultures. Following this approach, I aim to consider multiple cultural perspectives as I seek to develop a framework of functions of music listening that is applicable across cultures.

This approach is aligned with van de Vijver and Leung's (1997) decentred approach to ensure a cultural balance and avoid construct bias in cross-cultural research. Generally, in a decentred approach multiple cultural perspectives on the studied phenomenon are gathered. The input from culturally diverse individuals reduces the likelihood of domain under-representation. In decentred approaches, systematic sampling is desired (van de Vijver & Leung, 1997). Participants from more than two cultures are sampled, which vary systematically in cultural dimensions, such as values, beliefs, or self-construal, in line with the respective research question (van de Vijver & Leung, 1997). One dimension of cultural variability that seems relevant for the purpose of this research is individualism-collectivism as outlined earlier (see Chapter One and Two).

Research objectives

The studies in the current chapter are guided by three research objectives. The first objective is to identify functions of music listening that are relevant and applicable to collectivistic and individualistic samples. The second research objective is to explicitly examine cultural similarities and variations in the functions of music. Third, I explore the structure and relationships of functions of music in culturally diverse samples.

Two studies were conducted to address the three research objectives. The culturally decentred Study 5a aims to identify a holistic set of functions of music listening. Furthermore, identified functions of music are validated in an independent sample in study 5b using a distinct methodology and sample composition. This will address possible methodological constraints of the identified functions. Once I have established cross-method evidence of the validity of the holistic set of functions of music, I then describe the development of a new instrument that measures functions of music in order to further explore the structure and relationships of functions of music. Thus, besides the empirical identification of functions of music listening, I aim to

identify systematic cultural variation in the salience of the identified functions (Study 5, see Section 2), and to explore the cross-cultural comparability of the structure of functions of music (Study 6, see Section 3). The two studies are the first to investigate functions of music by explicitly targeting three levels of musical experience and including samples from individualistic and collectivistic cultures. This approach enables a systematic examination of the position of social functions vis-à-vis personal and cultural functions of music.

On a general note, the current qualitative approaches do not intend to make generalizing claims about the included cultures. The results are not representative for individualistic and collectivistic cultures. Having said that, Study 5a aspired the qualitative input from a culturally diverse sample of young music fans. The cultural richness may be limited due to language barriers, nevertheless, this study is a first attempt to include cultural variation in the process of exploring a holistic set of musical functions. The qualitative approaches in Study 5 inform a subsequent quantitative Study 6. Both studies bring forward an integrated reassessment of the two social functions of music that have been in the centre of attention hitherto.

This section describes two qualitative studies aiming to develop an empirically based holistic model of functions of music listening that balances between individual, social and cultural domains. First, I analysed responses to open-ended questions about young peoples' individual, social and cultural experiences with music from a variety of cultures in Study 5a. The answers were coded across all groups to reduce ethnocentric bias in the interpretation of themes. Furthermore, I tested in a second sample whether the proposed model of functions of music listening can be validated. For this purpose, an independent qualitative study was designed to further assess individuals' experiences with music. Study 5b addresses several limiting factors of Study 5a, providing evidence for the validity of the identified holistic set of functions of music. Moreover, this section explores cultural similarities and differences in the prevalence of functions of music. Lastly, the underlying dimensionality of functions of music is examined. For this purpose, I explore the spatial relationships between identified sub-functions of music in order to locate social functions of music in relation to other functions of music.

A CULTURALLY DECENTRED STUDY ON PSYCHOLOGICAL FUNCTIONS OF MUSIC (STUDY 5a)

The objective of Study 5a is three-fold. Firstly, it aims to identify a holistic set of functions of music listening in a culturally diverse sample. Secondly, it examines which functions are most prevalent at personal, social and cultural levels of musical experience, and which functions are most prevalent in samples from individualistic and collectivistic cultures. Thirdly, it investigates the structure of identified functions of music. For the first research objective, I used qualitative data analysis (thematic analysis according to Braun & Clarke, 2006), while for the latter two research objectives, the qualitative data set is analysed using quantitative methods.

I pointed out earlier that previous psychological research on music listening focussed on the individual level by investigating cognitive and emotional functions of music. The reason for the individual focus may be due to the research questions that were asked in the past or because of the incorporation of mainly individualistic samples. Thus, two research questions pinpoint these two issues. First, what are the

most prevalent functions of music for the individual, social and cultural experience of music? In this qualitative Study 5a, open-ended questions target these three levels of musical experience. I posit that the open-ended questions at each level of musical experience elicit the respective functions of music: for the individual experience of music, functions with personal focus (such as emotional functions) will be most prevalent; for the social experience of music social functions will be most prevalent; and for the cultural experiences of music, function that involve cultural aspects will be most prevalent.

The second research question targets the cultural background of participants: Does the occurrence of functions of music listening in responses vary according to cultural background? As I have argued earlier, collective elements may be more prevalent in individuals from collectivist cultures, given they are supposed to prioritise group goals over personal ones. Similarly, individual elements, such as emotional functions, might be more prevalent among individuals from individualistic cultures. This is the first study to investigate such differences. Therefore, the analyses are exploratory.

Study 5a captures the functions of music listening at multiple levels of musical experience from a multicultural sample. This rich dataset enables the quantified examination of the structure of functions of music listening using Multidimensional Scaling techniques to address the fourth research objective of this study.

Method

Data collection and participants

Samples were targeted based on two criteria: high musical commitment and cultural variation on the individualism-collectivism dimension. The targeted population were music fans and young people, since this population is composed of committed music listeners (LeBlanc, Sims, Siivola, & Obert, 1996). This targeted sample would be most likely to provide rich input with respect to content.

In order to get the target samples I used the advantages of the Internet (Gosling, Vazire, Srivastava, & John, 2004; Reips, 2000; Skitka & Sargis, 2005). A link to the online survey was posted in discussion boards of music related websites (see Appendix C1). The websites were located in seven countries which were selected based on a systematic sampling approach (van de Vijver & Leung, 1997) so that they covered

three individualistic (New Zealand, USA, and Germany) and four collectivistic (Hong Kong, the Philippines, Brazil, and Singapore) societies (Hofstede, 2001).

I applied the multiple site entry technique by posting the survey in five web pages per host country. This technique was suggested by Reips (2000) to reduce self-selection bias in Internet sampling. However, with this target population I can by no means claim representativeness of results. Study 5b aims to countervail some of the methodological issues related to age, musical commitment, and self-selection that the sampling in Study 5a might be facing.

A total of 222 participants[30] took part in Study 5a. Participants had an average age of 22.56 years ($SD = 9.05$; $range = 13\text{-}69$) and 58% of the participants were female. 87% of the participants were residing in the seven targeted countries (30 in Brazil, 5 in Hong Kong, 82 in Germany, 32 in New Zealand, 7 in the Philippines, 23 in Singapore, 13 in the USA). Regarding their cultural background, participants can be categorised in four cultural clusters based on their stated country of birth[31]: Anglophone Western, non-Anglophone Western, Asian, and South-American (Table 23). The first two clusters represent mostly individualistic cultures, and the latter two represent mostly collectivistic cultures (Hofstede, 2001). The imbalance in cultural distribution (high number of non-Anglophone participants) will be discussed and empirically addressed in the analyses reported below.

Questionnaire

The online questionnaire consisted of two parts. First, musical preferences, musical activity and demographic details were obtained. The second part asked participants to respond to open-ended questions regarding the meaning and function of music in peoples' lives. The questions covered three levels: personal meaning of music, social meaning of music and cultural meaning of music. Since asking multiple questions enhances the validity and reliability of capturing the phenomenon empirically, I phrased three questions to capture the personal significance of music. The

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[30] 361 participants started filling in the survey. Of those, 139 individuals only answered one of three open-ended questions, which indicated low commitment to participation. Hence, these responses were omitted from analysis. Similar drop rates have been reported in other Internets studies (e.g., Birnbaum, 2004; Reips, 2000).

[31] Participants stated 29 different countries as birthplaces which were categorised as follow: Western Anglophone (Canada, Ireland, New Zealand, South Africa, UK, USA), Western non-Anglophone (Austria, Croatia, Finland, Germany, Greece, Italy, Luxembourg, Netherlands, Poland, Romania, Russia, Sweden, Switzerland), Asia (Hong Kong, India, Kazakhstan, Malaysia, Philippines, Singapore, Vietnam), and South America (Bermuda, Brazil, Chile).

first question targeted the meaning of music in life (*What does music mean to you? Please write your thoughts about the role music plays in your life.*). The second question was about the perceived influence of music in life (*How does music influence your life?*). The third question targeted situational experiences with music (*Think about one specific situation when you were listening to music in the last 3 days. Please describe what you thought, felt and did in that situation.*). The social significance of music was obtained in two social contexts: music in the social context of being with friends (*What role does music play when you are hanging out with your friends?*) and meaning of music for the family (*What is the meaning of music for your family members?*). The cultural significance of music was asked in two further questions (*What is the meaning of music in your home country?* and *What is the meaning of music in your cultural community?*).

Participants completed survey versions randomly containing three of the seven open-ended questions to shorten the survey.

Table 23

Sample description by cultural cluster (Study 5a)

	Male		*Female*		**All**	
	N	Age: M (SD)	N	Age: M (SD)	N	Age: M (SD)
Western Anglophone	26	25.38 (10.59)	22	26.45 (14.35)	49	26.20 (12.41)
Western non-Anglophone	17	24.47 (5.41)	77	16.84 (3.93)	95	18.38 (5.33)
Asian	29	26.48 (9.92)	15	21.67 (4.51)	44	24.84 (8.72)
South-American	17	27.35 (9.39)	17	24.76 (4.59)	34	26.06 (7.40)
Whole sample	89	25.94 (9.25)	131	20.04 (7.96)	222	22.56 (9.05)

Translation of the survey

The survey was designed in English and conducted in English in Singapore, Hong Kong, the Philippines, Brazil, New Zealand, and the USA. English proficiency is high in the sampled Asian countries as it is an official language. Therefore, language barriers were thought to be unlikely. Lower English proficiency may have been a limitation in the Brazilian sample. This issue will be discussed in more detail below. The survey in Germany was conducted in German. I translated the survey. Its translation was checked by two bi-linguals and revisions were made. I translated the German responses into English so that the Thematic Analysis can be conducted in one language. The translated responses were then corroborated in a committee approach by three bi-linguals (one academic staff and two postgraduate students).

Analytical Strategy

Data analysis was conducted in three steps. First, the content of the responses to the open-ended questions was analysed using thematic analysis. Thematic analysis is a qualitative method that identifies, analyses and reports pattern within data (see Braun & Clarke, 2006). Thematic analysis was performed to identify functions and sub-functions of music. Thematic analysis has the advantage over, for instance, content analysis or grounded theory, that it allows a flexible handling of large data sets.

What kind of thematic analysis was used? According to Braun & Clarke (2006), thematic analyses can be conducted in three different epistemological approaches: as essentialist/realistic method, as constructionist method or as contextualist method, which basically sits between the former two. The essentialist/realistic approach to thematic analysis focuses on participants' experiences, meanings and reality within the studied paradigm. In contrast, the constructionist method examines people's experiences, meanings and reality as a result of discourses operating within society. This approach is applied if the research does not focus on individual motivations or psychologies, but rather seeks to explore the sociocultural context and structural conditions. Third, a contextualist thematic analysis combines the former two approaches by recognising how individuals construct meaning about their experiences, and the impact of social context on the individual perception of experiences.

I consider an essentialist/realistic epistemology employing an inductive approach as most appropriate for reaching my research aim. My research question is broad aiming to identify functions of music listening based on participants' experiences with music. Open-ended questions in this study were constructed to investigate experiences of music listening for the individual, in social contexts, and for the culture. An inductive approach (bottom-up) allows a data-driven analysis without fitting results into pre-existing codes. A comparative discussion of functions of music identified in the qualitative analyses and previous research will be presented in accordance with the description of identified function.

I followed the six stages of thematic analysis by Braun and Clarke (2006): 1) Familiarizing with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) refining and naming themes, and 6) write up.

The cultural background of participants did not explicitly enter the analytical approach based on two considerations. First, the aim of study 5a was to develop one model that is applicable to various cultures, not one model for each cultural group.

Thus, the analyses included the data set as a whole given that it is built upon culturally rich data input. A second reason for not explicitly considering the cultural background was to reduce ethnocentrism in coding the answers. This was to minimize biases in the cultural interpretations during the analyses of the responses. This means I analysed the data without reference to the cultural or demographical origin of the respondent. This approach rules out that the responses are (over- or mis-) interpreted with regard to their cultural content or origin. The cultural background of participants will be examined in more detail in the quantitative analyses.

According to Boyatzis (1998), thematic analysis is a process that can be applied on a continuum of qualitative and quantitative methods. The two poles of this method continuum are solely qualitative description of the data vs. purely quantitative methods of statistical analysis. The second and third research objective of this study required to go beyond the verbal description of identified functions by numerical coding. I quantified functions of music by nominal coding (presence - absence coding) of the responses. This means that each response received a coding regarding each identified function (a response receives coding for multiple functions). If the function occurred in a response, the coded value was 1; if the function did not occur in the response, the coded value was 0. These binary codes allowed structured statistical analyses of the responses, including frequency analyses and Multidimensional Scaling. I coded the data and in order to establish interrater reliability, a postgraduate student coded 20% of the responses. Reliability was assessed using Cohen's Kappa measuring agreement. Landis and Koch (1977) suggest that K = 0.40 to 0.59 indicate moderate interrater reliability, 0.60 to 0.79 substantial, and above 0.80 indicate outstanding agreement. The average interrater agreement of main themes was $k = 0.71$ ranging from $k = 0.56$ (diversion) to $k = 0.88$ (background). Thus, according to Landis and Koch (1977), our coding of main themes had substantial reliability, ranging from moderate to outstanding agreement.

The second step of data analysis explored categorical patterns in level of musical experience and cultural variability using Chi-square tests. If systematic differences were uncovered between individualistic and collectivistic sub-samples in the frequency analyses, then we could make claims about cultural variations along the individualism-collectivism dimension (van de Vijver & Leung, 1997). I examined the general prevalence of functions of music listening and cultural differences in the occurrence of these functions at the three investigated levels separately: for the individual (3 questions), in social settings (2 questions) and at the cultural level (2

questions). For the following analyses, I merged the responses to the three questions at the individual level, the responses to the two questions at the social level, and the responses to two questions at the cultural level. This was done to increase reliability.

The third step of analysis examined the structure of functions of music as captured in all open-ended responses. For this purpose, I examined the proximities between identified sub-functions of music using Multidimensional Scaling (MDS). The three levels of musical experiences were merged for this analysis in order to derive a holistic structure of functions of music.

MDS is a set of techniques that uncovers underlying dimensions in data (Kruskal & Wish, 1978). MDS provides a geometrical configuration of similarities and differences between items (Fontaine, Duriez, Luyten, & Hutsebaut, 2003). The geographical distances in the graphical configuration derived from MDS represent the observed similarities and differences between items as precisely as possible (Fontaine et al., 2003). The geographical configuration offers a flexible technique for interpreting patterns underlying the examined concept (Borg & Groenen, 1997; Kruskal & Wish, 1978). Stress indices indicate the degree of fitness between observed similarities and represented distances in the MDS model. Although there are rules-of-thumb regarding the interpretation of stress values, the interpretability and practicability of the dimensions also need to be considered. The rule-of-thumb suggests that a Kruskal stress (Stress-1) lower than 0.20 indicates an acceptable solution (Kruskal & Wish, 1978). A number of scholars argue, however, that two-dimensional MDS solutions with stress-1 values higher than 0.20 can still be valuable if two dimensions provide a meaningful representation of the data (e.g., Kruskal & Wish, 1978; Schwartz, 1992). A major advantage of two-dimensional models is the easy interpretability and visualisation. By virtue of these advantages, whilst a two-dimensional solution was aspired, the stress index decomposition for various dimensionalities was considered as well. I conducted MDS applying proximity scaling (PROXSCAL) with (initial) Torgerson configuration. PROXSCAL multidimensional scaling operates by minimising normalized raw stress.

Results

Analysis 1: A holistic model of functions of music

The first aim of the study 5a was to gain a holistic picture of functions of music. I identified seven main themes: music in the *background*, *memories* through music, music as *diversion*, *emotion* in music and *self-regulation* through music, music as

reflection of self and *social bonding* through music. Table 24 summarises these functions of music. Each of the seven main functions of music consists of a varying number of sub-functions, which compose the rich content of each function. The following section describes the identified functions of music listening. While the first five functions appear to be more personal functions of music, the last two show some congruence with the social functions of music being investigated in Chapters Two and Three. For the sake of brevity, I will describe the first five functions only briefly and the latter two social functions in more detail as they are central for this research. Further supporting quotes from the qualitative data for sub-functions in the first five identified themes are presented in Appendix C2. Extracts are presented in English with corrected spelling and with reference to the demographic background of the respondent (M = male, F = female). This information is presented here for descriptive purposes, but was not considered during the coding process.

   1. Music in the Background. Music is used as background element while doing something else, or to fill gaps and help pass time. The use of music as background element while being engaged in other activities was mentioned by a Singaporean (M, 36 years), who considered that music "*is something meant to be played (softly) in the background while […] doing something else*". Previous research refers to the background function as a facet of individual use, for example, as a diffuse listening style, where the focus is not on the music but on other activities (Behne, 1997); or as a distraction from routine tasks (Sloboda, 2005). The results revealed the social element of this function, which was, for instance, brought up by a participant from Malaysia (M, 34 years), who uses "*Background music to keep the ambience warm and cosy*" when with friends. Music can serve the function of setting the right atmosphere when friends come together. When music serves as a background function it is not in the centre of attention.

Table 24

Definition and references of seven main functions of music (Study 5a; N = 222)

Main functions of music	Definition and sub-functions	Similar functions in previous literature
Music in the Background	Music is not in the centre of attention – it is solely a pleasant aural surrounding that occurs while being engaged in other activities, to help pass time, or to set the right atmosphere when spending time with friends. *Sub-functions*: music as sideline activity, pastime, atmosphere enhancer in social settings	- diffuse listening (Behne, 1997) - distraction from a routine task (Sloboda, O'Neill, & Ivaldi, 2001; 2005) - relief from boredom (North, Hargreaves, & O'Neill, 2000; Tarrant et al., 2000)
Memories through Music	A particular song can trigger memories of events, stages in life, relationships and emotions or memories of particular persons. When listening to a particular song together with friends or family members, it can trigger memories of shared moments. *Sub-functions*: reminiscence alone, reminiscence with others	- sentimental listening (Behne, 1997) - memory function (DeNora, 2000) - organization of time (Frith, 1987) - memory function (Sloboda, 2001; 2005)
Music as Diversion	Music serves the function of diversion at the surface of meaning. Music is a form of entertainment. It makes people feel good and is made for dancing. *Sub-functions*: entertainment, enjoyment, dance	- functions of entertainment and physical response (Merriam, 1964) - entertainment and rejoicing strategy (Saarikallio, 2007) - sensorial function (Sloboda, O'Neill, & Ivaldi, 2001; 2005)
Emotion in Music	Music conveys emotions and can also trigger emotions or emotional reactions. Listening to music can express the emotions of the listener when particular songs are picked. People choose particular songs to regulate their emotions and mood. More generally, each emotional state or moment is perceived to have the 'right' music. *Sub-functions*: conveying, triggering, expressing and regulating emotions	- emotional control (Baacke, 2002) - emotional and vegetative listening (Behne, 1997) - management of feelings (Frith, 1987) - management of mood (Hargreaves & North, 1999) - function of emotional expression (Merriam, 1964) - strong sensation and discharge strategies (Saarikallio, 2007) - mood change (Sloboda, 2005)
Self-regulation through Music	The listener is an active agent, using music consciously to alter, regulate or improve the current state of mind: to relax and relieve stress, to enhance creativity and an intellectual focus, to reduce loneliness or to escape from this world, to vent frustration and aggression. Music can be a form of therapy: it can ease sorrow and negative moods in times of crisis. *Sub-functions*: relaxation and stress relieve, improving creativity, focus and energy, reducing loneliness, escapism, venting, therapy	- escapism (Baacke, 2002) - compensating and stimulative listening (Behne, 1997) - self regulation (DeNora 2000) - revival, solace, concentration and psyching up strategies (Saarikallio, 2007) - enhanced states of relaxation (Sloboda, 2001)

Table 24 *cont.*

Main functions of music	Definition and sub-functions	Similar functions in previous literature
Music as Reflection of Self	Music can indicate three kinds of identities: individual, social and cultural identity. Further, music can be an inspiration, and it can give guidance. Therefore, it influences the personal development in a positive way. *Sub-functions*: expressing individual, social, cultural identity, attitudes and values, inspiration and personal development,	- various identity functions (Baacke, 2002) - building material of identity and medium of social order (DeNora, 2000) - creating identity (Frith, 1987) - management of self identity (Hargreaves & North, 1999) - functions of communication, symbolic representation (Merriam, 1964)
Social Bond through Music	Shared musical activities, such as talking about music, listening to music or going to concerts can influence the relationship with friends and family members. Music can create a special bond within a family and within a circle of friends. Music preferences provide useful information about traits of a person, thus shared music taste can connect people and create a special bond even between strangers. *Sub-functions*: common interest, social activity, creating unity, reason or barrier for friendship, meeting new people	- management of interpersonal relationships (Hargreaves & North, 1999) - function of contribution of the integration of society (Merriam 1964)

2. Memories through Music. Particular songs can trigger memories and can connect the listener to her/his past. Music can bring back memories of events, stages in life, relationships and emotions or memories of friends or relatives. A 15 year old female participant from England stated: "*I also have lots of memories linked to music, so listening to a particular song can remind me of someone*". The reminiscence function has been studied previously as a facet of individual use of music (e.g., Behne, 1997; DeNora, 2000; Frith, 1987; Schulkind, Hennis, & Rubin, 1999; Sloboda, 2005; Sloboda, O'Neill, & Ivaldi, 2001). However, the reminiscence function of music can also operate when music is listened to with friends or family member. In this case, conjoint listening to a particular song can trigger memories of shared moments. A 32 year old female New Zealander said that "*we think of our memories*" when listening to music with friends. Therefore, the music is a source for reminiscence alone or with others.

3. Music as Diversion. Music is a medium of entertainment to feel good and enjoy oneself. Music is "*mainly to have fun*", as a 15 year old female German stated. Furthermore, music is essential for dancing. As a Brazilian participant (F, 28 years) mentioned, "*along with listening to the music there is the dancing that helps on the "feeling good" part*". According to Merriam (1964), music serves as entertainment in all cultures. He also posits that the entertainment function is accompanied, for instance, by physical responses such as dancing or aesthetic enjoyment, which is supported by the findings of this study. The diversion function incorporates the simple enjoyment of music without connection to prior mood and emotions (Saarikallio & Erkkilä, 2007; Sloboda, 2005; Sloboda, O'Neill, & Ivaldi, 2001). It also contains social aspects, such as dancing with friends (DeNora, 2000; Merriam, 1964).

4. Emotion in Music. Many participants stated that music can convey emotions and also trigger emotions or emotional and physical reactions. Particular songs are chosen according to their emotional content in order to express a specific emotional state of participants. A participant (F, 30 years) from Germany summarized the emotional function of music by saying "*Music can transport and express emotions. And what is more powerful than a song or just a tune which is able to bring tears in your eyes?*" As noted earlier, the emotional effects of music has attracted many psychologists' attention. Most prominent, Juslin and colleagues (e.g., Juslin & Laukka, 2004; Juslin & Sloboda, 2001) examined how emotions in music are perceived, and how music triggers emotions in the listener. Based on this process, listeners use music

to express their emotions to their environment (cf. Baacke, 2002; DeNora, 2000; Frith, 1987), and to regulate their emotions and mood (cf. Behne, 1997; Saarikallio & Erkkilä, 2007). A participant from New Zealand (F, 20 years) pointed out the interconnectedness of the induction, perception and influence of emotions and mood in and through music. She stated, "*Music influences me by changing, affecting or reinforcing whatever mood I'm in*".

5. <u>*Self-regulation through Music*</u>. The listener uses music actively to alter, regulate or improve the current state of mind (beyond mood). This function encompasses a diverse set of psychological domains that can be altered by music. Music can help to relax and relieve stress (cf. Behne, 1997; Lehman, 1994; Sloboda, 2005; Sloboda, O'Neill, & Ivaldi, 2001), and to enhance creativity and concentration. Listening to music can reduce loneliness, and it can be an escape from this world (cf. Baacke, 2002; Lehmann, 1994; Tarrant et al., 2000). For instance, music is "*an escape and a comfort from the difficulties of life*" for a 37 year old female from New Zealand. Certain music can help vent frustration and aggression (cf. Behne, 1997; Lehmann, 1994; Tarrant et al., 2000). Music can be a form of therapy: it can ease sorrow and negative moods in times of crisis (cf. Juslin, 2005; Lehmann, 1994; Saarikallio & Erkkilä, 2007; Sloboda, 2005).

6. <u>*Music as Reflection of Self*</u>. Five sub-functions encompassed music as reflection of self, which are described in detail.

Music and individual identity. Favourite music can express and shape a person's individual identity. Participants referred to individual identity in music using various descriptors. For instance, music is the "*focus point for identity, […] self-expression*" (F, 52 years, New Zealand), "*a way for me to express my individuality*" (F, 31 years, New Zealand), "*a big part of my self definition*" (M, 28 years, New Zealand). Participants identify with their favourite music when it reflects a certain lifestyle, as a participants from Germany stated, "*music is […] expression of a way of life you can identify with*", because it "*speaks your language*" (F, 16 years).

Beyond expression of individual identity, music also contributes to developing and shaping individual identity, as a participant from South Africa expressed, "*music helps define who you are. Thus, what you listen to could inadvertently influence your personality and character*" (M, 18 years). Another participant from Germany similarly reflected on the influential function of music as it "*contributed a big deal to formation of identity*" (M, 26 years).

Two perspectives of the identity function of music are expressed in these responses. First, music expresses identity, and on the other hand, music shapes identity. These two causal relationships are covered in two streams of research in communication literature (reflection vs. construction theories of identity) about the influence of music on adolescents (cf. Negus & Velazquez, 2002; Hansen & Hansen, 1991).

Music and social identity. Music can indicate the group membership of a person. Participants either talked about "*group-identity*" (M, 25 years, US), or music as a way "*to say that I'm part of this social group*" (F, 31 years, Brazil). Music indicates membership to various groups, such as the "*underground scene*" (M, 16, the Philippines), "*subculture*" (M, 30 years, Germany) or the "*cool group*" (F, 29 years, Romania). Music preferences serve as a means of identification, but also as distinction. This was emphasised by a participant from Germany: "*you listen to HipHop or Rock, the one or the other, overlapping is often not allowed, one has to be loyal to one's image*" (F, 17 years). Due to the way that overlapping tastes are discouraged, music preferences can also separate groups. A participant from England indicated that music preference "*place[s] you into social groups […] such as people who only listen to rap, only black metal etc*" (F, 17 years) and therefore, music preference "*separates groups*" (M, 17 years, Canada).

Furthermore, a participant from New Zealand highlighted that music preference indicates the similarity in behaviour, appearance and friendships shared by group members. She observed that the "*taste in music to a certain extent dictates social cliques that friends move in, because the people with the same taste in music tend to dress similarly and attend the same gigs so make friends with familiar faces*" (F, 20 years). This indicates a plausible interrelatedness of the social identity function of music with the social bonding function. It seems feasible that individuals, who identify with a certain social group based on music preferences, may also have friends within this social group. This way, music supports friendships and social bonding as described in the next main function of music.

Ethnomusicologists and sociologists discuss the role of music in the creation and maintenance of social identity (Bennett, 2000; Frith, 1996a; Hebdige, 1991; Merriam, 1964; Mitchell, 1996; Nettl, 2001; Stokes, 1994). As elaborated in Chapter Three, social-psychological research has found evidence that music preferences can provide a basis for a person's social identification with an ingroup, and distinction from

an outgroup (e.g., Tarrant et al., 2002; Hargreaves, Tarrant, & North, 2001). Tarrant et al. (2002) propose that "through the affiliation of their peer group with certain styles of music, adolescents associate those groups with meta-information which such affiliation activates" (p. 140). British adolescents used preferences for positive associated music as attributes to make their ingroup positively distinct from an outgroup (Tarrant et al., 2002).

Music as Cultural Expression. Music expresses and contributes to cultural identity. Music as a cultural expression represents several facets of a culture, such as traditions and customs. This was highlighted in the following quotes: "*The folk, traditional music is more related to national identity, Romanian customs and traditions, and history*" (F, 29 years, Romania), and music is the "*affirmation of Te Reo Maori, acknowledgement of tikanga and tupuna*"[32] (F, 52 years, New Zealand). Furthermore, music reflects "*the country's culture and history*" (M, 39 years, Singapore) given it portrays "*a history of the people*" (F, 29 years, Brazil). Music operates as a document of history and time ("*contemporary document*", F, 17 years, Germany). Music as a cultural expression can connect people with their ancestors, as stated by a participant from Brazil: music means "*culture. It's a bond with our home (Rio Grande do Norte), and with our Jews ancestral*" (F, 20 years). An additional aspect of music as a cultural expression is that it reflects the current condition of a society. Music can communicate conditions, but also challenge current circumstances within a society: Brazilian music "*has to do with our never-ending hope of a better country*" (M, 21 years, Brazil) or "*we listen to sad music that reflects [...] our country's reality*" (M, 25 years, Brazil).

Cultural expressions deliver an image of a culture to the inside of the culture and to the rest of the world. Brazilian music in particular seems to be a projector of a Brazilian image to the outside world: "*The image of Brazil to the outside is projected by music*" (F, 20 years, Brazil). The interconnectedness of Brazil and Brazilian music was highlighted by another participant: "*In Brazil, music is everywhere [...] Samba being the national musical style is used as an adjective for many things [...] It's hard to imagine Brazil without the samba and drums and music*" (M, 29 years, Brazil). The responses in study 5a indicate that the culture expressive function of music is occurring with particular intensity in Brazil (McCann, 2002; Shaw, 1999; Vianna, 1999). However, research suggests that every culture is represented by its music and that its

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[32] Maori are the indigenous peoples in New Zealand. Te Reo Maori is the indigenous Maori language; Tikanga are Maori customs and traditions; Tupuna are ancestors in Maori language.

people use music to articulate and construct their cultural identity (DeNora, 2000; Frith, 1996; Merriam, 1964), as discussed in Chapter Two.

Music, attitudes and values. Music can have an impact on the development of people's attitudes and values. Once values and attitudes have developed, individuals also use music to express their values and attitudes. First, general attitudes can be expressed and influenced by music, as highlighted by a participant from Brazil, "*music influences a lot of my [...] attitudes*" (M, 19 years) or a participant from New Zealand said that "*liking a particular sound or band was a way of saying [...] what you stood for*" (F, 31 years). Furthermore, music can help developing and expressing personal values. For instance, for a participant from New Zealand music "*was very important, as I grew up and developed my own values*" (M, 41 years) or for a participant from England "*music was very important for developing own values*" (M, 16 years). A particular music style had been set into connection with a distinct set of values that were transmitted by the music style, as stated by a participant from Germany: "*A lot of social values were communicated especially in Hardcore music in the 1990s. Friendship, trust, the ability to take criticism, considerateness*" (M, 26 years). Chapter Two elaborated on this function in detail. The reoccurrence of the value-expression in music styles in spontaneous expressions of music fans emphases the significance of this function.

Furthermore, certain songs or genre can articulate political messages, which overlap with the political attitudes of the listener, who see their music preferences as "*political statement*" (F, 52 years, New Zealand) and "*a way of political engagement*" (M, 48 years, Brazil). The overlap between political attitudes held by the listener and carried in song lyrics was pointed out by a participant from the USA: "*Music is often political. I usually listen to music that at least goes somewhat with my politic beliefs*" (M, 20 years).

Music for inspiration and personal development. Despite the direct notions of music contributing to identity and attitudes, I identified another facet that is linked to individuals' development, as a German participant emphasised: "*music is ... a huge enrichment for your whole life. Music can make you wise – I don't know where I would be today without Beethoven*" (F, 33 years). The inspiring role of music can either be very general or a precise contribution of an artist or band, may it be Beethoven for the German participant or the band Nile for a participant from Singapore: "*My interest in classical history and mythology (which is also my major) was sparked by the band*

Nile" (M, 19 years). Thus, music is an inspiration and has a positive influence in cognitive aspects as well as in social life. In the first domain, participants stated that music "*encourages my thoughts*" (F, 14 years, Germany) and is "*broadening my experience and giving me infinite food for thought*" (M, 25 years, USA). In the second domain, social skills are transmitted by music, as highlighted by a participant from Singapore: "*As a result of [...] listening to a relatively wide range of music, I tend to approach problems with a more open mind, as well as appreciate the more subtle nuances in conversation*" (M, 18 years). Another participant also learned social skills from music: "*Music helps me [...] to have empathy with other's thoughts*" (F, 14 years, Germany). Therefore, music can inspire, broaden horizons, guide the listener and, thus, affect individual's development in a positive way. A participant from Germany strengthened this argument by saying that music "*has to do with curiosity and learning and development...looking/listening beyond one's own nose*" (33 years, gender not stated).

Baacke (2002) identified a similar function of music as a 'stimulant for aspirations'. Although research directly targeting this function of music is rare, many scholars mention the positive influence of music on personal development (DeNora, 2000; Frith, 1987; Hargreaves & North, 1999; Merriam, 1964).

In summary, music is used as a vehicle for identity development (MacDonald, Miell, & Wilson, 2005). The identity related functions of music encompass the expression and influence of listeners' personal development by being associated with individual identity, values and attitudes, social identity and cultural identity.

7. Social Bond through Music. The last function of music is the supporting role of music for social bonding with friends or family. It encompasses five sub-functions which are described in detail.

Music as common interest. Listening to music "*allowed [...] to have common interests*" (M, 27 years, New Zealand) and music provides a "*common topic to talk about*" (M, 17 years, Singapore) with family, "*friends and strangers*" (F, 20 years, New Zealand). If music is a salient theme among friends, "*conversation tends to be dominated by music - particularly good songs/artists we've heard, particularly bad, latest gigs, lyrics*" (F, 21 years, New Zealand). In this sub-function music as common interest and topic to talk about was objectively described and no deeper connection to the bonding aspect was determined.

Music as social activity. Many musical activities can be enjoyed together with friends and family, such as listening to music, or going to concerts. In summary, music is an activity which helps people to "*socialise*" (M, 30 years, Brazil), or as a participant from Finland noticed, "*concerts and records was the way for my and friends to get together [...] also spent a lot of time listening to music*" (M, 35 years). Music takes a more central role here compared to the social background functions of music; participants actively listen to music with their friends: "*we all listen to music together, and share with each other, and this helps me to find out about music I otherwise wouldn't hear*" (F, 15 years, England). The collective experience, time spent together and the shared emotionality is a special feature of music that is incomparable: "*It makes us groove to the music (when we like the tunes) and it gets us hyper. That cheers us up a lot. We also spend lots of time at music stores*" (F, 17 years, Singapore). A participant from New Zealand pointed out the distinction between the social background function and the active social function of music when describing the meaning of music when hanging out with friends: "*predominantly it would be background noise. However some friends I go to gigs with and so music is much more to the fore*" (M, 29 years).

Some participants describe music as an essential part of their family life. Especially on holidays, like Christmas, and at "*family parties*" (F, 14 Germany), music seems important for families. Music can appear as a regular family entertainment, as mentioned by a participant from Hong Kong, "*going to music concert is a good family social entertainment for us*" (F, 24 years). A participant from Germany described a typical Christmas in her family where "*everyone [...] plays an instrument and, e.g., at Christmas there is always the big concert*" (F, 16 years). Music underpins family events and strengthens the experience of these special moments. It seems viable that events with friends or family may be anchored in memory through these musical activities, which indicates a link to the shared memory function of music as described above.

Music creates unity. If the taste in music is shared among friends, musical activities can obtain great significance as shared experience and as indicator for similarity. In this case music can create a special bond and unity among friends, as expressed by a participant from Germany, who "*lived these moments of true connection. You felt truly united and as one*" when listening to music with friends (F, 30 years). A participant from Romania mentioned that listening to music "*gave me a feeling of togetherness with my friends*" (F, 29 years). The bonding character of shared

music taste is unique given it is "*the expression of our shared preferences and our commonality"* (F, 14 years, Germany) and it *"helps us bond in a way that nothing else can"* (M, 17 years, US).

If music is an important family activity it can *"foster better relations"* (M, 37 years, Malaysia) and bonds within families. As stated by two participants from Brazil, *"to me and my daughter it's our bond"* (F, 32 years) and *"music help us to have family integration"* (M, 48 years). The bonding impact of music was even more pronounced by a participant from Germany, who says that *"our shared music taste holds our family together"* (F, 17 years). Shared music taste seems to be important aspect, given that the attitude towards a particular music or song needs to be shared. This sharedness can be an implicit indicator for a shared understanding of emotionality and meaning of this particular music. However, in few cases indifference in music taste were used in a communicative way, as a participant from the US highlighted: *"As a family our musical preferences help us understand our differences"* (M, 17 years). Here, differences between family members are transmitted by music taste, which stimulates discussion and exchange within the family.

Music as reason or barrier for friendship. In the social context of friends, shared music taste can be a reason for friendship. In this particular case, the friendship starts when people realize their shared music preferences. Music unifies a circle of friends, whose friendships developed upon music, as stated by a participant from England: *"Most of my friends are a result of music"* (M, 18 years). A New Zealand participant stated that music in general is *"allowing me to have more friends"* (M, 27 years, New Zealand). Similarity in music taste can actuate friendships as highlighted by a participant from England: *"also it helps me to form friendships with people through similar musical likes"* (F, 17 years). Therefore, music can *"influence [...] who my friends were"* (M, 28 years, Bermuda). On the opposite side, if music preferences are not shared within a circle of friends or a family, music can be a barrier for the relationship, as suggested by a participant from Canada, who *"can't stand the music my friends listen to [...] so I suppose music is like a barrier between me and them"* (F, 14 years).

In summary, it depends on the degree that music taste is shared as to whether or not music is significant in the social context of friendship. Interestingly, some participants have two circles of friends, one they share music preferences with, and one with whom they do not share music preferences. In the first case, music is of high

importance and in the second case, it is not important for the relationship. A participant from Germany pointed out that music plays "*a little [role] as most of them don't understand my attitudes towards music but there are also some [friends] I only get along with due to music because they think the same way as I do*" (F, 16 years). Likewise, a participant from New Zealand described how the role of music gradually increases from 'only' background, to an activity together, to being the reason for friendship. This process depends of the similarity of music tastes among friends: "*Generally [music means] not much, predominantly it would be background noise. However some friends I go to gigs with and so music is much more to the fore, and in some cases has been the main reason for my friendship*" (M, 29 years). The interconnectedness of sub-functions becomes apparent in the latter quote, which elicits a need for further elaboration on the interrelatedness.

Meeting new people through music. Many musical events facilitate meeting and getting to know new people. The topic of music can be an "*ice breaker*" (M, 20 years, US) for conversations. Furthermore, learning about a person's musical preferences helps to make inferences about this person's personality, character, or way of thinking, which was highlighted by a participant from Brazil: music "*is the way people connect. Sometimes listening to music is a way to know people before you even become their friends. When I'd meet someone I'd always ask what kind of music they are into. That immediately gives me some information about their personality*" (M, 29 years). Information that is transmitted to others by music preferences can be values, attitudes and identities that are expressed by music as described in the previous function of music (Music as Reflection of Self). The information that one receives through the music preference of another person gives insight of the similarity to this person. A participant from Germany stated that "*through music I get to know other people, who think the way I'm thinking*" (F, 13 years).

Psychological investigation to the social bonding function of music started rather recently. Chapter Three provided a comprehensive review of the literature on this function. The current qualitative analysis revealed intriguing insights into the diversity of facets and the intertwined mechanisms regarding social bonding through music. For instance, being aware that music in general connects people helps to bridge connections between people and develop friendships. This was highlighted by two participants: "*Music allowed me to have common interests with people, allowing me to have more friends*" (M, 28 years, New Zealand), and "*I think through music you may relate to*

others better, as you may find things (in this case musical tastes) you have in common with each other [...] it creates a stronger bond if there are bands both or all of you like" (M, 20 years, Netherlands). Furthermore, the regular engagement in and enjoyment of musical activities with family members and friends makes the bonding through music likely. Thus, the relatedness of sub-functions becomes apparent and should be further addressed (see Analysis 3).

In summary, in this multicultural qualitative study I identified seven functions that provide a holistic model for functions of music listening. These seven main functions of music are not new discoveries. They have been described and analysed in previous psychological, sociological and anthropological literature (see Table 24, p. 176), but - to the best of my knowledge - have not been compiled within one holistic model of functions of music. The novel contribution of the proposed model is the incorporation of a holistic range of functions and the more balanced coverage of social elements compared to previous models. Study 5b will examine the cross-method validity of the proposed seven functions of music. However, first I explore possible systematic cultural variations in the proposed functions of music and the underlying structure of the seven functions of music.

Analysis 2: Categorical pattern of functions of music across cultural groups
    The prevalence of functions of music listening at three levels. The first question was concerned with the most prevalent functions of music listening at each level of questioning. The occurrence of the main functions at the individual, social and cultural level of musical experiences are presented in Table 25. At the individual level, participants listed the self-regulation function of music most frequently. The second most salient function at the individual level was the emotional function of music followed by identity expression through music. At the social level of musical experience, the social bonding function of music was as expected the most salient function in the overall sample. The second most salient function at the social level was the diversion function followed by the background function. Concerning the cultural meaning of music, the most frequently mentioned functions of music were the expression of (cultural) identity and music as a means of diversion.
    These findings support the expectation that questions at each level of musical experience would elicit the functions of music listening with the respective focus. The

results suggest that music serves different functions at different levels of experience. The Chi square tests compared the prevalence of functions across the three levels of musical experience. The results indicate that all functions except the diversion function of music differ with regard to the level of experiences in which they occur (see Table 25). The strongest cross-level difference occurred for the social bonding functions of music. The subsequent question is, whether there are cultural variations in these identified patterns[33].

Table 25

Prevalence of seven functions of music listening at three levels of musical experience (Study 5a; Percentage of occurrence in responses; N = 222)

Function of music	individual experience	social experience	cultural experience	*Chi-square* df = 2
Background	12%	17%	6%	9.24**
Memories	9%	6%	1%	8.82*
Diversion	22%	18%	21%	1.65
Emotion	27%	7%	8%	44.85***
Self-regulation	36%	6%	8%	85.87***
Identity	22%	6%	32%	42.03***
Social Bond	6%	34%	5%	91.18***

Note. $* p < 0.05$, $** p < 0.01$, $*** p < 0.001$; Significance (2-sided)

The prevalence of functions of music listening across cultural groups. Focusing on the individual-level question first, there were two statistically meaningful cultural variations in the appearance of music as a trigger of memories and emotions (Table 26). More non-Anglophone Western participants than participants from other cultural clusters pointed out that music listening evokes memories. A similar variation occurred across cultural groups in the emotional function of music: significantly more non-Anglophone Western participants than Anglophone Western, South-American and Asian participants mentioned the experience of emotional functions of music. This partially confirms that predominantly individually oriented functions are more salient for individuals from individualistic backgrounds. The explicit social function of music (social bonding) was not more salient in the collectivist sub-samples.

For both detected cross-cultural variations, however, it could be argued that these variations may due to the rather distinct demographic composition of the non-Anglophone Western sub-sample. This sub-sample was significantly younger than the other sub-samples ($F (3, 218) = 14.19$, $p < 0.001$; Table 23). In order to overcome the

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[33] I explored further demographical patterns in the prevalence of functions of music, i.e., gender and age. However, these factors are not focus of this thesis. Only few differences in gender and age were detected regarding the prevalence of functions of music (see Appendices C3 and C4).

incomparability of the sub-samples, I matched the sub-samples by dropping non-Anglophone Western participants under the age of 16. This reduced the non-Anglophone Western sample from 95 to 45 participants and there was no significant age difference between the sub-samples anymore (F (3,168) = 1.98, ns). I repeated the frequency analysis analogue to the analysis described above with the reduced non-Anglophone Western sub-sample. The repeated analysis revealed identical patterns of cultural differences and the same differences were significant (see Appendix C5). Hence, the higher prevalence of the emotional and reminiscence function was a feature specific to this more individualistic group of participants. Furthermore, the analysis suggests that the functions of music expressed by this sub-sample were not determined by participants' age. Thus, the analyses can be continued with the inclusion of the whole non-Anglophone Western sub-sample.

Table 26

Cross-cultural comparison of functions of music listening at the individual level

(Study 5a; Percentage of occurrence in responses; N = 222)

	Individualistic samples		Collectivistic samples		
Function of music	Western Anglophone $N = 49$	Western Non-Anglophone $N = 95$	Asian $N = 44$	South American $N = 34$	*Chi-square* df = 3
Background	8%	12%	19%	8%	5.16
Memories	4%	16%	6%	4%	12.00**
Diversion	32%	21%	15%	24%	6.35
Emotion	21%	41%	12%	20%	25.09***
Self-regulation	27%	43%	33%	33%	6.62
Identity	20%	21%	29%	20%	2.44
Social Bond	12%	5%	1%	6%	7.21

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Significance (2-sided)

Table 27

Cross-cultural comparison of functions of music listening at the social level

(Study 5a; Percentage of occurrence in responses; N = 114)

	Individualistic samples		Collectivistic samples		
Function of music	Western Anglophone $N = 22$	Western Non-Anglophone $N = 56$	Asian $N = 19$	South American $N = 17$	*Chi-square* df = 3
Background	16%	15%	24%	18%	1.51
Memories	2%	6%	8%	9%	1.77
Diversion	11%	13%	29%	29%	9.02*
Emotion	9%	8%	5%	3%	1.51
Self-regulation	7%	6%	3%	6%	0.83
Identity	9%	4%	3%	12%	4.88
Social Bond	36%	35%	32%	29%	0.56

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Significance (2-sided)

Concerning questions at the social level, systematic cultural variation occurred regarding music as a means of diversion in social settings (Table 27). Asian and South-American participants mentioned this function significantly more often than Western sub-samples. Collectivist participants use music more frequently than individualistic participants do as a means to feel good, for dancing and entertainment in social settings with their friends and family. Again, the social bonding function was not more prevalent in the collectivist sub-samples.

Finally, the analyses of culture-level questions revealed two major differences across groups (Table 28). First, music as a form of diversion was most prevalent among South-American participants. Second, music serves emotional functions at the cultural level more frequently in the South-American context: 29% of South-American participants pointed out the emotional function of music in their culture compared to only 7%, 3% and 4% of Western Anglophone, Western non-Anglophone, and Asian participants, respectively. The high prevalence of these functions in the South-American sub-sample may be due to the strong cultural association of music with dancing and expressing emotions through dancing. This was highlighted by a number of participants from Brazil, as for instance by a Brazilian, who stated "*Music is very important in Brazil, as we are very connected to the idea of dancing as an expression of happiness*" (F, 29 years).

Table 28

Cross-cultural comparison of functions of music listening at the cultural level

(Study 5a; Percentage of occurrence in responses; N = 108)

Function of music	Individualistic samples		Collectivistic samples		
	Western Anglophone $N = 27$	Western Non-Anglophone $N = 39$	Asian $N = 25$	South American $N = 17$	*Chi-square* df = 3
Background	11%	5%	0%	6%	3.08
Memories	0%	0%	0%	6%	5.40
Diversion	30%	10%	16%	41%	8.38*
Emotion	7%	3%	4%	29%	12.23*
Self-regulation	7%	3%	12%	18%	4.10
Identity	44%	23%	32%	35%	3.40
Social Bond	11%	5%	0%	0%	4.63

Note. $* p < 0.05$, $** p < 0.01$, $*** p < 0.001$; Significance (2-sided)

In summary, the quantitative analyses revealed consistent cross-cultural similarities as well as differences in the salience of functions of music listening at the three investigated levels. The self-regulation function was among the most important personal use of music; bonding was the most important social use of music; and the

expression of cultural identity was the most salient cultural function of music regardless of the cultural background of the listener. Apart from these similarities, which point towards universalities in functions of music listening, frequency analyses also revealed cross-cultural differences in the responses of the participants.

Analysis 3: Structure of functions of music: Multidimensional Scaling

The third aim of Study 5a was to investigate the underlying structure of functions of music. For this purpose, the proximities of the occurrence of 28 sub-functions of music were examined using MDS. MDS revealed a two-dimensional solution, which provides a meaningful configuration of 28 functions of music. The fit measures of the two-dimensional solution indicated sufficient fit (Normalized Raw Stress = 0.04, Stress-I = 0.20, Stress-II = 0.33, S-Stress = 0.08). Furthermore, the stress decomposition suggested that the two-dimensional solution represented the present data best.

Figure 12 displays the graphical configuration derived from MDS. The horizontal dimension 1 represents the two poles of pleasure vs. contemplation, which can be interpreted as a continuum of pure pleasure oriented functions (enjoyment, dancing, and relaxation) and deliberating functions of music (e.g., expression of personal identity, regulation of emotions, and sorrow healing). The vertical dimension 2 represents the two poles of music for self-focussed purposes vs. music as social activity. This dimension spans the continuum of personal experiences with music (for instance, music for relaxation, expression of emotions or to ease sorrows) and social experiences of music (such, as music as a conjoint activity, shared interest or for setting atmosphere in social settings).

The aim of the MDS was to get a first insight into how the 28 functions of music may be configured. Further analyses and additional methodological approaches are required to make generalising claims about the structure of functions of music. This will be attempted by looking at the structure of a newly developed scale that measures functions of music (see Study 6).
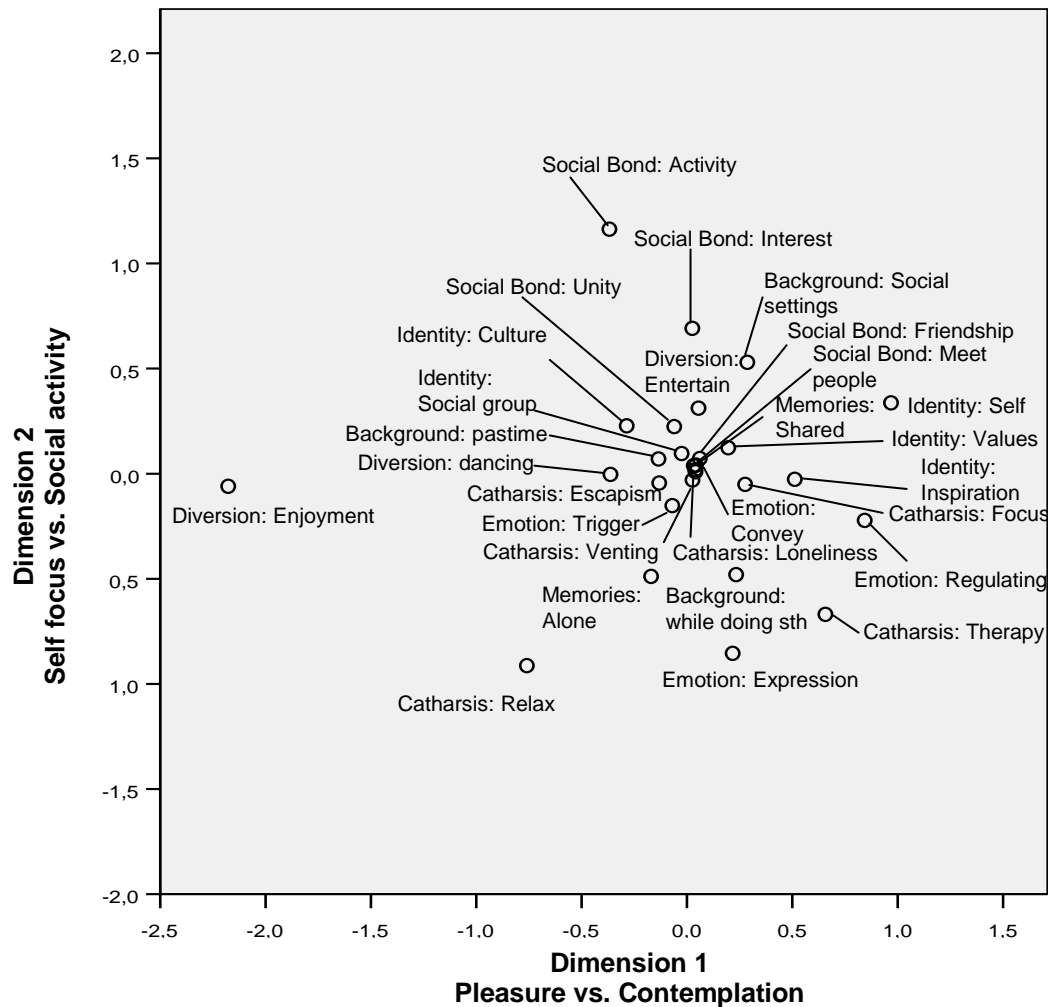
Figure 12. Two-dimensional solution of 28 functions of music (Study 5a; PROXCAL MDS; *N* = 222)

Discussion of Study 5a

Summary and conclusion

In the culturally decentred qualitative study 5a, I identified seven functions that provide a holistic model for functions of music listening: background, memories, diversion, emotions, self-regulation, reflection of self and social bonding. The self-regulation function was among the most important personal use of music; bonding was the most important social use of music; and the expression of cultural identity was the most salient cultural function of music regardless of the cultural background of the listener. Interestingly, collectivistic and individualistic sub-samples mentioned the social bonding functions with similar frequency at all three levels. These similarities point towards universalities in functions of music listening. However, cross-cultural differences were also revealed in the analyses: Western non-Anglophone participants

showed a higher personal use of the emotional and reminiscence function; collectivist participants use music more frequently as a means to feel good, for dancing and entertainment in social settings; and the South-American sub-sample mentioned the cultural use of music for dancing and as diversion more frequently. The quantitative analyses revealed consistent cross-cultural similarities as well as differences in the salience of the seven functions of music listening at the three investigated levels.

The proposed model incorporates a balanced coverage of individual and social elements compared to previous models. These social elements occurred in musical functions regarding background music, autobiographical memories, dancing, in the reflection of self, and, naturally, in social bonding with family and friends. Additionally, cultural/socio-cultural elements in functions of music were elicited, such as the reflection of cultural identity in music and political attitudes expressed in music.

The MDS uncovered two underlying dimensions of functions of music representing music for pleasure vs. contemplation and personal vs. social focussed utilisation. The two-dimensional configuration of functions of music spans four quadrants. These quadrants represent functions of music with personal pleasure, personal contemplation, social pleasure and social contemplation facets. The position of the 28 sub-functions in these four quadrants may give a first insight in the appropriateness of the categorisation into seven main functions. The three background sub-functions and the two memory sub-functions span from more self-focussed to more socially oriented functions. However, memory and background functions do not show much dispersion on the pleasure – contemplation axis. On the one hand this supports the previous argument that music is not in the centre of attention regarding the background function. On the other hand, this low dispersion for the reminiscence function suggests that memories are triggered by music unintentionally in most cases.

The three diversion sub-functions are positioned in the pleasure and social oriented quadrant. The diversion function implied dancing, enjoyment and entertainment through music emphasising music as pleasurable and social activity. The four emotional sub-functions of music are located in the personal contemplation quadrant. The six self-regulation sub-functions of music are situated in the self-focussed quadrants, spanning from personal pleasure (relaxation) to personal contemplation (therapeutic function). The positions of emotional and self-regulation sub-functions of music emphasise the individual focus of these two main functions of

music. Interestingly, most of the self-focussed sub-functions in study 5a seem to be more contemplation oriented.

The five sub-functions of identity (reflection of self) are positioned in the social quadrants, mostly focussing on contemplation (self-identity, inspiration, values) but also representing slightly more pleasure oriented functions (cultural identity). Cultural identity in music seems to be associated with positive affect, hence its position in the pleasure quadrant. The social bonding sub-functions of music are located in the social quadrant with slight tendency towards pleasure-oriented meaning. Hence, the functions of music with a strong social focus – reflection of self and social bonding - expanded across pleasure and contemplation quadrants. Previous studies in this thesis investigated the function of reflection of self and social bonding in detail. The social bonding model of value-expressive music preferences proposed in Chapter Three connects social contemplation functions and social pleasure functions of music, advancing research on social functions of music.

The 28 sub-functions of music are located in a meaningful way representing seven main functions. However, one could argue that the two-dimensional space legitimates alternative categorisations of sub-functions of music, for instance, according to the four quadrants. Nevertheless, the main point taking from this study is that seven functions of music provide a holistic and well-balanced picture of musical functioning. Study 6 will further elaborate on the dimensionality of functions of music. However before I proceed to validate the proposed seven functions of music, some limitations in Study 5a need to be discussed.

Limitations

The results of study 5a may be confounded by five types of limitations: a) the induction of functions by questions, b) the consequences of multiple codes on interrelatedness of functions in the quantification of responses, c) issues in subjectivity that qualitative data faces, d) participants answering the question in their second or third language may not have been able to express subtle nuances of musical experiences, and e) limited representativeness of the sampled population.

Addressing the first possible limitation, the open-ended questions may have induced the emergence of specific functions of music. The inclusion of a research question partly addressed this issue. For instance, it was remarkable that social identity and personal identity were mentioned numerous times in answers to the questions

regarding the meaning of music for the individual, the social and the culture, respectively. This countervails the argument that three kinds of identities expressed in music may have only appeared because the questions were regarding these three levels. However, I acknowledge that the induction by questions may partially be present.

The second issue is related to shortcomings in the quantitative coding based on multiple categories in nominal data with subsequent consequences for interrelatedness of functions of music. Each response was categorised according to the identified functions and sub-functions of music. Given that responses varied in length - some responses were quite short, whereas others comprised of a whole paragraph - responses could encompass a variety of functions and sub-functions. Consequently, a longer response could receive coding for several functions and sub-functions, which introduces an interrelatedness of functions. This interrelatedness might either be causal, if the conjoined mentioned functions of music are based on shared underlying processes, or it could be coincidental, for instance, if a range of functions of music came across participants' minds in a random fashion. However, research on free associations and recall primacy suggests that related categories are recalled faster, because they share a unitized memory representation (e.g., Brooks, 1999; Nelson & Goodmon, 2002). This indicates that interrelated functions of music indeed were expressed in conjunction. The interrelatedness of functions of music is be mirrored in the MDS solution, which provides a geometrical picture of the binary coding.

The cultural similarities and differences as well as the exploration of the underlying dimensions of functions of music were conducted using quantitative methods instead of qualitative interpretative approaches, which reduced the impact of subjectivity to a minimum. Furthermore, the responses were coded blindly, so that interpretative biases regarding the demographic background of the respondents could be ruled out. Furthermore, the substantial interrater reliability suggested a substantial degree of objectivity/neutrality in the coding. Nevertheless, subjectivity could also be considered to be a limiting factor in this study, since it is a qualitative approach to the functions of music. Thus, this limiting factor is of an epistemological nature.

Study 5a was an exploratory study being the first to aim for a multicultural holistic picture of functions of music. Based on Study 5a, I developed an instrument measuring the functions of music, which bridges to another methodological approach (cf. Section 3). Thus, Study 6 will resolve concerns about subjectivity. Furthermore,

Study 6 further examines which functions of music are actually interrelated and which dimensions underlie these functions.

An additional issue is related to language. That is, the questionnaire was only available in two languages. Hence, an extended number of participants answered the question in a different language than their mother tongue. This may provoke the argument that these participants were not fully able to express subtle nuances of their musical experiences. I have argued that the English proficiency particularly in the sampled Asian regions is fairly high, hence language barriers are unlikely. However, this is not the case in the South American region. It might be the case that culture specific functions from this region were missed in the current study and are causing domain under-representation. Unexpectedly however, four Brazilian participants answered the questions in Portuguese instead of English. These responses were translated into English by two bi-linguals (one postgraduate student and one staff member). The responses from these four participants may have somewhat decreased the likelihood of domain under-representation, however, future research is required using native languages. For instance, research could employ indigenous approaches using native languages to further scrutinize subtle functions of music listening in this and other non-Western regions.

A further language issue may be present in the identified functions of music. These functions may be particular to the languages used for this research. Nevertheless, the bi-lingual approach used for this study advances common practises in model development. Furthermore, language sensitivity related to the identified functions of music is addressed in Study 6. In Study 6, I simultaneously developed three language versions of the instrument measuring functions of music.

The last shortcoming might be profound since it is constraining the proposed model in a methodological way. Multiple methodological issues discussed below will be addressed in the next Study 5b. There are four limiting methodological factors in study 5a. First, participants were a targeted sample of music lovers. Second, data was collected using an online survey. Thus, the targeted sample in Study 5a may be subject to self-selection due to a high affinity to the topic music and a pre-selection due to the internet affinity of participants. The third sampling issue concerns the age of participants who were targeted to be rather young in Study 5a, which could limit the applicability of the proposed model to this age group. In order to overcome these sampling issues, a further study should test the proposed model in an off-line sample of

a wider age range. The fourth limiting factor was the (well-defined) broad scope of musical experience in Study 5a, which may have induced certain sub-functions of music. Hence, I designed a further qualitative study asking a different set of questions regarding musical experiences, using a different methodology and sampling approach. Study 5b aims to validate the seven functions of music while addressing various limitations of Study 5a.

A QUALITATIVE VALIDATION OF THE FUNCTIONS OF MUSIC MODEL (STUDY 5b)

I tested in a second sample whether the proposed seven functions of music listening can be validated. For this purpose, an independent qualitative study was designed to further assess individuals' experiences with music. Study 5b addresses four limiting factors of Study 5a: participants were a general population convenience sample (compared to targeted music lovers and possible self-selection of participants in Study 5a); participants were sought to have a broader age range (vs. young participants in Study 5a); a paper-and-pencil format was used (vs. online survey in Study 5a); and additionally, Study 5b used a different set of questions about musical experiences, namely expected emotions and physical reaction to music (vs. a broad scope of musical experience in Study 5a). Study 5b was designed with the central premise that the reoccurrence of seven functions of music would validate the existence of those functions, independent of method and sample.

Method

Participants

Participants were 74 persons of the general population who were randomly approached in the city centre of Wellington, New Zealand, and invited to participate in the study. Participants were aged 30.57 ($SD = 12.08$); 49 percent were female. The majority of the participants were born in New Zealand (63%), 20.5% were born in other Anglophone countries, like Australia, the UK or the USA, and the remaining 16.5 percent came from other countries, such as Greece, Spain, Kuwait and Korea.

Questionnaire and analytical strategy

The participants were asked two questions: first, to describe the emotions that the thought of listening to music arouses; and second, to specifically write down, what physical reaction would occur while listing to music. These questions focus on the anticipated reactions and expected effects of listening to music. Despite the different frame of the questions in Study 5b, I expected the occurrence of all seven functions of music if they are relevant functions of music. The study was conducted in English.

In the results section, I report the percentage of participants who mentioned the respective function of music in their responses to the two questions which were merged in order to enhance reliability (cf. Study 5a). Beyond the qualitative reoccurrence of functions of music in Study 5b, I aimed to compare the percentaged occurrence of functions of music between Study 5b and Study 5a. Comparisons to the quantified findings in Study 5a are somewhat limited given the different nature of the questions. However, the third question in Study 5a targeted a situational evaluation of feelings, thoughts and activities while listening to music (*Think about one specific situation when you were listening to music in the last 3 days. Please describe what you thought, felt and did in that situation.*). Thus, the question targeting situational reaction to music in Study 5a is somewhat comparable to the questions asked in Study 5b targeting expected reaction to music.

The responses were categorised according to the seven main functions of music listening presented in Study 5a. I categorised the responses and in order to establish interrater reliability, a postgraduate student coded 50% of the responses. Interrater agreement was assessed analogue to the procedure in Study 5a. The average interrater agreement for the coding of Study 5b was acceptable ($k = 0.65$) ranging from moderate agreement for the self-regulation function ($k = 0.41$) to outstanding agreement for the background, memory and social bonding function ($k = 1.0$).

Results and Discussion

All seven main functions of music were reflected in the responses of participants in Study 5b. The frequencies of theme occurrence ranged from 2 percent for the background function to 58 percent for the self-regulation function of music (Table 29). Participants mentioned the *Self-regulation function* recurrently (58% of all participants) as music helps to relax, to relieve stress, energised, or as escapism (e.g., "*being able to separate myself from the hustle and bustle of everyday life*", F, 39 years,

New Zealander). The *Diversion function* of music reappeared in 39% of the responses in terms of *enjoyment* and the desire to *dance*. Participants' responses clearly emphasised a range of feelings that the *Emotional function* of music epitomises (37% of the responses), such as "*happiness, sadness, excitement, loss*", as stated by a participant from Fiji (M, 22 years). Furthermore, a number of physical reactions were described, such as an increased or decreased heart rate, finger tapping, or smiling. The function of *Music as expression of self* was sporadically mentioned in 10% of the responses as a source of *curiosity*, *inspiration* and *guidance* in life. The *Reminiscence function* occurred in 9% of the responses. In 3% of the responses, participants stated a feeling of connectedness and friendship when listening to music representing the *Social bonding function*. A limited number of participants (2% of responses) stated that they listen to *Music in the background* while being occupied by other activities.

The percentaged occurrence of seven main functions of music in Study 5b[34] and Study 5a (situational reaction to music) were compared (see Table 29). The questions in both studies revealed similar distribution of musical functioning: the frequency analysis revealed only marginal differences between expected reactions to music (Study 5b) and situational reactions to music (Study 5a). The higher frequency of diversion and self-regulation functions in Study 5b suggests that individuals expect more enjoyment and therapeutic effects from music listening than the actual listening can provide. Contrary, one may argue that the differences in the occurrence may be subject to induction by questions given that these functions were targeted in Study 5b. Anyway, diversion, emotion and self-regulation were the most frequently occurring functions of music in both studies (Table 29).

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[34] I conducted additional categorical comparisons in the responses to Study 5b in order to rule out demographic factors in the responses. No gender differences in the responses to the two questions were found based on Chi-square tests. Despite the fact that cultural differences could not be validly assesses with this data set due to little cultural variability, I compared participants from English speaking regions with participants from non-English speaking regions. Only one difference occurred being that memories (as a physical reaction, question 2) occurred significantly more frequent in the non-English speaking sub-sample than in English speaking participants. Finally, I compared the functions of music aroused in the responses to the two questions in Study 5b. The diversion function of music occurred more frequently in responses to the emotional question as an expectation of music to bring joy and pleasure. The emotional function was reported more frequently in responses to the question concerned with the expected physical reaction of music, given that triggering physical emotional reactions is part of this function.

Table 29

Functions of music in Studies 5a and 5b (percentage of occurrence in responses)

Function of music	Study 5a (situational reaction) N = 108	Study 5b (expected reaction) N = 74	*Chi-square* df = 1
Background	7 %	2 %	2.30
Memories	13 %	9 %	0.42
Diversion	25 %	39 %	4.32*
Emotion	31 %	37 %	0.81
Self-regulation	33 %	58 %	13.59***
Identity	6 %	10 %	1.15
Social Bond	3 %	3 %	0.00

Note. * $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$; Asymptotic Significance (2-sided)

However, two shortcomings in Study 5b need to be addressed. First, the reoccurrence of seven main functions of music was addressed in Study 5b, although one could argue that the reoccurrence of 28 sub-functions of music would have provided a more convincing validation. Unfortunately, the number of participants did not allow such refined validation considering that the participants-variable ratio of 2.64:1 would be too low compared to a minimum ratio of 5:1 (Gorsuch, 1983) or the recommended ratio of 10:1 (Thorndike, 1978). Thus, the inclusion of seven main functions in the qualitative validation seemed more appropriate from a methodological point of view.

Second, I merely reported functions of music that reoccurred in the responses, however, new functions of music may have been asserted by participants. As the frame of Study 5b largely diverged from the approach in Study 5a, one might expect new themes to emerge. However, this was only to a limited extent the case. More precisely, I identified one so far unconsidered facet: music as a means of worshiping and spirituality. A participant responded to the first question: "*I mostly listen to music to worship God so the thought of [listening to music] gives me peace and excites me*" (F, 19 years, New Zealand). I reassessed the qualitative responses in Study 5a searching for the occurrence of a comparable theme. I conducted a word search in the data set of Study 5a for the terms 'god', 'spirituality', 'religion' and 'religious'. Interestingly, only the term 'religion' occurred once in a response from a Singaporean participant who stated: "*Chinese album - the singer says human get re-born in countless lives […] As Buddhists, we believe in re-birth. I never thought I would hear a singer bare his soul in a pop album, much less his religion in Chinese album*" (M, 39 years). Although the use of music for religious purposes seems a fascinating aspect, the low salience of this

function is remarkable. Similar functions have been identified in previous research. For instance, Sloboda, O'Neill, and Ivaldi (2001) identified the *transcendent* function of music and Merriam (1964) suggested the *function of validating social institutions and religious rituals* by music.

Despite the fact that the spirituality and religious function of music has been identified in previous research, only two participants out of 296 (in Study 5a and 5b) mentioned any connection between music and their religious beliefs. The results of Study 5 suggest that this function does not seem salient among the multicultural participants. However, this function is not entirely missing in the proposed seven function model, as it is implicitly included in the value and attitude expression function of music (sub-function of reflection of self) and in the social bonding function. Religious beliefs have an inevitably influence on individuals' values as they are guiding principles in life (Schwartz, 1992). If values are expressed through music as described earlier, religious beliefs are represented in this respective sub-function of music. Furthermore, in religious ceremonies music is often used to unite the participants and provide expression of their sharedness. These facets are covered in the social bonding functions of music.

In summary, the seven functions of music listening reoccurred in an independent sample in Study 5b. The reoccurrence of functions was supported by a substantial interrater agreement indicating cross-method evidence of the validity of these functions. Further evidence for the validity of these functions is established in the next section, where I develop and validate an inventory measuring the proposed functions of music.

The current section investigates the functions of music listening in a quantitative approach. Due to the lack of (appropriate) measurements for functions of music, I aimed to develop the instrument based on the identified functions in Study 5. According to the three levels of musical experience captured, the instrument is called Rating of Experienced Social, PErsonal and Cultural Themes of MUSIC functions (RESPECT-MUSIC). Given that the number of sub-functions identified in Study 5a was high, the development of a brief scale, which captures the essence of each main function or selected sub-functions, was desired. Therefore, I aimed to develop and validate an instrument measuring a selected number of identified functions of music, which would be reliable and applicable across cultures. In Study 6, I developed and tested three language versions (English, Spanish and German) of RESPECT-MUSIC in samples from the Anglo-Saxon region (mainly New Zealand), Latin American region (mainly Mexico), and German speaking region (mainly Germany).

The research objectives of Study 6 are three-fold: first, to select an appropriate number of items for a brief inventory, second to assess the factor structure and structural equivalence across three culturally diverse samples, and third, to explore the underlying dimensions of functions of music listening. Additionally, the mean levels of functions of music listening were compared across three samples. In the following paragraph, I describe the item generation and instrument development process. Then, I proceed with the validation of the newly developed instrument.

DEVELOPMENT OF RESPECT-MUSIC
Item generation for the RESPECT-MUSIC inventory

Based on the qualitative responses in Study 5a, I generated 4 to 15 items in English for each main function of music depending on the number of sub-functions. I extracted items directly from responses or generated items summarizing responses. The clarity and content validity of the initial 229 items was assessed in a multicultural committee approach (Beck, Bernal, & Froman, 2003) with postgraduate students ($N = 7$; one participant each from Sweden, Hong Kong, and Estonia, 2 from New Zealand, and 2 from Germany). The committee session included three tasks: 1) an open commentary task regarding the clarity of items and general translatability into

participants' native languages, 2) a free sorting task in which couples of participants were asked to categorise items according to content similarity, and 3) the selection of the most appropriate response scale for measuring functions of music listening using the given items.

The committee approach yielded 74 items covering seven main functions of music and 25 sub-functions of music (Table 30). Based on suggestions by the committee, three sub-functions were not included, because they did not appear as a clearly phrased and distinct sub-domain (background - pastime, emotion - expression and social bonding - meeting new people). Several sub-functions were merged as they seemed closely related to each other, such as entertainment and enjoyment in the main function diversion, values and positive development in the main function reflection of self, and common interest and social activity in the main function social bonding. Political attitudes in music were suggested to be detached from values in music. Hence, political attitudes in music appeared as a single sub-function. Furthermore, the committee suggested dividing the social bonding function of music into two segments: social bonding with friends and social bonding within the family. Although the psychological processes might be similar, the context of these two social functions shall be considered separately. The committee perceived the 74 items as clearly phrased and to hold face validity.

The third aim was to identify the most appropriate instruction and response scale to measure general functions of music listening using the initial items. I introduced the instruction and three alternative response scales to the committee:

Instruction: In the following section, we are interested in how you experience and use music in everyday life.

Response scale 1: Please indicate the degree you agree or disagree with each of the following statements about music (1 - strongly disagree; 7 - strongly agree),

Response scale 2: Please indicate how often you experience, feel like or use each of the following statement about music (1 – never; 7 – always),

Response scale 3: Please indicate the degree to which each of the following statements apply to your experience with music from "1 – not at all" to "7 – to a great extent".

The committee agreed that the last option was the most appropriate response scale for RESPECT-MUSIC.

Table 30

Initial 74 items selected to capture functions of music listening

Background	Self-regulation	Memories	Social bonding
Background music as sideline activity Whatever I do, I listen to music in the background. I need music in the background while doing something else. In many situations I need music in the background. ***Background music on social settings*** Music in the background keeps the ambience warm and cosy when I meet my friends. Music sets the vibes when I hang out with my friends. Music creates a nice environment in social settings. **Diversion** ***Entertainment and Enjoyment*** Listening to music is a good way to entertain myself. I enjoy listening to music. Listening to music is a way to have fun. ***Dancing*** I like dancing to certain music. I like to go dancing, and the type of music is essential for this. Some music makes me want to dance. **Emotions** ***Convey emotions*** I believe good music should convey emotions. It's important to me that music transports feelings. Music is emotion flowing in sound. ***Trigger emotions*** Feelings conveyed in a song can make my heart melt. Some songs pluck my heartstrings. Some songs are so powerful that they are able to bring tears into my eyes. ***Regulate emotion*** I can indulge in my emotions listening to particular music. I use music to indulge in certain moods I'm in. Through music I can regulate my emotions. Music enhances the mood I'm in.	***Relaxation and stress relieve*** Music can be a great stress reliever. Music makes me calm. Music seems to reduce stress. ***Focus and energy*** Music gives me energy to go through the day. Music helps me to focus. Music gives me the spirit to go through activities and daily chores with much more energy and passion. Listening to music allows me to concentrate. I can keep my focus on a task while listening to the right music. ***Reduce loneliness*** Music gives me the feeling that there is someone who understands me. If a songs describes exactly how I feel, then I don't feel so lonely with my emotions anymore. Through music I know that somebody else feels the same emotions as I do. ***Escapism*** Music keeps my mind off the outside world. The right song and atmosphere can bring me a sense of detachment from this world. Music makes me forget about reality. ***Venting*** Music is a means of venting my frustration. Through listening to music I can let off steam. Music is what alleviates my frustration. ***Therapy*** Songs can give comfort to me when I'm sad. Music helps me to cope with crisis. Without music I couldn't cope with many life situations.	***Reminiscence alone*** Some pieces of music remind me of phases of my life. Listening to a particular song can remind me of past events. ***Reminiscence with friends*** Listening to music with friends is a way of sharing good old memories of our lives. Through music my friends and I can commemorate happy past moments together. **Reflection of Self** ***Individual identity*** For me music is a way of expressing myself. Music plays an important role in shaping and reflecting my personal identity. ***Social identity*** Through music I can belong to a group of people who like the same kind of music as I do. I share my lifestyle with other people who like the same kind of music. I identify with a particular music scene. ***Cultural identity*** Music is a reflection of a country's culture and history. The music of my country represents an image of my country to the outside world. The music in my country is part of building our identity. ***Values and development*** Somehow music steers my approach to life and my values. Music is very important in the process of developing my values. My personal development was positively influenced by music. ***Political attitudes*** I usually listen to music that goes somewhat with my political beliefs. Music plays an important role in my life as a means of political engagement. My favourite music is often political.	***Social bonding with friends*** *Social activity* The topic music comes up in conversations with my friends. Going to concerts and listening to records is a way for me and my friends to get together and relate to each other. I spent time listening to music with my friends. I meet with friends and listen to good music. *Creating unity* We live these moments of true connection when I listen to music or go to concerts with my friends. Music makes us - me and my friends - feel truly united and as one. It creates a stronger bond to friends if I share musical taste with them. *Reason for friendship* Music helps me to form friendships with people through similar musical taste. Music helps me to have more friends. In some cases music has been the main reason for my friendship with certain people. ***Social bonding in Family*** *Common interest and social activity* I like talking to my family about music. Music allows me to have a common interest with my family. I enjoy listening to music with my family/relatives. *Creating unity* Our shared music taste is something that brings my family together.

Translation of RESPECT-MUSIC

The initial RESPECT-MUSIC scale consisting of 74 items was translated from English into German and Spanish. These three languages are spoken in the Anglo-Saxon region, Western Europe and Latin America. These regions cover geographically and culturally distant regions as well as one generally collectivistic cultural group (Latin America) and two more individualistic cultural groups (Western Europe and Anglo Saxon regions). A German-speaking research assistant translated RESPECT-MUSIC into German. I subsequently proofread and corrected the translation if necessary. The validity of the translation was then confirmed and finalized in a committee approach including two bi-lingual post-graduates and an academic staff member. The translation into Spanish was conducted by three undergraduate students. They translated and back-translated the instrument. I examined the back-translation and provided comments regarding potential translation issues. The initial translation was then revised and finalized.

The three language versions of the initial RESPECT-MUSIC were administered to English, Spanish and German speaking audiences in an online survey in order to develop a brief reliable scale of functions of music listening.

METHOD

Data collection and participants

One-thousand-and-eighty-five participants took part in this study (see Appendix D5). I aimed to recruit a diverse sample for each language version. Hence, participants were recruited using two strategies (similar to the procedure in Study 2): a) online data collection and b) data collection at universities. Online data was collected by sending email invitations (snowballing approach) and posting the invitation to the survey in various online forums with a wide scope of interest. This multiple site entry technique aims to reduce self-selection bias, which may be an issue in online surveying (Reips, 2000). The link to the survey was available in three languages (English, Spanish, and German) on the webpage created for this project (http://www.jungdenkmusik.net). Furthermore, data was collected from students at three universities: Victoria University of Wellington in New Zealand, National Autonomus University of Mexico in Mexico, and at University of Leipzig in Germany.

Four-hundred-and-three participants filled in the English version of the survey. Their average age was 22 years ($SD = 6.91$), 46% of them were female and 77% were

students. The majority of the Anglophone sample came from New Zealand (70%), 11% from the USA, and the remainder lived in other countries. A minor number of participants (7%) did not state their age, gender, occupation and country of residence.

One-hundred-and-seventy-five participants filled in the Spanish version of the survey. Their average age was 22 years ($SD = 6.27$), 51% of them were female and the 69% were students. The majority of the Spanish-speaking sample came from Mexico (58%), 18% came from other Latin and South American countries, and 9% lived in Spain. A number of participants (20%) did not provide demographic information (gender, age, occupation, and country of residence).

Five-hundred-and-seven participants filled in the German version of the survey. Their average age was 24 years ($SD = 6.81$), 27% of them were female and the majority (62%) were students. The majority of the German-speaking sample came from Germany (84%), 4% came from Austria and Switzerland, and the remaining were Germans living in other countries. Ten percent of participants did not state their gender, age, occupation and country of residence.

The three samples differed significantly in age ($F (970) = 32.86$, $p < 0.001$) and gender (Chi-$Square (973) = 61.74$, $p = 0.001$) distribution.

Analytical strategy

The analytical strategy followed a series of factor analyses in order to assess the most appropriate factorial structure and to identify items that did not load clearly on factors. Considering that RESPECT-MUSIC is a new instrument exploratory factor analyses were conducted. In order to assess the factor structure Principal Component Analyses (PCA) were conducted on the pooled within-groups correlation matrix (cf. Study 2). Similar to the analysis in Study 2, pooled factor analysis was conducted as this approach adjusts for unequal samples sizes (Bond, 1988). I rotated the initial pooled factor solution with Varimax rotation in order to identify independent functions of music. Additionally, three criteria were used to evaluate the most appropriate factor structure: Scree-test (Cattell, 1966), the Kaiser rule (Eigenvalue above 1) and comparing multiple rotation techniques (Varimax and Oblique; Pedhauzer & Schmelkin, 1991). The analyses aimed to identify factors containing at least three items. The multiple criteria approach for determining the best factor solution and minimum items criterion aimed to ensure reliability of the identified dimensions.

Structural equivalence was investigated by applying procrustean target rotation. The rotated factor solution of the pooled within-groups correlation matrix was used as the target group (van de Vijver & Leung, 1997; cf. Study 1). For each sample, a PCA was conducted extracting the given number of factors and the solutions were then rotated towards the target group factor structure in order to assess the fit between them (van de Vijver & Leung, 1997). The agreement coefficient Tucker's Phi was examined as a statistical indicator of factor similarity.

Besides structural congruence of RESPECT-MUSIC, I examined the mean levels of functions of music in a comparison across the three samples using analysis of variance (ANOVA). Previous research demonstrated that age and gender of listeners may influence music preferences and potentially the functional use of music. Furthermore, the samples differed significantly with regard to age and gender distribution. Hence, age and gender were included as blocking variables in ANOVA[35]. Gender was entered as dummy code (male). I categorized participants into five age groups ($N = 971$ due to missing values), which were selected aiming for a (proximate) normal distribution of participants according to their age. The five age categories encompassed adolescents (age group 1, $N = 53$; participants under 17 years of age), late adolescents (age group 2, $N = 275$; 17 to 19 years), young adults (age group 3, $N = 399$; 20 to 24 years), adults (age group 4, $N = 185$; 25 to 34 years) and grown ups (age group 5, $N = 59$; over the age of 34). The analyses provide an exploratory insight into the functions of music listening across cultures, genders and age groups. ANOVA also allows examining interaction effects of between the variables.

As I argued in Study 5, functions of music are likely to be underpinned by a limited number of underlying dimensions. I investigated the underlying dimensionality of RESPECT-MUSIC using MDS. The pooled within correlation matrix of the final list of RESPECT-MUSIC items was used as similarity data. Similar to the criteria in Study 5, a two-dimensional solution was aspired to and the stress index decomposition was also considered. Additionally, I compared the MDS configurations of the three samples using Generalized Procrustes Analysis (GPA; Borg & Groenen, 1997; Commandeur, 1991). GPA is similar to procrustean target rotation as it rotates various dimensional configurations against each other and provides a congruence index of the fit between

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[35] Entering blocking variables is an alternative method to ANCOVA (Enqvist, 2006; Millar & Chapman, 2001; Tabachnick & Fidell, 2007). ANCOVA was unsuitable for the current study because the potential covariates age and gender may be confounds of the independent variable 'culture'. This would violate the assumptions of ANCOVA.

the examined configurations. A congruence index above 0.90 indicates a high level of similarity in the configuration between the examined samples (Commandeur, 1991; van de Vijver & Leung, 1997).

RESULTS AND DISCUSSION

Factor structure of RESPECT-MUSIC

The first PCA including 74 items extracted 13 factors (Varimax rotation; see Appendix C6) in 12 iterations that explained 68% of the variance. However, several variables loaded on single factors, had cross or low loadings, or were of inconsistent content across samples. These variables were successively excluded in a series of factor analyses (Leung et al., 2002). The iterative PCA procedure reduced the number of items to 36.

The final PCA on the 36 remaining items resulted in a ten-factorial solution in 7 iterations. The 10 factors were clearly interpretable and robust when rotated using Varimax and Oblique approaches. These factors explained 74.83% of the variance. The variances explained by these 10 factors as well as the Eigenvalues and factor loadings are presented in Table 31. The ten RESPECT-MUSIC factors are labelled *Emotions*, *Social Bond with Friends*, *Social Bond in Family*, *Venting, Background, Dancing, Focus, Values, Political Attitudes*, and *Cultural Identity*.

Factor 1 encompassed the *emotional functions* of music listening. Factor 1 contained 5 items about music conveying emotions (items 4 and 5 in Table 31), music triggering emotions (items 1 and 2) and emotional physiological reactions (item 3). This factor encompasses two emotional sub-functions identified in study 5: music's ability to convey and trigger emotions.

Two factors captured the social bonding functions of music. Factor 2 contained the *social bonding function with friends*. In this factor, 5 items captured social experiences with music (items 6 and 9), shared memories triggered by music (items 7 and 8), and music as a means of bonding (items 10). This factor captures three social bonding sub-functions (common interest, social activity, and creating unity) and the social reminiscence sub-functions from study 5. Factor 3 covered the social bonding functions of music listening within the *family*. Factor 3 contained 4 items about music (listening and talking) as a family activity (item 13 and 14), a shared family interest (items 11) and a family bond (item 12). This factor also captures three social bonding sub-functions (common interest, social activity, and creating unity).

Factor 4 combined the uses of music for *venting* (items 15, 16 and 17) and *reducing stress* (item 18). This factor encompasses two self-regulation sub-functions of music as identified in study 5. Factor 5 captured the *background function* of music while being engaged in other activities with 3 items (items 19, 20 and 21). This captures one sub-function of the background functions identified in study 5. Factor 6 represented the desire for *dancing* that is triggered by music (items 22, 23 and 24). This factor represents one sub-function of the diversion function identified in study 5. Factor 7 entailed 3 items about the *focus* and concentration enhancing effect of music (items 25, 26 and 27). This factor represents a single sub-function of the self-regulation functions identified in Study 5.

The next three factors encompassed four single sub-functions of music as reflection of self. Factor 8 captured the ability of music to shape and express personal *values* (items 28 and 29) and to positively influence the *personal development* (item 30). Factor 9 was about music preferences as an expression of *political attitudes*, which was captured in 3 items (item 31, 32 and 33). And last, factor 10 contained 3 items about *cultural identity* reflected in music (items 34, 35 and 36).

The 10 RESPECT-MUSIC factors contained 14 of 28 sub-functions that were identified in study 5. Various sub-functions merged when measured using RESPECT-MUSIC, such as the social reminiscence functions merged with the social bonding functions with friends, and the two self-regulation functions venting and stress relief merged together. Other sub-functions were represented as a single factor, such as the focus functions, values or the reflection of cultural identity.

Various sub-functions were omitted because they created undesired cross-loadings. For instance, the reminiscence functions of music when listening alone loaded together with the social reminiscence items, which also loaded on with social bonding factor (see Appendix C6). Hence, the personal reminiscence items were omitted in order to retain the social reminiscence items in the social bonding factor. Although several sub-functions were omitted, the 36 items instrument RESPECT-MUSIC covers 10 broad facets of functions of music containing personal, social and cultural aspects.

Table 31

Factor structure of RESPECT-MUSIC (PCA with Varimax rotation on pooled within-groups correlation matrix; N=1085)

	Factor 1 Emotion	Factor 2 Friends	Factor 3 Family	Factor 4 Venting	Factor 5 Background	Factor 6 Dancing	Factor 7 Focus	Factor 8 Values	Factor 9 Politic	Factor 10 Culture	h^2
1. Feelings conveyed in a song can make my heart melt.	0.83										0.77
2. Some songs pluck my heartstrings.	0.77										0.68
3. Some songs are so powerful that they are able to bring tears into my eyes.	0.78										0.66
4. It's important to me that music transports feelings.	0.69										0.64
5. Music is emotion flowing in sound.	0.63										0.57
6. I meet with friends and listen to good music.		0.76									0.65
7. Through music my friends and I can commemorate happy past moments together.		0.78									0.71
8. Listening to music with friends is a way of sharing good old memories of our lives.		0.74									0.66
9. Going to concerts and listening to records is a way for me and my friends to get together and relate to each other.		0.73									0.69
10. We live these moments of true connection when I listen to music or go to concerts with my friends.		0.71									0.65
11. Music allows me to have a common interest with my family.			0.85								0.80
12. Our shared music taste is something that brings my family together.			0.83								0.79
13. I like talking to my family about music.			0.82								0.73
14. I enjoy listening to music with my family / relatives.			0.80								0.71
15. Music is what alleviates my frustration.				0.78							0.78
16. Music is a means of venting my frustration.				0.79							0.79
17. Through listening to music I can let off steam.				0.80							0.78
18. Music seems to reduce stress.				0.74							0.69
19. I need music in the background while doing something else.					0.87						0.85
20. In many situations I need music in the background.					0.82						0.78
21. Whatever I do, I listen to music in the background.					0.83						0.84

Note. Factor loadings above 0.30 displayed; h^2 – communality (measures the percent of variance of each item explained by all factors)

Table 31 *cont.*

	Factor 1 Emotion	Factor 2 Friends	Factor 3 Family	Factor 4 Venting	Factor 5 Background	Factor 6 Dancing	Factor 7 Focus	Factor 8 Values	Factor 9 Politic	Factor 10 Culture	h^2
22. I like dancing to certain music.						0.92					0.88
23. Some music makes me want to dance.						0.87					0.81
24. I like to go dancing, and the type of music is essential for this.						0.87					0.78
25. I can keep my focus on a task while listening to the right music.							0.84				0.83
26. Music helps me to focus.							0.81				0.84
27. Listening to music allows me to concentrate.							0.82				0.88
28. Music is very important in the process of developing my values.								0.78			0.79
29. Somehow music steers my approach to life and my values.								0.72			0.75
30. My personal development was positively influenced by music.								0.74			0.74
31. My favourite music is often political.									0.88		0.80
32. I usually listen to music that goes somewhat with my political beliefs.									0.80		0.68
33. Music plays an important role in my life as a means of political engagement.									0.81		0.76
34. The music of my country represents an image of my country to the outside world.										0.84	0.77
35. The music in my country is part of building our identity.										0.81	0.74
36. Music is a reflection of a country's culture and history.										0.77	0.64
Eigenvalue	9.66	3.61	2.64	2.35	2.00	1.82	1.48	1.27	1.07	1.04	
Variance explained (74.83%)	26.84%	10.04%	7.35%	6.52%	5.56%	5.04%	4.11%	3.52%	2.97%	2.88%	
Factor congruence Tucker's Phi											
Anglophone sample	0.97	0.96	0.97	0.93	0.96	0.96	0.91	0.92	0.97	0.98	
Hispanic sample	0.98	0.98	0.98	0.96	0.96	0.97	0.97	0.93	0.97	0.97	
German sample	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.99	0.99	
Internal consistency Cronbach's alpha											
Anglophone sample	0.84	0.78	0.88	0.87	0.89	0.90	0.92	0.87	0.87	0.84	
Hispanic sample	0.88	0.88	0.87	0.87	0.91	0.91	0.90	0.89	0.76	0.82	
German sample	0.84	0.87	0.88	0.89	0.88	0.88	0.92	0.83	0.82	0.73	

Note. Factor loadings above 0.30 displayed; h^2 – communality (measures the percent of variance of each item explained by all factors)

The 10 functions captured in RESPECT-MUSIC include six of the seven main functions identified in Study 5. Unfortunately, the personal reminiscence function of music was not captured in RESPECT-MUSIC. Since the personal memory function of music is an interesting facet of musical experience, this facet should be included in future research. In a revised version additional items of personal memories could be added. This would possibly capture 11 functions which provide an even more comprehensive picture of functions of music listening.

Reliability and structural equivalence across three cultural samples

An inspection of the internal consistency reliability coefficients (Cronbach's alpha) suggested that the 10 functions demonstrated adequate internal consistency across the three cultural samples as they exceed the commonly used benchmark of Cronbach's alpha > 0.70 (Table 31). The reliabilities ranged from 0.73 (cultural identity in the German speaking sample) to 0.92 (Focus in Anglo-Saxon and German-speaking samples).

Procrustean target rotation was conducted to examine the structural similarity of the 10 factors across the three samples. As can be seen in Table 31, the congruence coefficient Tucker's Phi ranged from 0.91 to 0.99. According to van de Vijver and Leung (1997), Tucker's Phi close to 0.95 is evidence for factorial similarity, whereas Tucker's Phi below 0.90 suggests significant incongruity of factor structures. Tucker Phi values between 0.90 and 0.95 would not suggest a perfect fit; however, they still indicate an adequate level of similarity of factor structures (Leung et al., 2002). Most of the factors (7 out of 10) showed high levels of factorial similarity across all three samples with Tucker's Phis equal or above 0.95. The other three factors (venting, focus, and values) showed an adequate level of similarity - although not perfect fit – with Tucker's Phi above 0.91. In summary, the 10 functions of music listening measured by RESPECT-MUSIC meet structural equivalence across the three cultural samples.

Comparing functions of music listening across cultures, genders and age groups

The mean levels of 10 functions of music listening were examined across the three cultural samples, genders and age groups (Table 32). The main objective was to determine cross-cultural similarities and differences in the degree to which participants use the 10 RESPECT-MUSIC functions of music. However, since the sample compositions differed with regard to age and gender and these two demographic

variables showed significant impact on music listening in previous research, these variables were entered as independent variables as well. The ANOVA revealed that the two RESPECT-MUSIC functions background and social bonding with friends were independent of cultural background, gender and age of participants.

Cultural background showed significant effects on five functions of music: social bonding within family, political attitudes, cultural identity, focus, and venting (see Table 32). German participants rated the social bonding function within family, and the cultural identity function as least applicable to their experiences with music, while the Hispanic samples rated these function highest among the three samples. German participants rated the political attitude functions as most applicable, while the Anglo-Saxon sample rated this function lowest among the three samples. The Anglo-Saxon participants used the venting function of music less than the other two samples, and German-speaking participants used the focus function less than the other two samples.

There were also significant gender differences in the emotion, dancing, focus, and value function of music (see Table 32 and Appendix C7). Female participants used music to a greater extent than male participants for emotional functions ($M_f = 5.44$, $M_m = 5.25$) and for dancing ($M_f = 5.69$, $M_m = 4.76$), while male participants used music more than female participants to enhance focus ($M_f = 4.13$, $M_m = 4.38$) and to express values ($M_f = 4.37$, $M_m = 4.91$).

Participants' age affected the use of music for venting, to focus and as an expression of values (see Table 32 and Appendix C7 for details). Younger participants used music more for venting ($r = -0.11$, $p < 0.01$; partial correlation controlling for gender and cultural background[36]), to express values ($r_{partial} = -0.07$, $p < 0.05$), and to enhance concentration ($r_{partial} = -0.06$, $p = 0.09$) compared to older participants, although the last association was not significant according to generally accepted levels of significance.

Additionally, there were two-way interaction effects between cultural background and age on the venting function, values and cultural identity (see Appendix C7). The described negative association between the venting function of music and age appeared in the Anglo-Saxon ($r_{partial} = -0.14$, $p < 0.01$; partial correlation controlled for

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[36] I present the partial correlations considering that correlation coefficients assess the relationship between two continuous variables more appropriate than F – tests (gender and cultural background entered as dummy codes). Mean scores of RESPECT-MUSIC functions as rated by five age groups are provided in Appendix C7.

gender) and the German-speaking sample ($r_{partial}$ = -0.13, $p < 0.01$). However this association was marginally positive in the Hispanic sample ($r_{partial}$ = 0.05, *ns*). When controlling for gender, the partial correlation between participants' age and the value function of music was marginally positive in the Anglo-Saxon sample ($r_{partial}$ = 0.09, *ns*), close to zero in the Hispanic sample ($r_{partial}$ = 0.03, *ns*), and marginally negative in the German-speaking sample ($r_{partial}$ = -0.07, *ns*). Music as a reflection of cultural identity was more appreciated by older participants than by younger in the Anglo-Saxon sample ($r_{partial}$ = 0.13, $p < 0.05$) and the Hispanic sample ($r_{partial}$ = -0.10, *ns*), while the association between cultural identity in music and age was close to zero in the German-speaking sample ($r_{partial}$ = 0.02, *ns*).

In summary, three functions of music (family bonding, political attitudes, and cultural identity) showed solely cross-cultural differences and were not affected by demographic variables. Five functions of music (emotions, venting, dancing, focus, and values) were associated with demographic variables. Two functions of music (background and social bonding with friends) were not affected by cultural background, gender or age of participants.

Table 32

Comparison of RESPECT-MUSIC functions of music listening across samples (Study 6; ANOVA main effects for culture, gender (male) and five age groups)

	Anglo-Saxon sample		Hispanic sample		German-sp. sample		Main effect Culture [a]	Main effect Gender [a]	Main effect Age [a]
	M	SD	M	SD	M	SD	F (2, 959)	F (2, 959)	F (2, 959)
Emotions	5.14	1.52	5.55	1.44	5.43	1.23	2.06	5.96 *	1.61
Friends	4.77	1.27	4.85	1.61	4.64	1.36	1.84	0.48	0.86
Family	3.64	1.45	3.66	1.75	2.96	1.45	3.47 *	0.00	0.06
Venting	4.94	1.44	5.29	1.60	5.33	1.34	5.41 **	2.82	3.50 **
Background	4.72	1.63	4.88	1.85	4.54	1.61	1.33	0.00	1.72
Dancing	5.45	1.56	5.37	1.78	4.93	1.71	0.20	9.99 **	1.40
Focus	4.45	1.61	4.65	1.78	4.12	1.64	4.50 *	11.85 **	2.62 *
Values	4.49	1.72	4.60	1.83	4.96	1.47	0.74	11.68 **	2.91 *
Politic	2.82	1.49	3.05	1.58	3.27	1.40	5.47 **	3.74	0.09
Cultural Id	3.98	1.51	4.86	1.70	3.41	1.28	28.88 ***	1.02	1.86

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; [a] $N = 968$ due to missing data in demographic variables

Investigating underlying dimensions of RESPECT-MUSIC using MDS

Finally, the dimensionality of functions of music is of great interest as it may reveal underlying motivational processes for the use of music by the listener. First, the pooled within-groups correlation matrix of 10 RESPECT-MUSIC functions was consulted (Table 33). This correlation matrix suggests that (most) functions of music were interrelated to a varying degree. For instance, the social bonding function with

friends was most strongly associated with the value function of music (as we would have expected based on Chapter Three in this thesis), and to a lesser extent with dancing or cultural identity functions. A limited number of functions were not associated with each other. For instance, cultural identity in music was independent from the background function of music, and the dancing function was unrelated to focus, values and political attitudes in music. These correlations urge for further investigations into patterns underlying the varying degree of associations between RESPECT-MUSIC functions.

Table 33

Intercorrelations of RESPECT-MUSIC functions of music listening (Study 6; pooled within-groups correlation matrix of three cultural samples)

	1	2	3	4	5	6	7	8	9	10
1. Emotions	1.00									
2. Friends	0.34***	1.00								
3. Family	0.23***	0.32***	1.00							
4. Venting	0.47***	0.42***	0.18***	1.00						
5. Background	0.23***	0.32***	0.19***	0.42***	1.00					
6. Dancing	0.22***	0.22***	0.16***	0.07*	0.10**	1.00				
7. Focus	0.27***	0.31***	0.22***	0.52***	0.56***	0.00	1.00			
8. Values	0.43***	0.44***	0.29***	0.53***	0.37***	0.04	0.46***	1.00		
9. Politic	0.18***	0.26***	0.20***	0.21***	0.13**	0.05	0.18***	0.40***	1.00	
10. Cultural Id	0.27***	0.22***	0.35***	0.15***	0.02	0.21***	0.09*	0.20***	0.18***	1.00

Note. $* p < 0.05, ** p < 0.01, *** p < 0.001$

MDS on the 36 RESPECT-MUSIC items was conducted in order to examine the underlying dimensionality[37]. MDS on the pooled within-groups correlation matrix revealed a two dimensional solution displayed in Figure 13. The normalized raw stress decomposition was examined (scree plot) which suggested that the two-dimensional solution was the most appropriate representation of functions of music listening. The two dimensional solution represented the functions of music listening in a meaningful and clearly interpretable way, although the Stress indices slightly exceeded the commonly used benchmarks (Normalized Raw Stress = 0.06; Stress-1 = 0.25). The two dimensional solution accounted for 94% of the dispersion. Additionally, the two dimensions generally matched the two dimensions revealed in Study 5. However, the MDS in Study 6 revealed a finer differentiation of the personal vs. social dimension. Accordingly, the two dimensions spanned between contemplation vs. pleasure-oriented functions of music, and personal vs. socio-cultural functions of music.

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[37] I chose MDS on item level over MDS on function level, because a higher number of data points enhance the stability and robustness of MDS solutions (Borg & Groenen, 1997; Kruskal & Wish, 1978).

The first dimension was defined by functions serving deeper reflection (contemplation) vs. functions for enjoyment (pleasure). The second dimension can be distinguished along three levels: first, functions of music serving intrapersonal purposes, second, functions serving interpersonal and social purposes, and third, facets encompassing socio-cultural functions of music. The two dimensions generated six quadrants as shown in Figure 13.

Additionally, I compared the two-dimensional MDS configurations of the three samples in a General Procrustes Analysis (GPA). The congruence index (0.91) indicated a high level of similarity of the dimensionality of RESPECT-MUSIC across the three samples. This high level of congruence suggests universal underlying dimensions across the three cultural samples in the functions of music listening.
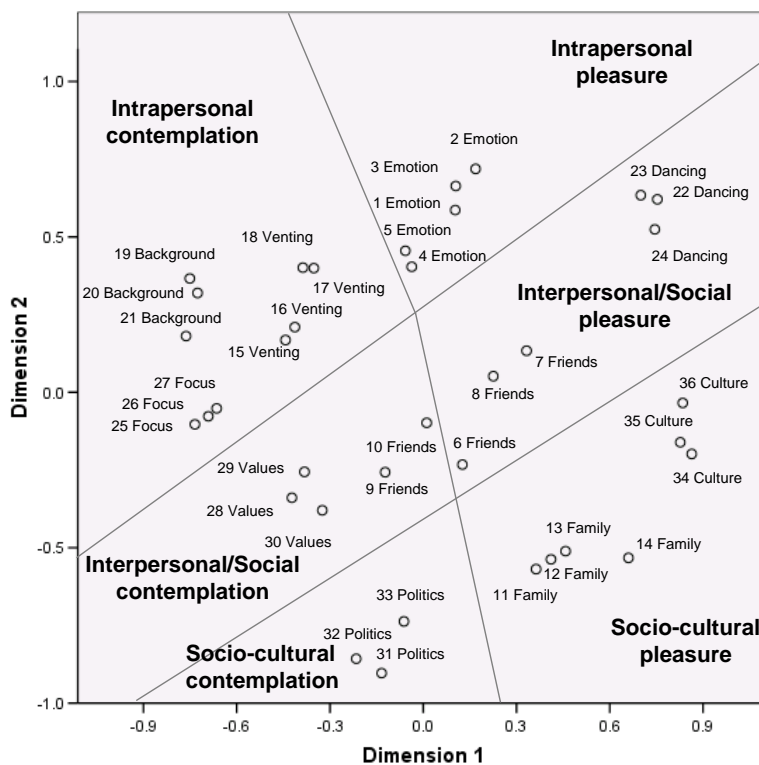
Figure 13. Two-dimensional solution of RESPECT-MUSIC (Study 6; PROXCAL MDS; $N = 1085$; 36 items displayed by number and function measured by item)

Personal functions of music were represented in two quadrants. The first quadrant encompassed musical functions that are used for intrapersonal contemplation purposes. This included music to enhance focus, music in the background while doing something else, and music for venting and stress relief. The focus function and this particular background function were also positioned in the intrapersonal contemplation quadrant in Study 5, while the venting function was in the centre of the MDS solution

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in Study 5. The second quadrant represented the use of music for intrapersonal pleasure. The emotional function of music was situated in this quadrant, because this function encompassed the experience with emotional content conveyed by music and positive emotions triggered by music. This function covers the pleasant facets of emotional functions of music; hence its position in the personal pleasure quadrant. The two emotional sub-functions conveying emotions and triggering emotions were positioned in the centre of the MDS configuration in Study 5.

The interpersonal and social functions of music encompassed two quadrants. One quadrant covered music for interpersonal/social pleasure-oriented functions. It contained dancing at the far pleasure end of the quadrant. Furthermore, the interpersonal/social functions of music that were associated with pleasure were music as an activity with friends, which included listening to music and going to concerts together. Two additional items of social bonding function with friends were positioned in the next quadrant, which encompassed music for interpersonal/social contemplation. These two items highlighted that music creates a unifying bond between friends and that music improves how people relate to each other. My interpretation of these items refers to a reflection on the impact of music on the depth of a friendship. Therefore, items measuring the social bonding of music spread to the two quadrants associated with pleasure and a deeper reflection on interpersonal and social relationships. A further interpersonal/social function serving contemplation was the value function of music. This function refers to the use of music for expressing and shaping ideologies and principles in life. Hence, this function associates music with extra-musical content, and this requires a person to contemplate the meaning of music.

The socio-cultural functions of music represent functions serving pleasure and contemplation. Socio-cultural functions associated with pleasure and enjoyment were social bonding within the family, including going to concerts with family members, and cultural identity through music. Functions of music associated with socio-cultural contemplation contained music as expression of political attitudes. Similar to the value function, this function indicates the use of music for expressing attitudes towards socio-political issues. Hence, this function also associates music with ideological and political content requiring contemplation on the meaning of music and lyrics. Interpersonal/social and socio-cultural functions of music have been situated along the social MDS dimension in Study 5. However, Study 6 provides a more refined picture of dimensions underpinning musical functioning.

The ANOVA revealed that some RESPECT-MUSIC functions were influenced by cultural background, while others were associated with demographic variables such as age and gender, and again others were not affected by cultural or demographic factors. In Figure 14 I plotted the patterns revealed in the ANOVA against the structure revealed in MDS. As can be clearly seen, the socio-cultural functions of music were solely affected by cross-cultural differences. This underscores the interpretation of these functions as socio-cultural facets of musical experience, given that these functions seem strongly influenced by cultural background. Most intrapersonal and interpersonal/social functions of music for contemplation were affected by participants' age (or combined with gender and/or culture effects), while most intrapersonal and interpersonal/social functions of music for pleasure were solely determined by participants' gender. The two-dimensional MDS configuration could be interpreted as a circle that comprises the social bonding function with friends in its centre, which is a function that may be universal as neither cultural background nor age and gender affected this function.
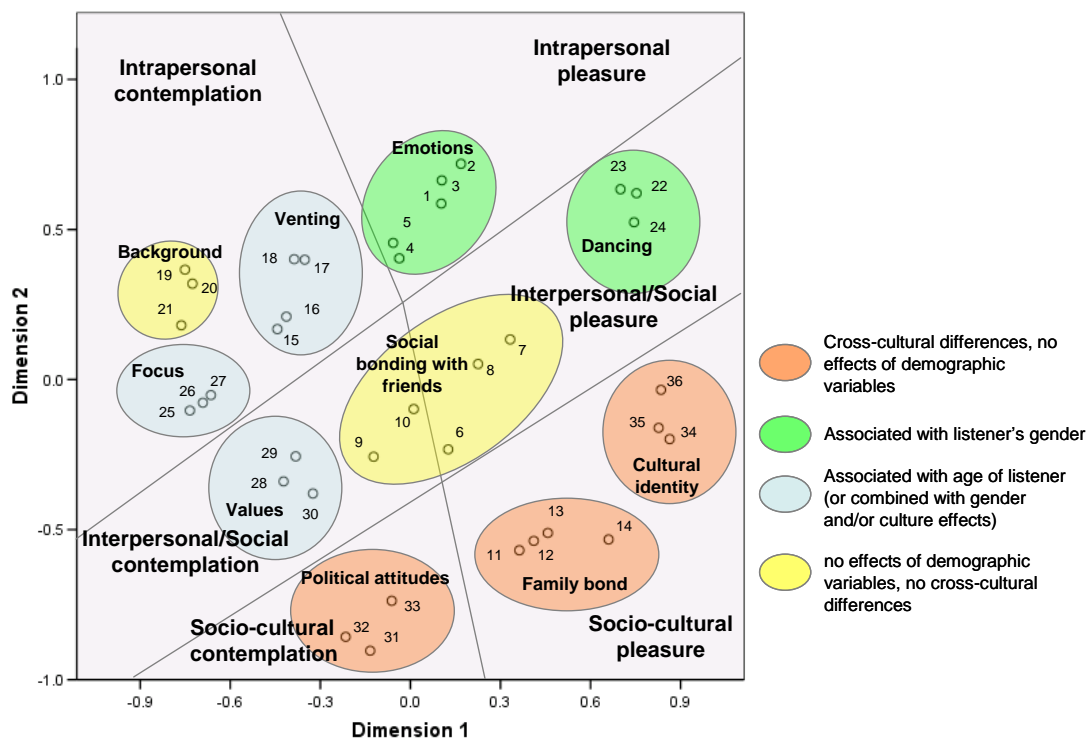
Figure 14. Two-dimensional solution of RESPECT-MUSIC according to ANOVA patterns (Study 6; PROXCAL MDS; $N = 1085$; 36 items displayed by number and function)

Summary

In this section, I described the development and validation of the Rating of Experienced Social, PErsonal and Cultural Themes of MUSIC functions (RESPECT-MUSIC). Three language versions of the 36 items instrument measuring functions of music listening were developed and validated across samples from Anglo-Saxon, Latin American and West-European regions. RESPECT-MUSIC measures 10 facets of functions of music capturing a holistic picture of musical functions. The 10 RESPECT-MUSIC functions of music were internally consistent and structurally congruent across the three samples. The internal consistencies and structural similarities provide first evidence for the construct validity and structural equivalence RESPECT-MUSIC. Furthermore, MDS uncovered a two-dimensional configuration underlying functions of music, which was also congruent across cultures. However, before claims about the robustness of RESPECT-MUSIC can be made, re-test reliability needs to be assessed in future research.

RESPECT-MUSIC represents contemplation and pleasure oriented functions as well as intrapersonal, interpersonal/social and socio-cultural functions of music listening. Hence, listening to music or liking music seems to be stirred by quite diverse motives. RESPECT-MUSIC measured 10 functions of music reliably and was represented by a cross-culturally stable structure. The dimensions underlying the motives to listen to music seem to apply universally (for the three language groups), while their use seems systematically determined by cultural background, gender and age of listeners.

SECTION 4

Summary and discussion

Chapter Four scrutinized functions of music at multiple levels of experience. Interdisciplinary perspectives concluded that music is a multifunctional phenomenon serving individual, social and cultural functions. Study 5 and 6 offered holistic psychological investigations situating and relating individual, social, and cultural functions of music as perceived and used by individuals from a variety of cultures. The studies in this chapter provide two major advances to the research of functions of music listening. First, culture was considered in the process of developing the model of functions of music, and the instruments measuring functions of music listening. In the study of music, this perspective has not been taken into account since a paradigm shift in ethnomusicology from etic to emic approaches (Falck & Rice, 1982). Second, multiple levels of musical significance, namely, personal, social, and cultural experiences with music, were included to provide a holistic understanding of musical functions and their interrelatedness. In the following section, I critically evaluate the findings of Studies 5 and 6.

Capturing functions of music listening

The results of Study 5 and 6 showed a balance of social and cultural elements in addition to personal aspects in the functions of music listening. While the multicultural qualitative approaches in Study 5 identified and validated seven main functions including an extensive number of sub-functions of music (see Table 24), the quantitative Study 6 aimed to measure a selected number of these (sub-) functions of music. Previous research has described the functions of music identified in Study 5 and measured in Study 6. Hence, this chapter did not discover new functions of music; however, this is the first attempt to compile a comprehensive set of functions within one holistic model. A multicultural committee selected items that were phrased based on the responses in Study 5 covering most of the identified sub-functions. The committee suggested some conceptual changes (including merging, splitting and cutting) in the assortment of sub-functions. The initial set of items was administered in three language versions to samples from Latin America, Anglo-Saxon regions and Western Europe. The final version of RESPECT-MUSIC consisted of 36 items

capturing 10 functions of music (see Table 31). RESPECT-MUSIC showed adequate reliabilities and high structural congruence across the cultural samples.

It appears that the social content of the functions of music in Study 5 was not due to the inclusion of collectivistic samples, but primarily due to the inclusion of questions at the social level. This is an intriguing finding in two regards: for the study of functions of music, and for the systematic study of cross-cultural differences in displayed behaviours. It becomes apparent that previous psychological research focused primarily on individual functions of music, and thus only asked questions in this regard. If we are interested in specific facets of musical functioning, we need to ask the right questions. The qualitative and quantitative approaches inform and complement each other by capturing functions of music in a comprehensive model. Multicultural and multi-lingual (bi-lingual in Study 5 and tri-lingual in Study 6) approaches were used in the studies in this chapter. This provided rich cultural input and a relatively low risk of language sensitivity in the captured functions of music. Nevertheless, the present studies cannot fully preclude possible domain under-representation.

Underlying dimensions and interrelatedness of functions of music

The underlying dimensionalities in Study 5 and 6 revealed the most intriguing evidence for the usefulness of combining qualitative approaches with quantitative methods based on parsimonious ground. That is, Study 5 was designed to capture three levels of musical functioning as suggested by an interdisciplinary review of functions of music. However, the three levels only reappeared explicitly in the MDS structure of RESPECT-MUSIC, which was conceptualized based on Study 5. Interestingly, the three levels did not explicitly emerge in the conceptual map of Study 5. The MDS analysis in Study 5 differentiated between self-focussed and social activity functions of music (dimension 2). Social and cultural elements were somewhat collapsed at the social activity end of this dimension. The MDS configuration of RESPECT-MUSIC items in Study 6 clearly revealed three levels distinguishing intrapersonal, interpersonal/social and socio-cultural functions of music. ANOVA results support my interpretation of the dimensionality given that cultural background factors seem to determine socio-cultural functions. The MDS solution in Study 5 provided a well interpretable overall picture. However, it did not offer as much detail and fine-gained structure as the MDS solution in Study 6. This differentiation in detail may be due to the nominal scaled data in Study 5 vs. interval scaled data in Study 6. Hence, the

quantitative methodology of Study 6 allowed for a more refined distinction between the functions of music listening, while the qualitative methodology was indispensable for identifying a holistic set of functions of music.

The somewhat unexpected positions of two other music functions remain noteworthy. Why is music in the background as a sideline activity a contemplation function, and why does cultural identity reflected in music serve as a pleasure function? Both functions appeared consistently in these positions in Study 5 and Study 6. First, when music is played in the background it is obviously not in the centre of attention. Music in the background is unlikely to be pleasurable since positive affect triggered by music would make music more central. While music is playing in the background, the (inattentive) listener pays attention to other activities such as studying, reading, cleaning, working and so forth. The other activity may engage the listener in contemplation. Hence, this musical function is well positioned in this dimension, not because of its contemplating effects, but because of the contemplating activities music may accompany. The proximity to the focus function underscores this interpretation, where the listener uses music intentionally to support contemplation activities.

The cultural identity function of music holds the second surprising position in the MDS configurations. While the association of cultural elements with particular music may appear to be an activity requiring contemplation, an alternative interpretation is to consider events in which cultural facets are emphasised through music. These events are for instance local festivities, fairs, traditional ceremonies, sport events, and so forth. All these events are mostly associated with enjoyment and pleasurable memories. This interpretation finds support in the proximity of the cultural identity function to the dancing function and social bonding functions, as these cultural events are likely be visited with family members or friends and they often involve dancing, hence, the position of the cultural identity function in the socio-cultural pleasure domain.

Finally, the centrality of social bonding with friends in the MDS configuration of Study 6 is particularly intriguing since this position underscores the relevance of the previous studies in this thesis. In addition, it also supports the proposed strong link to the value function of music, which is its closest neighbour in the MDS configuration of Study 6. Nevertheless, its position also suggests potential links to other surrounding functions. I elaborate on this in the next chapter.

Cross-cultural comparison of functional prevalence and mean levels

A quantitative analysis of the occurrence of the seven main functions in the responses of collectivistic and individualistic sub-samples in Study 5 revealed that the cultural background of participants seems to influence the salience of functions in the musical experiences of the listener. Although the participants may not be representative of their culture overall, Study 5 showed some intriguing patterns. Emotion and memory functions were somewhat more frequent among participants from individualistic backgrounds, whereas social diversion function was more frequent among participants from collectivistic contexts. Collectivistic participants from Asia and South-America mentioned the use of music (at the social level) as a collective means to feel good, for entertainment and dancing (diversion function) more often than individualistic participants did. Participants from the non-Anglophone Western cluster reported a greater salience of emotional functions of music. The findings at the cultural level indicate a cultural specificity of functions of music in South-American culture, which has been discussed in previous sociological literature (McCann, 2004; Shaw, 1999).

However, Study 6 did not replicate these patterns. This may be due to limited comparability given that Study 5 targeted three levels explicitly, whereas Study 6 asked for musical experiences in general. Furthermore, diverse methodologies may limit the comparability given that in Study 5 free associations were captured, while Study 6 used a rating scale. Hence, Study 6 received rating scores for each function whereas Study 5 captured the prevalence of a limited number of functions from each participant. In addition, ANOVA allows the simultaneous assessment of various variables, which was not applied in the Chi-Square tests. Study 6 also revealed cross-cultural differences in musical experiences. The underlying dimensionality however, is congruent across cultures despite varying importance of functions of music.

In any case, Study 5 and 6 showed first encouraging evidence of both cultural similarities and differences in musical functioning as personally, socially and culturally experienced phenomena. Nevertheless, these studies provide a starting point for psychological inquiry on musical functions across cultures.

CHAPTER FIVE

General discussion and concluding remarks

This thesis intended to scrutinize the social psychological functions of music listening across cultures. The studies undertaken took a close-up view on the value-expressive function of music preferences and its centrality for social bonding fostered through music. The specific focus on these two functions in Chapters Two and Three allowed the integration of both functions into the MUSA-VALUES model (MUsic Sharing and social Attraction supported by VALUES). Music preferences indicate value orientations that may be shared between individuals or groups. Shared values are among the essential facilitators of social bonding processes. MUSA-VALUES predicts that social bonding through music is facilitated by shared value orientations. MUSA-VALUES advances our understanding of how shared music preferences create and intensify social bonds fostered by value-expression in music.

In addition to the specific focus on social functions of music listening, a broader view in Chapter Four attempted to integrate the social functions into the larger picture of musical functions at personal and cultural levels. This broader perspective revealed an intriguing centrality of the social bonding function of music, its apparent universality (with regard to age, gender, and cultural background) across the specific samples studied and its close relationship with the value-expressive function.

Six cultural and cross-cultural studies in this thesis provided initial evidence that music preferences are global, express similar value orientations across cultures, can create bonds between people within and potentially between cultural boundaries, and that music serves multiple functions as personal, social and cultural experiences. Furthermore, a brief instrument measuring these functions has been developed (RESPECT-MUSIC, Rating of Experienced Social, PErsonal and Cultural Themes of MUSIC functions) and can be used in further research.

Contributions of this thesis

The research in this thesis contributes to the literature in what it revealed and in how it revealed its findings. First, I summarize four methodological contributions of the current thesis to the research on the functions of music listening (the 'how' component).

(1) The studies in this thesis included samples from Western and non-Western cultures. The sampling approach in this thesis goes beyond the (rather Ethnocentric) Western – non-Western dichotomy. Instead, participants from both Latin/South American and Asian regions were included as more Collectivism and Embeddedness oriented societies, while participants from Anglo-Saxon and European regions were included as more Individualism and Autonomy oriented societies. To the best of my knowledge, this research is the first in the social psychology of music that systematically sampled participants according to their home societies' scores in cultural dimensions. This study also goes beyond simple East-West dichotomies typical in contemporary cross-cultural psychology (van de Vijver & Leung, 2000).

(2) Multicultural perspectives were included in the development of a holistic topography of the functions of music. Greater cultural diversity in the conceptual input contributing to model developments decreases the likelihood of domain under-representation. The topography of musical functions entails a variety of personal, social and cultural functions of music.

(3) A multi-lingual approach was employed in the instrument development and validation. This enabled the selection of appropriate items based on the data collected in three languages. This reduced the likelihood that the newly developed instrument RESPECT-MUSIC is language sensitive, which improves its cross-cultural applicability. However, it should be noted that the functions were based on a study conducted in languages within the Indo-European language family and a potential limited applicability to non-Indo-European languages can not be ruled out.

(4) Multi-measurement and multi-method approaches as well as qualitative and quantitative survey and experimental methods were used in the studies of this thesis. These methodological approaches enhance the validity of findings and made the findings more compelling. Although some effects were rather small, they were consistent across studies and methods. Hence, multi-measurement and multi-method approaches revealed that these effects were stable and consistent, and thus, are crucial for understanding the functions of music.

The current thesis advances our understanding of functions of music listening in multiple ways (the 'what' component).

(1) The exploration of values and its associations with music preferences contributes to recent developments in the literature on personality and music preferences. The value associations of music preferences were shown to be consistent across two value measurements and stable across four cultures. The value-music preference link adds a novel theoretical perspective to previous research on the link between personality and music preference, considering that "values are an aspect of personality" (Schwartz, forthcoming, p. 1).

However, personality traits and value orientation differ in their underlying mechanisms. While personality traits are rooted in endogenous tendencies based on biophysiological response systems, values are concepts and beliefs that are not only influenced by endogenous systems, but are acquired through external social and cultural influences. Although both are interrelated, they provide an endogenous (personality traits) and a more social (value orientation) approach to music preference associations. The latter has not received much attention in the literature, and hence this thesis provides a new perspective on music preference research.

(2) A further contribution of the social mechanism underlying music preferences is the effect on social bonding. The newly developed model MUSA-VALUES integrates the social mechanism (values) underlying music preferences into frameworks that explain social bonding over shared music preferences. MUSA-VALUES provides a novel theoretical integration of musical bonding between individuals and groups that is facilitated by values expressed in music preferences. This thesis provided first evidence that MUSA-VALUES works in interpersonal and intergroup settings, and in an Asian and a Western-European sample.

Furthermore, the value link to music preferences that is conceptualised in the MUSA-VALUES model was tested against the personality trait link in the musical bonding process. It was shown that shared music preferences indeed are associated with similarity in personality traits (as suggested in the literature). However, this link does not contribute to social bonding in intergroup contexts in this Western-European sample. Hence, the social mechanism underlying music preferences (value association) facilitates musical bonding, whereas the endogenous mechanism (personality trait association) does not facilitate musical

bonding. This finding is novel and contributes significantly to the research on the social functions of music.

(3)   In addition to the specific focus on musical bonding and its social mechanisms, the current thesis provided a comprehensive perspective on musical functions. This comprehensive perspective integrates personal, social and cultural functions of music. The elicited functions themselves are not new discoveries as they have been discussed in the literature. Nevertheless, their integration within one model is novel. This contributes to research as it bridges multi-disciplinary views on musical functions. This allows for an integration of intrapersonal, interpersonal/social and societal functions of music.

It was shown in the final study that most intrapersonal and social functions of music are influenced by demographic variables such as age and gender, whereas social bonding through music itself seems universal. Furthermore, the socio-cultural functions of music were found to be influenced by cultural background. Particularly the last finding is novel with regard to psychological research. At the same time, it fits in with a large literature arising out of sociological and ethnomusicological research. That is, sociological and ethnomusicological research on musical functions focused on aspects of musical functions that are culture specific. The findings of this thesis (Studies 5 and 6) underscore culture specific approaches, given that the socio-cultural functions of music seem largely culturally determined. Hence, culture specific research is necessary to examine these functions from within a given culture. Notwithstanding the importance of culture specific approaches, the cross-cultural approaches in this thesis contribute to a more general understanding of these socio-cultural functions in particular and the holistic topography of functions of music in general. The interplay between culture-specific and universal processes possibly offers the most promising and relevant future direction in music research, which I discuss in more detail below.

A further multi-level aspect was explored related to the functioning of value-expressive music. The results of Studies 1 and 2 pointed towards some congruent and some distinct aspects in the value-expressive function of music for individuals and for societies. This underlines the importance of multi-level and multi-disciplinary approaches to musical functions.

Overall, the current thesis breaks new ground in social psychological research on music since all its investigations were based on culturally diverse samples. The investigation is also unique, as it had considered multiple musical functions that acknowledge social as well as personal and cultural experiences of music.

Limitations of the thesis

This thesis contributes to a first step towards a cross-cultural psychology of music by applying advanced cross-cultural methodology to elucidate the social functions of music listening. Having said that I must acknowledge and emphasise that it is only a first step and first steps into new directions are prone to weaknesses, inconsistencies and potential fragmentation. Hence, I would like to take the opportunity to elaborate on the limitations of this thesis particularly with regard to its cross-cultural methodology.

The sampling according to Individualism and Collectivism aimed to assess whether individuals' use of music for social functions is associated with this cultural dimension (as carefully suggested by Hargreaves & North, 1999b, see Chapter One). From the six presented studies, four studies investigated cross-cultural differences and similarities, and two were mono-cultural studies including individualistic and collectivistic samples. I will briefly summarise the findings of this thesis according to cross-cultural similarities and differences and then critically evaluate potential threats for the validity of these findings.

Study 1 found cross-cultural similarities in the way that music preferences are related to personal values. Only one of 12 hypothesised and confirmed value associations showed significant cross-cultural differences (cf. Table 7, p. 56). This difference might be interpreted with regard to individualism and collectivism: in collectivistic samples preferences for Rock music were related to Openness values, while in individualistic samples this was not the case. However, this potential finding was not supported by cross-method consistency. A potential threat to the conclusion of predominant cross-cultural similarities in value associations was the use of second language in the Filipino survey. The research concerned with surveys used in native vs. non-native languages proposed two potential effects (Bond & Yang, 1982; Yang & Bond, 1980): a) ethnic affirmation, which is the tendency to accentuate cultural differences in non-native surveys, and b) cross-cultural accommodation, where respondents accommodate their answers to the language of the survey. The latter effect is based on the premise that language is inevitably intertwined with culture. Hence,

cross-cultural effects would be smaller when non-native languages are used in surveys. The comprehensive research by Harzing (2005) found consistent evidence for cultural accommodation effects across 24 countries for a range of constructs. This means the use of English instead of native languages may have underestimated cross-cultural differences, if the cultural accommodation effect was present in the Filipino sample in Study 1. If cultural accommodation was present, then cross-cultural differences would be smaller when the Filipino sample is included in the analysis, and consequently cross-cultural differences would be bigger when the Filipino sample is excluded. In order to assess this possibility, I run all cross-cultural comparisons for the value associations without the Filipino sample: all cross-cultural comparisons remained the same for the hypothesised associations. This finding might indicate that a cultural accommodation effect in Study 1 can be ruled out. Nevertheless, potential effects of surveys in non-native languages should always be carefully evaluated in cross-cultural research.

Study 2 investigated the association between values and music preferences at the cultural level and revealed that societal music preferences are associated with Individualism and Collectivism. This study was conducted at the cultural level including multiple data sources and secondary data. A methodological issue arising for Study 2 might be the temporal unsuitability of Hofstede's scores as cultural values considering that Hofstede (1980) collected his data in the 1960s and 70s. Schwartz' data was collected between late 1980s and 2000s and is therefore more suitable considering that the data for societal music preference data was collected in 2000s for the multi-cultural study and published between 1990s and 2000s for the meta-analysis. Temporal shifts in Hofstede's cultural values may have confined the value associations of societal music preferences. This may offer an explanation for some inconsistencies between the value associations revealed by Hofstede's and Schwartz's scores.

The social bonding function of shared music preferences was tested independently in a collectivistic (Study 3) and an individualistic sample (Study 4). Both studies affirmed the proposed model. However different research designs do not enable conclusions about cross-cultural similarities, because cross-cultural similarities and differences cannot be assessed. Furthermore, findings showed that a different cultural background of social bonding partners seemed not to matter (Study 4) or had a reversed effect (Study 3; roommates of different ethnic background were perceived as more similar). In both studies the salience of alternative social identities might have impacted on these effects. In Study 3, the student identity may have overridden the salience of

national background. Similarly in Study 4, the music fan identity may have overridden any national background information. In both cases particular social identity may have cut across cultures and impacted on responses.

Studies 5 and 6 explored cross-cultural similarities and differences in the extent to which music is used for a wide range of functions. Study 5 revealed more cross-cultural similarities than differences in the occurrence of functions of music (5 of 21 analyses revealed cross-cultural differences). The cultural differences that were revealed seem primarily based on culture specifics[38]. However, one finding might point to an Individualism–Collectivism effect: the diversion function was mentioned more often by both collectivistic samples as a social function. The lack of effects with regard to Individualism and Collectivism may be due to the use of a second language in the collectivistic sample. The concerning issue is the systematic confoundedness with one of the cultural dimensions at hand. The use of English may have reduced the salience or cognitive availability of culture specific functions of music in the collectivistic samples. Hence, it is also likely that the affirmation hypothesis applies to qualitative data in Study 5a. Addressing this weakness of Study 5, I developed three language versions of the new instrument and assessed functions of music in the samples' native languages in Study 6. Study 6 revealed more cross-cultural differences in the functions of music: 5 of 10 functions showed cross-cultural differences in the mean ratings (family, venting (interaction with age), focus, politic and identity). The value expressive and the social bonding functions seem similarly important across the three cultures. Music serving the cultural identity function received significantly higher ratings from the Mexican sample which could potentially be interpreted as a finding specific to collectivistic cultures.

However, care is given for the interpretation of the findings with regard to Individualism and Collectivism since only one collectivistic sample was collected. Hence, this finding can also point towards an effect that is independent of Collectivism. The conclusion of Study 6 was that social bonding is a central (and seemingly universal) function of music which is closely related to the value function. Further research is required to enable an interpretation with regard to systematic cultural variations vs. universality of the current findings. Moreover, the potential domain under-representation of culture specific musical functions in Study 5 may have carried over to Study 6 since the items were developed based on the qualitative responses.

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[38] The non-Anglophone sample mentioned more memory and emotion functions for the individual use of music, diversion was mentioned more often by Anglophone and South American samples as a social function, and emotions were mentioned more often by South Americans as a cultural function.

Below I will suggest future directions in research in order to overcome this methodological weakness.

The studies of this thesis relied solely on self-reports. Self-report research may be subject to social desirable responses, response sets, methodological artefacts due to survey method, or potential translation issues. Systematic cross-cultural variations in social desirability or response sets may have obscured the data. Alternative research methods would be for instance participatory observational studies or experiments based on observations, archival work or qualitative work such as content analysis of lyrics.

This research was a universalistic approach considering cross-cultural similarities and differences. While trying to assess both, similarities and differences across cultures, culture specific aspects in the current data may remain hidden or disregarded. The universalistic perspective may go with the cost of over-generalisation and limited in-depth discussion and interpretation of findings for each cultural sample. This approach aimed to add another perspective to a large body of in-depth culture specific accounts on music in the sociological and ethnomusicological literature. However, a more detailed inclusion of such culture specific work as interpretation guidelines would have been desirable and shall be pursued in future publications.

An integration of findings: The social functions within the holistic topography of musical functions

The social functions of music take a central position in the holistic topography of musical functions. In the final MDS model (Study 6), social functions are embedded between intra-individual and socio-cultural functions. The findings of Chapter Four underscore the other findings in this thesis in multiple ways. The most persuasive support targets the close proximity between the value-expressive and the social bonding function measured by RESPECT-MUSIC. This theoretical proximity is evidenced by the closest distance between social bonding and other functions in the holistic topography of musical functions (Figure 14, p. 218). This finding may be regarded as additional support for the MUSA-VALUES model. However, it cannot be neglected that social bonding is surrounded by other functions in the MDS configuration. Its centrality offers alternative associations that may facilitate musical bonding. Future research is required to shed light into these alternative links, for instance musical bonding through dancing, collective emotional regulation, or shared political attitudes expressed in shared music preferences. Nevertheless, the findings indicate that musical

bonding with friends may be most affected by the value-expressive function of music compared to other musical functions.

Social bonding within the holistic topography

The findings of Chapter Four provide further support for the theoretical mechanisms underlying MUSA-VALUES (Chapter Three). The social bonding function of music encompasses contemplation and pleasure oriented elements as revealed in Studies 5 and 6. Contemplation (or cognitive) elements and pleasure oriented (or affective) elements are fundamental components in both frameworks employed in the theoretical basis of MUSA-VALUES in Chapter Three. Looking at cognitive processes first, interpersonal bonding (Level 1) can be explained by applying balance theory. Balance theory considers the cognitive balance between evaluations of objects as the mechanism underlying social attraction between two people. Thus, two people who share music preferences perceive each other as a cognitively balanced system, creating positive social attraction. Furthermore, Self-Categorisation Theory asserts that intergroup bonding is facilitated through categorisation into social groups, which are cognitively represented by prototypes. Congruence with the ingroup prototype promotes positivity bias towards other ingroup members (both balance theory as well as Self-Categorisation Theory have not been directly tested in the current thesis, so these links are only inferred).

Hence, one can argue that there are cognitive processes (among others) involved to support social bonding in Studies 4 and 5 that were reflected in the social bonding function identified in Study 5 and measured in Study 6. This was illustrated by items falling in the contemplation quadrant in the MSD solution of Study 6. The items representing these cognitive processes regard music as a unity creating force (e.g., item 10: *We live these moments of true connection when I listen to music or go to concerts with my friends*).

On the other side of the MDS solution (Study 6), social bonding through music entails pleasure-oriented facets. These are also implemented in interpersonal and intergroup theories. The reinforcement theories of interpersonal bonding posit that interaction between individuals who share music preferences has reinforcing effects. The reinforcing effects entail positive affect that leads to positive social attraction. Intergroup theories posit similar processes at the intergroup level. Accordingly, group membership is motivated by striving for positive social identity and self-esteem. Hence,

belonging to a group whose members share music preferences provides its members with positive rewards. Therefore, the affective elements of social bonding that are represented in the MDS solution can be explained based on the affective reinforcement processes entailed in the theoretical framework of MUSA-VALUES.

Value-expression within the holistic topography

The findings of Chapter Four also underscore the value-expressive function of music for individuals and societies as proposed in Chapter Two. The value-expressive function measured by RESPECT-MUSIC found its position in the social contemplation quadrant of the MDS solution, embedded between personal and socio-cultural functions. The contemplation connotation of this function is in line with identity supporting processes of value-expressive attitudes posited in Attitude Function Theory, and expectancy based evaluations of value-expression according to expectancy–value models.

Furthermore, the position of value-expression in music at the social level is characterised by proximity to personal functions and socio-cultural functions. This proximity may underline attributes of values and the value-expressive function of music. First, personal value orientations are developed though socialisation relying on influences from, for instance, family, society, institutions and social networks. Values are central for individuals, whilst simultaneously being inspired by social and cultural forces.

The second aspect that was confirmed by the MSD position highlights the relevance of the value-expressive function of music for individuals and societies. Studies 1 and 2 showed that music expresses individual's values as well as societal values. The results in Studies 1 and 2 suggest some parallels but also distinct mechanisms that distinguish between individual and societal functions of music. Notwithstanding, the position of value-expression in music revealed in Study 6 underlines these two functional dimensions. The proximity of value-expression to personal contemplation and socio-cultural contemplation quadrants suggests functional analogies. At the same time, functional distinctiveness is also indicated in the factors that affect these two neighbouring quadrants. While political attitudes in music were solely influenced by cultural factors, the value-expressive function and most functions in the personal contemplation quadrant were associated with age, gender and/or culture effects.

In summary, the findings of Studies 1 and 2 are also reflected in the holistic picture of functions of music revealed through Studies 5 and 6.

Causality in the value-music link and social bonding

Value-expressions in music preferences were assessed using correlations. In correlational analyses, the causality of the relationship cannot be established. Hitherto, I have not explicitly discussed the causality of the association between music preferences and value orientations. This matter is discussed below.

There has been a heated debate in the communication literature on the causal relationship of music (or mass media in general) and values of individuals. From a psychosocial perspective it is argued that music preferences are determined by inter-individual differences and therefore reflect a person's dispositions (Miranda & Claes, 2004). The sociocognitive perspective on the other side would argue that the more a person is exposed to specific themes, the more likely these themes become anchored in long-term memory and become internalized by individuals (Hansen & Hansen, 1991; Hansen, 1995).

Recent experiments indicated that music and other media such as video games can enhance prosocial behaviour through prosocial content (Greitemeyer, 2009a, 2009b; Gentile et al., 2009). Prosocial behaviour is associated with prosocial values such as benevolence and self-transcendence (Caprara & Steca, 2007; Goodwin, Costa, & Adonu, 2004). Hence, music could not only be an expression of but also an influence on personal, social and societal values.

An interactive causation of the previous two perspectives has been proposed, considering that the content of music simultaneously echoes and shapes a person's values (e.g. Hansen & Hansen, 1991; cf. Bandura, 2001). The value-expressive function of music preferences based on Attitude Function Theory and the Expectancy-Value model does not necessarily exclude one of the previous causal relationships. Therefore, an interaction approach to the link between values and musical attitudes seems appropriate. Given the controversial and complementary nature of these causal paths, I chose a correlational methodology for testing the hypotheses.

The proposed MUSA-VALUES model posited a unidirectional relationship for shared music preferences indicating shared values, which in turns facilitates social bonding. The unidirectional composition was based on the premise that people get to know each other and learn about each other's music preferences, providing that music

is among the popular conversation topics at the initial stage of social interaction (e.g. Rentfrow & Gosling, 2003). In such cases, social bonding is facilitated by music.

Study 4 tested this unidirectional relationship experimentally. Music preference similarity was experimentally manipulated, which led to predicted ratings of value similarity and social attraction. The social perception experiment hence provided first convincing evidence for the direction of the proposed link.

Nevertheless, MUSA-VALUES does not deny the possibility of alternative causal relationships. Particularly in the case of long-term friendships it could be posited that friends who like each other for a long period of time may share their values and also their music preferences. Since these friends also share similar environments and socialisations, the macro-sociological theories that I briefly mentioned in Chapter Three should be considered for such long-term relationships. These theories argue that individuals who share socio-demographic background, for instance, while growing up together or being acquainted, are more likely to be exposed to similar media and to then share values and attitudes though socialization experienced together (Blau, Blum, & Schwartz, 1982; Mark, 1998; McPherson, 1983).

Selfhout and colleagues (2009) found in a longitudinal dyad study that similarity in music preferences in Wave 1 predicted the selection of friends in Wave 2. This finding supports the main argument in MUSA-VALUES, that music provides a basis for friendship formation based on value similarity. An intriguing finding in the current thesis was that shared music preferences had facilitating effects, but unshared music preferences did not have denigrating effects for social relationships. Similar results were found in previous studies (e.g., Bakagiannis & Tarrant, 2006; North & Hargreaves, 1999). Selfhout et al. (2009) also demonstrated that differences in music preferences were not a reason for friendship discontinuation. These results suggest that shared music preferences have prosocial effects (e.g., ingroup favouritism, interpersonal bonding) and that different music preferences do not show negative effects on social attraction, but rather a lack of a prosocial effect.

On the implicit nature of social functions of music

Since music is ubiquitous, a further point of discussion is concerned with the implicit nature of the proposed processes. We cannot always choose what we are listening to; hence, music can influence us in an implicit way. Two processes are at hand: the value-music link and the social bonding. The implicit music-values link

relates to the research about exposure to pro- or anti-social music which showed effects on pro- or anti-social attitudes and behaviours (e.g., Greitemeyer, 2009a, 2009b; Hansen & Hansen, 1991). For instance, in a series of experiments Greitemeyer (2009a) showed that listening to prosocial songs (compared to neutral songs) increased prosocial thoughts, affect and prosocial behaviour. Greitemeyer (2009b) found further evidence that the music-behaviour link was mediated by empathy: prosocial songs increased interpersonal empathy which then increased prosocial behaviour. This research may relate to the music-values link as it offers a reinterpretation of Greitemeyer's (2009a, 2009b) results. I argue that behaviour (as a result of music exposure) might be based on value salience that is trigged (or primed) through prosocial songs. My argument is based on Feather's (1995) suggestion that "values may induce valences on potential actions and outcomes" (p. 1135). The exposure to prosocial songs may implicitly prime prosocial values which induce the valence for prosocial actions.

Another line of research that would be worth considering is concerned with automatic social influences. Dijksterhuis (2001) investigated the link between perception and (automatic) behaviour. He argued that the activation of behavioural or trait representation elicits many kinds of behaviour matching, such as facial expressions, or more complex motor, interpersonal and cognitive behaviours. It could be argued that prosocial music can trigger value representations, which then elicit prosocial behaviours. Such automatic or implicit processes may underpin the value-music link. However, more research in required to investigate the proposed implicit value processes.

The second process at hand is the social bonding process. The mechanisms underlying social bonding as proposed in MUSA-VALUES are not explicit processes; however, its implicit nature was not discussed, yet. Study 4 showed that the experimental manipulation of shared music preferences elicited social bonding potentials which were mediated by value similarity. Hence, it can be argued that social bonding is implicitly mediated by value similarity. The possibility of an implicit music-values-behaviour link as discussed above could underscore implicit social bonding mechanisms. However, the implicit nature of these processes should further be explored in more controlled experiments.

Overall, this thesis indicates that music seems to be a prosocial resource. This claim is in line with a broad range of related research on music and its evolutionary functions for human social interactions (e.g., Cross, 2001), its neurobiological role for

social bonding (Freeman, 2001), its synchronising effects which facilitate cooperative and prosocial behaviour (Wilthermuth & Heath, 2009), its ability to create collectives referred to as "neo-tribes" (Bennett, 1999) or new religious movements (Olaveson, 2004) and its direct effects to enhance prosocial behaviour (Greitemeyer, 2009a, 2009b). The current thesis aimed to contribute to the research highlighting the prosocial properties of music preferences.

Future directions, implications and applications for research on music listening
Future directions in music reception research

The research in this thesis is innovative in many aspects. However, this innovativeness also suggests that future research is needed to support the proposed claims in further samples. The current research was conducted by sampling educated, urban, young adults as participants. In order to generalise the findings of this thesis, further studies with samples of different age groups, occupational groups and rural regions would elucidate the research on social functions of music. Research could explore whether the holistic topography of musical functions entails similar functions and a similar structure in other samples.

Functional associations of social bonding through music and value-expression may elicit intriguing future inquiries on the functions of music. The holistic topography of musical functions invites further exploration into the interconnectedness of functions of music and the holistic investigation of underlying processes. The centrality of the social bonding function of music offers alternative associations that may facilitate musical bonding. Future research is required to shed light into these alternative links. For instance, one could posit that a shared musical experience with friends needs to be accompanied with emotional experiences, which are shared and exchanged within a specific cultural context. The musical experience is then enriched with shared emotional content, which becomes part of shared memories. These shared memories may be a unique element that bonds friends for a lifetime.

Furthermore, the influencing factors in the functions of music propose further research questions regarding the value-expressive function of music. What are the exact effects of age and gender in the use of music for value-expression? When are listeners aware of this function while using music personally or in social contexts? Such questions could be explored in future analyses of this function. Age difference is a particularly important aspect for future research. As Hargreaves and North (1999a)

concluded, the "cognitive, or knowledge based aspects of age differences in responses to music styles are clearly dependent in the social and cultural contexts within which they occur" (p. 193).

The current thesis provided insights for the cultural context component of Hargreaves and North's (1999a) argument by revealing that the context for global music preferences is a globalized context that is evident in participants' convergent value associations of global music preferences across the cultural samples. The current thesis focussed its sampling primarily on young people in order to achieve cross-cultural comparability of samples across cultures. The technical possibilities for global communication (particularly over the internet) have enabled the globalisation of socially constructed value-associations of music styles, particularly for young people.

However, it is likely that the current global music styles and their value-associations may be temporally contingent. For instance, Rock music may entail somewhat different value-associations for a 50-year-old banker than for his 15-year-old daughter. Hence, the value-music preference association may be a generational phenomenon that does not retain the same meaning across generations. Future research is needed to address the generational shifts and longitudinal developments in the value-associations of music preferences. For this research it is important a) to rely on established (global and culture specific) musical categories in order to enable longitudinal or cross-generational comparability, b) to capture the meaning associated with music styles, and c) to assess temporal changes.

The current research employed music styles as the level for capturing music preferences. This was appropriate since the cognitive representation of music styles was targeted in this research (cf. Chapter Two). Future research could include alternative assessments of music preferences. The value-expressive functions of songs could be investigated with varying conditions (played with or without lyrics; varying genres; varying artists). This could reveal the sources of the value message in music, which could be in the song itself, its lyrics, or transferred messages from the artists or - as argued in this thesis – it could be entailed in the meta-information of a music style (cf. Hargreaves & North, 1999a).

Music is often consumed along with visual media, particularly music videos. Music videos portray value-related messages and hence, provide an additional influence on musical messages. This source affects the meta-information which is cognitively anchored in music. The experience of music listening accompanied by visual media

however, is more comprehensive as it encompasses the song itself, the music styles it is embedded in, the lyrics, the image of the musician and the music video. Previous research analysed diverse sources of musical messages, such as lyrics (e.g., Greitemeyer, 2009a; Rothbaum & Xu, 1995) and music videos (e.g., Bryant, 2008; Dixon, Yuanyuan, & Conrad, 2009). The current research advances research with regard to the music style and its associations. However, in order to comprehensively capture the source of musical message a systematic analysis of all included sources would be desirable. This might be a challenge to research design given that diverse patterns may be present with regard to particular music and the listener.

Furthermore, there might be an intriguing distinction between music preferences of songs that are directly played and music preferences for music styles or artists that are listed in a questionnaire. Previous research suggested that "played" and "written" music preferences show different responses from the same participants (e.g., Behne, 2002, Hargreaves & North, 1997). However, the sources of this divergence remain to be explored. It could be argued that played music elicits more emotional based associations and expression due to emotional primacy effects (cf. Gaertner & Sedikides, 2005); whereas written statements about appreciations of music styles may elicit more abstract associations such as values, due to a cognitive primacy effect (cf. Lazarus, 1984). A systematic assessment of emotional and value-expressions (cf. Hevner, 1936) in played and written music preferences (and their interaction) could reveal new insights into the concept music preference extending traditional paper-and-pen approaches (as it was used in the current thesis).

Applications for intercultural communication

This thesis underlines the ability of music to support social bonding. However, are the social functions specific to music or do other activities serve similar social functions? I was touching on this point when discussing an extension of the MUSA-VALUES model. I suggested that other value expressive attitudes may be underpinned by similar social bonding processes as stated in the MUSA-VALUES model. For instance, people may assume similar values in others who have similar food preferences (e.g., vegetarians) or who engage in similar political activities (e.g., anti-nuclear protests). These assumed shared values then foster social bonding. While other activities and attitudes besides music preferences may also serve the social bonding function, future research is required to explore the strength of such bonding potentials.

Music seems very important to young people (cf. Rentfrow & Gosling, 2006) around the globe. This may indicate a particular strong potential of music for social bonding among this population. Furthermore, the potential to foster intercultural bonds may be particularly prevalent in music preferences considering the cross-cultural consistency of value associations. In the context of intercultural contact the coherent value message in music preferences may highlight people's common values. Thus, music may exhibit a strong capability for fostering social bonds across cultures. While the social function may not be specific to music, future research may explore its strength in intercultural contexts compared to other activities.

The thesis provides findings that can be applied and implemented in programmes to improve intercultural understanding. Previous research suggested that music can help decrease intercultural resentment and increase positive intercultural attitudes (e.g., Bensimon, 2009; Sousa et al., 2005). The current thesis advances our understanding of how music is similarly used across cultures for expressing values, for social bonding and for multiple other functions. Thus, insights from this thesis could be applied in intercultural communication programmes in multiple ways.

Intercultural communication sometimes fails due to misinterpretation of behaviours. Sensitiser trainings for instance try to enhance the awareness for intercultural similarities in underlying motives for behaviour (Bhawuk, 2001; Cushner & Landis, 1996). Music would provide a conflict free ground to illustrate commonalities between individuals of different cultural background in such programmes. Music offers various opportunities to convey communalities due to its multiple functions. For instance, music is associated with emotional reactions. Programmes making use of music could facilitate the creation of a shared emotionality among individuals of diverse cultural backgrounds, which may reduce the salience of intercultural differences (Brewer, 2003).

Furthermore, programmes could make use of the MUSA-VALUES model by pointing towards shared value orientations. The first two studies in this thesis showed that music preferences are consistently associated with value orientations. According to MUSA-VALUES the perceived similarity in values is an important facilitator for positive social attraction in interpersonal and intergroup settings. Study 4 suggests that MUSA-VALUES applies to intercultural interactions. Hence, music can be used in intercultural trainings to facilitate intercultural understanding through pointing towards shared value orientations.

These musical intercultural training programmes would be particularly suitable for younger audiences (cf. Sousa et al., 2005), for instance in conflict regions (cf. Benismon, 2009). Considering that these younger audiences could make a difference in future developments, more intercultural trainings should be offered that are particularly designed for these audiences (cf. Bennett, 2000). Music educators around the globe currently work towards an intercultural music curriculum in schools (e.g., Dodds, 1983; Elliot, 1995, 2005; McCarthy, 1996). Such curricula aim to sensitise students at an early age to develop an understanding for musical, social and cultural diversity. The findings of the current thesis underscore and advance such attempts by providing empirical evidence for the facilitating effects of sharing musical proclivity.

I argued that music is a powerful prosocial resource which can be used to improve intercultural understanding. More research is required to support the generalisability of this claim. Furthermore, antecedents and motivations of intercultural contact and conflict are important contextual facets within the process of intercultural communication that urgently need more systematic attention in this research. Needless-to-say; music will not bring peace into a violent conflict. However, initial evidence showed that under the right conditions, appropriate music used in a culturally sensitive way can indeed improve conflictive situations (Bensimon, 2009).

Prospects of a cross-cultural psychology of music listening

Cross-cultural investigations of music psychology are still nascent, but promise to be a rich and stimulating area for more research. The current thesis revealed intriguing cross-cultural similarities and also differences in the functions of music listening. Most global music styles had similar value-associations across cultural samples (e.g., Global Rock and Global Pop), while some of the global music styles also had particular meanings indicated by culture specific value associations (e.g., Country music and Samba) in Study 1. The value-expressive function of music preferences applies across cultures with cross-culturally consistent as well as culture-specific facets. The social bonding function of shared music preferences was facilitated by shared value-associations in two culturally diverse samples (Studies 3 and 4). Furthermore, when measured by RESPECT-MUSIC, the social bonding function was independent of cultural background of participants or age and gender effects, pointing towards a universal function (in the cultural samples studied). Other functions however, showed cultural differences, such as the diversion and emotions in the cultural experience of

music, which was more prevalent for collectivistic participants than for individualistic participants in Study 5. Study 6 revealed cross-cultural differences in socio-cultural functions of music (the expression of cultural identity in music, family bonding through music and music as expression of political attitudes). Although generalising claims cannot be drawn from the current thesis due to its focus on young audiences, inspirations for future research can still be gained.

Samples from other cultures including rural populations may be interesting samples to further explore the culture-comparative psychology of music listening. In order to develop a cross-cultural psychology of music, research could systematically address the holistic topography of musical functions while assessing its applicability in different populations. Other samples such as from aged rural populations of developing nations require alternative methods, since well-established survey measures are not likely to work in these settings (e.g., Kim, Yang, & Kwang, 2006). Indigenous methods like indigenous interview techniques have much potential to reveal cultural sensitive and valid information about music and its use in such contexts (e.g., Pe-Pua, 2006).

A multi-level perspective on musical functions calls for large-scale multi-cultural studies to include diverse samples in order to elicit personal, social and socio-cultural determinants of music preferences and the everyday use of music. Our understanding of the functions of music would benefit from interdisciplinary research collaborations working together on multi-level theoretical accounts on this subject.

Music preferences have great potential for intergenerational bonding (cf. Studies 5 and 6), despite possible generational shifts in the meaning. Research could address the social bonding over music in families using an extended MUSA-VALUES model including additional facilitating aspects such as shared emotions. Since the family bonding function of music was culturally determined (see Study 6), culture specific music styles may have particular meaning within families and family traditions. It also seems feasible that different concepts facilitate musical bonding in families across cultures, such as embeddedness or respect. These culture specific components could be explored in more detail in addition to general processes proposed in MUSA-VALUES. Hence, musical bonding within the family offers a fascinating avenue for cross-cultural research on music and on family dynamics.

Musical behaviours offer an exciting applied field for cross-cultural research. Emerging cross-cultural research methods emphasise a paradigm shift from exploring cross-cultural similarities and differences to explaining them (van de Vijver & Leung,

2000). While emic, ethnopsychological and indigenous approaches advance our understanding of processes rooted within one particular culture, cross-cultural approaches systematically examine similarities and aim to explain occurring differences based on cultural dimension, ecological factors or other culture-relevant components such as history. Music is one of the most impressive elements of human life encompassing both culture-specifics and universals. The dominant approach in ethnomusicology explored culture-specifics. A cross-cultural psychology of music could advance our understanding of musical universals as well as shared underlying processes in culture-specific components. The integration of the examination of both universals and culture-specifics is a key ingredient for the future research on music. As Nercessian (2002) noted, the intercultural reception of music in the context of globalisation makes the strict distinction of emic vs. etic approaches outdated. A systematically developed cross-cultural psychology of music offers an integration of both perspectives. The crucial challenge for future research is to work with qualitative and quantitative methodologies as attempted in Chapter Four. However, more elaborate methodological approaches are needed in future research. For instance, qualitative indigenous approaches could inform quantitative methodologies that can be assessed cross-culturally. Even more promising is the use of a cross-indigenous approach to inform cross-cultural research (Enriquez, 1979, 1997; Pe-Pua, 2006). The cross-indigenous approach combines various indigenous perspectives from within cultures in order to form a cross-cultural understanding about the phenomenon at hand. Such an approach could merge indigenous work into developing an innovative and insightful cross-cultural psychological perspective on musical functions.

This thesis contributes to the development of an exciting and relevant new area of psychological inquiry in cross-cultural research: a cross-cultural psychology of music listening. The findings provided novel perspectives on contemporary music reception research as well as cross-cultural psychology. While the first tends to focus on the individual experiences with music, the latter has rarely considered music at all. This new field of research could contribute significantly to the study of music, culture, and human behaviour.

The current thesis explored how music is used across cultures for expressing values, for social bonding and for multiple other functions. Music is an impressive human phenomenon. Globalisation with all its technological developments offers

endless opportunities for musical and cultural exchange between people around the globe. Music's ties to culture, its ability to cross borders and unify people comprises opportunities for improving intercultural understanding. Research should consider these developments since it construes the social realities of future generations. This thesis provided an exploration of the social functions of music across cultures. Music is a powerful prosocial resource that merges universal properties and multicultural characteristics.

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APPENDICES

Appendix A: Additional information from Chapter Two

Appendix A1

Factor structure of initial 13 global music preferences in four samples (Study 1; PCA, procrustean target rotation towards pooled within groups solution, structure similarity coefficient Tucker's Phi)

	Factor loadings																			
	Factor 1				Factor 2				Factor 3				Factor 4				Factor 5			
	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge	Br	Ph	NZ	Ge
Classical	**0.73**	**0.66**	**0.84**	**0.87**	0.19	-0.03	-0.18	-0.08	0.09	-0.15	-0.05	0.05	0.19	-0.33	0.22	0.13	0.20	0.17	0.06	-0.02
Country	0.07	0.31	.036	-0.01	-0.03	0.16	0.11	0.12	0.13	0.13	0.21	-0.11	0.13	0.11	-0.13	-0.08	**0.74**	**0.77**	**0.58**	**0.91**
Hip-hop	-0.21	-0.19	-0.22	-0.15	0.20	0.27	-0.17	**-0.44**	**0.50**	**0.56**	**0.69**	**0.43**	**-0.54**	-0.36	-0.29	**-0.47**	0.11	0.12	0.13	0.03
Jazz/Blues	**0.75**	**0.72**	**0.63**	**0.55**	0.26	0.11	-0.13	-0.18	-0.21	0.30	-0.23	0.20	-0.20	0.04	**-0.41**	-0.35	0.01	-0.01	0.21	0.26
Metal	0.14	-0.25	0.11	0.09	**0.75**	**0.75**	**0.79**	**0.62**	0.11	-0.15	-0.18	-0.36	0.12	-0.27	0.09	0.33	-0.09	0.21	-0.16	0.05
Punk	-0.14	0.06	-0.14	0.07	**0.76**	**0.75**	**0.82**	**0.82**	0.00	-0.27	0.07	0.09	-0.08	-0.14	-0.06	-0.21	0.28	0.09	0.14	-0.07
Pop	0.20	0.10	-0.18	0.21	-0.07	-0.04	-0.33	0.12	**0.82**	**0.76**	**0.66**	**0.75**	0.20	-0.11	0.15	-0.11	0.05	0.29	**0.44**	0.14
Reggae	0.14	**0.45**	0.17	-0.01	0.21	**0.45**	0.13	0.22	0.16	0.38	0.16	0.10	**-0.75**	-0.25	**-0.87**	**-0.77**	-0.06	-0.20	-0.10	0.34
Rock	0.29	0.18	-0.09	0.07	**0.55**	**0.75**	**0.84**	**0.80**	0.38	0.20	-0.24	0.00	-0.09	-0.24	-0.06	-0.26	-0.31	-0.21	0.01	-0.03
Samba	0.08	0.30	**0.45**	0.55	-0.37	-0.22	-0.15	-0.19	0.29	0.13	0.07	0.20	**-0.60**	**-0.79**	-0.39	**-0.47**	0.14	0.22	**0.49**	0.22
Techno	0.02	-0.05	-0.02	0.00	0.28	0.10	0.21	-0.08	**0.58**	**0.67**	**0.80**	**0.80**	-0.08	-0.36	-0.12	0.29	0.13	0.18	-0.19	0.26
Gospel	-0.04	0.36	-0.01	**0.42**	0.06	0.03	-0.25	-0.05	-0.06	0.25	0.01	**0.40**	-0.08	0.12	-0.36	**-0.47**	**0.83**	**0.74**	**0.72**	0.23
Folk Music	**0.79**	0.38	0.21	**0.44**	-0.02	0.00	0.21	0.28	-0.04	-0.14	-0.06	-0.16	-0.26	-0.30	-0.22	-0.09	-0.07	**0.69**	0.25	**0.41**
Tucker's Phi	0.96	0.82	0.91	0.87	0.92	0.95	0.95	0.91	0.85	0.89	0.91	0.92	0.96	0.54	0.91	0.87	0.92	0.86	0.86	0.72

Note. Samples: Br – Brazil (N = 403); Ph – Philippines (N = 232); NZ – New Zealand (N = 150); Ge – Germany (N = 171);
Factor loadings equal or above 0.40 in bold

Appendix B: Additional information from Chapter Three

Appendix B1

Websites used for online data collection (Study 4)

Website	Description	Main site invitation / forum
Hip-hop communities		
www.deutscher-rap.de	German Hip-hop magazine and forum	Main site invitation
www.hiphop.de	International Hip-hop magazine and forum	Forum
www.mzee.com	German Hip-hop magazine and forum	Forum
www.rappers.in	Hip-hip magazine and forum	Forum
www.rap.de	International Hip-hip magazine	Forum
www.black-music.org	African American music magazine and forum	Forum
www.worldofhiphop.com	Hip-hop forum	Forum
www.rapbattles.forencity.de	Hip-hop forum	Forum
www.dasding.de	General music forum of a local Radio station	Hip-hop forum
www.germanrhymes.de/	Hip-hop magazine	guest book
www.lycos.de	General forum	Hip-hop forum
Metal communities		
www.powermetal.de	Local Metal magazine and forum	Main site invitation
www.metal.de	International Metal	Forum
www.metallized.de	Metal magazine and forum	Forum
www.metalforum.de	Metal forum	Forum
www.darkness.de	Metal and dark music mail order and forum	Forum
www.musik-forum.net	General music forum (dominated by Rock and Metal fans)	Forum
www.musik-forum.musik-base.de/	General music forum (dominated by Rock and Metal fans)	Forum
www.whiskey-soda.de	Alternative music magazine and forum	Metal Forum

Appendix B2

Compatibility of two versions in three cultural conditions (Study 4)

Condition	Version	M (SD)	df	F	p
Dependent variable: general similarity					
No culture	Street	3.35 (0.97)	1, 15	0.10	ns
	Moved town	3.19 (1.12)			
positively stereotyped outgroup	Sweden	4.21 (1.17)	1, 16	0.88	ns
	Brazil	3.73 (0.65)			
negatively stereotyped outgroup	Poland	3.66 (1.01)	1, 14	0.01	ns
	Turkey	3.59 (1.69)			
Dependent variable: social attraction					
No culture	Street	4.83 (1.18)	1, 16	0.12	ns
	Moved town	4.64 (1.21)			
positively stereotyped outgroup	Sweden	5.36 (1.02)	1, 17	0.07	ns
	Brazil	5.24 (0.84)			
negatively stereotyped outgroup	Poland	4.70 (0.94)	1, 15	0.22	ns
	Turkey	4.94 (1.13)			
Dependent variable: similarity in values					
No culture	Street	3.33 (1.32)	1, 13	1.45	ns
	Moved town	4.20 (1.50)			
positively stereotyped outgroup	Sweden	4.22 (0.86)	1, 10	0.39	ns
	Brazil	3.94 (0.66)			
negatively stereotyped outgroup	Poland	3.55 (0.83)	1, 12	1.38	ns
	Turkey	4.24 (1.10)			
Dependent variable: similarity in personality					
No culture	Street	3.23 (1.34)	1, 13	1.47	ns
	Moved town	4.16 (1.64)			
positively stereotyped outgroup	Sweden	3.62 (0.46)	1, 8	1.20	ns
	Brazil	4.20 (1.21)			
negatively stereotyped outgroup	Poland	3.35 (0.61)	1, 12	0.73	ns
	Turkey	3.81 (1.21)			

Appendix C1

Websites used for data collection (Study 5)

Host Country	Website	Target group of website
Philippines	http://www.philmusic.com	Music fans: mainstream, Pop, HipHop
	http://www.rakista.com	Music fans: Rock
	http://www.filipinometal.com/	Music fans: Metal
	http://www.bandstand.ph	Music fans and local musicians
	http://www.pinoyrap.com	Music fans: Filipino HipHop and Rap
Singapore	http://www.soft.com.sg	Music fans and local musicians: Rock
	http://www.echoloft.com/	Music fans (sound and hifi interest)
	http://www.youth.sg/forum/	Youth
	http://maydaysg.suddenlaunch2.com/	Music fans: rave, Techno
	http://sg.fusion.yahoo.com	Music fans: various genres
Hong Kong	http://www.tmfhk.com/	Music fans
	http://www.cpopmusic.co.uk/community/	Music fans: Chinese Pop
	http://www.chinese-forums.com/	Music fans
	http://www.yahoo.hk	Music fans
	http://www.hkvpradio.com/	Music fans
Germany	http://forum.lycos.de/fd/7/Musik.html	Music fans: Pop
	http://www.spin.de/	Music fans: various genres
	http://www.feierei.de	Music fans: electronic music
	http://www.intro.de	Music fans: independent rock
	http://forum.laut.de/	Music fans: mainstream, rock
Brazil	http://www.orkut.com	Young audience
	Various forums in Orkut	Music fans
	http://www.cliquemusic.com.br	Music fans: various genres
	http://www.mtv.uol.com.br	Music fans: various genres
	Additional snowballing emails	Music fans
U.S.	http://www.myspace.com	Music fans
	http://www.keepmusicalive.com	Music fans
	http://www.muzicforums.com	Music fans: various genres
	http://www.beatking.com	Music fans: Hip-hop
	http://www.music-forums.org	Music fans: various genres
New Zealand	http://www.ripitup.co.nz/	Music fans: variuos genres
	http://www.amplifier.co.nz	Music fans: New Zealand music
	http://back2basics.hiphopnz.com/	Music fans: Hip-hop
	http://www.nzmusic.com	Music fans: New Zealand music
	http://www.c4tv.co.nz	Music fans

Additional quotes for sub-functions of music (Study 5)

Main function	sub-function	
Music in the Background		
	Sideline activity	"*I listen to music while just going about my daily routine*" (M, 25 years, USA)
		"[I] *listen to music while performing another activity, i.e. surf on the net, driving etc*" (F, 24 years, Hong Kong)
	Pastime	"[Music is a] *relief from the boredom*" (M, 47 years, New Zealand)
		"[Music] *fills in gaps*" (F, 15 years, England)
		"*It kept me company on my travelling journeys*" (M, 35 years, Singapore)
	Social atmospheres	"*it sets the vibe when we hang out*" (M, 19 years, Philippines)
		"*I can't remember a time when I would hang out with friends when music wasn't on*" (F, 25 years, USA)
Memories through Music		
	Reminiscence alone	"*Of course being taken back in time by music works best when you're alone*" (M, 20 years, Netherlands).
		"[Music] *is like live again my past, it's memory of the old days and the story of the next one*" (F, 19 years, Brazil).
		"*Certain tracks can evoke memories like relationships and other emotional feelings*" (M, 29 years, Singapore)
	Reminiscence with others	"*Music is a way of sharing the good old memories of our lives when the song first appeared*" (M, 34 years, Malaysia)
		"*It is also how we remember, now, what year it was. For example, we think of 1978 as sunbathing with Marley on the radio*" (M, 42 years, New Zealand).
Music as Diversion		
	Entertainment	"*Music is a good way to entertain yourself or others*" (M, 17 years, New Zealand)
		"*I'm not the kind of person who is concerned with the lyrics or who extensively thinks about the subtleties of a song. For me music is a source of entertainment which I like to use*" (F, 17 years, Germany).
	Enjoyment	"*Mainly to have fun*" (F, 15 years, Germany)
		"*giving me immense enjoyment*" (F, 20 years, New Zealand)
	Dance	"*My mother likes Forro because she likes to dance to this music*" (F, 25 years, Brazil)
		"*Along with listening to the music there is the dancing that helps on the 'feeling good' part*" (F, 28 years, Brazil).
Emotion in Music		
	Conveying	"*It is astonishing of how much emotion and nuances music indeed can carry*" (M, 35 years, Finland).
		"[Music is] *emotions flowing in sound*" (M, 16 years, USA)
	Triggering	"*Trigger emotions*" (F, 14 years, Germany)
		"G*oosebumps came all over and a sense of euphoria occurred*" (M, 21 years, Singapore)
		"M*usic should [...] evoke a feeling. Music is the most powerful thing on earth, psychologically*" (M, 18 years, England)
	Expressing	"[Music] *gave me a way to express and find expression of my emotional states*" (F, 29 years, Italy)
		"*Music is translation of all the feelings we've got inside*" (F, 20 years, Brazil)
		"*For me music means almost everything, because it expresses my emotions, so that others recognise how I feel*" (F, 14 years, Germany).
	Regulating	"*I channel negative emotions [...] through listening to music and convert them into positive ones*" (F, 30 years, Germany).
		"*I was listening to Enya and felt sad and I thought about everything I've failed at and when I switched to System Of A Down I got energetic and happy*" (M, 16 years; US)
		"*Music influences me by changing, affecting or reinforcing whatever mood I'm in*" (F, 20 years, New Zealand).

Self-regulation through Music	
Relaxation and stress relief	"S*erves as a form of relaxation*" (M, 17 years, Singapore) "*Stress relief*" (F, 31 years, New Zealand)
Improving creativity, focus and energy	"*I was at work, trying to focus on solving a problem. Listening to music allows me to concentrate. The pace of the music also enthuses me and gives me a sense of creativity*" (M, 27 years, New Zealand) "[*Music*] *gave me the spirit to go through activities and daily chores with much more energy and passion*" (M, 29 years, Singapore).
Reducing loneliness	"*It's my companion when I was lonely*" (M, 35 years, Singapore) "*Songs gave me the idea that I was not alone, because there was someone who was experience the same thing*" (F, 29 years, Brazil
Escapism	"[*Music is my*] *hide out when times are bad*" (F, 17 years, Singapore), "*It makes me feel transposed to another world, out of reality for a few moments*" (M, 19 years, Brazil) "[*Listening to favourit music*] *with the right atmosphere can bring you a sense of detachment from this world, this time, these people. So you forget about the problems this world has and you may have yourself. Music can make you (feel) immune to the world's ills, so to speak*" (M, 20 years, Netherlands)
Venting	"*Alleviate [...] frustration*" (F, 19 years, Sweden) "*Release pressure*" (F, 26 years, Hong Kong) "*Music helps [...] to let off steam*" (F, 14 years, Germany)
Therapy	"[*Music*] *can ease my sorrow*" (M, 29 years, Singapore) "*It's my salvation when I'm down*" (F, 17 years, Singapore) "*[Music is a] form of therapy*" (M, 19 years, the Philippines; F, 18 years, Finland) "*Music is one of the reasons I think life is worth living ...gives me hope and strength to keep going. For my brother music is one of the reasons why he hasn't tried to kill himself again (which is very sad indeed)*" (F, 30 years, Brazil)

Appendix C3

Gender differences in functions of music listening (Study 5; Percentage of occurrence in responses)

Function of music	female N = 131	male N = 89	*Chi-square* [1] df = 1
Background	11 %	14 %	0.81
Memories	6 %	7 %	0.05
Diversion	20 %	21 %	0.01
Emotion	21 %	11 %	11.65***
Self-regulation	23 %	18 %	2.26
Identity	16 %	21 %	2.05
Social Bond	16 %	14 %	0.27

[1] with continuity correction
* $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$; Asymptotic Significance (2-sided)

Appendix C4

Age group differences in functions of music listening (Study 5; percentage of occurrence in responses)

Function of music	< 25 N = 148	25+ N = 74	*Chi-square* [1] df = 1
Background	12 %	15 %	1.24
Memories	6 %	8 %	0.24
Diversion	18 %	26 %	4.54*
Emotion	20 %	11 %	8.68**
Self-regulation	23 %	17 %	2.71
Identity	18 %	21 %	1.73
Social Bond	14 %	18 %	1.06

[1] with continuity correction
* $p < 0.05$, ** $p < 0.01$, ***$p < 0.001$; Asymptotic Significance (2-sided)

Appendix C5

Cross-cultural comparison of functions of music listening at the individual level (Study 5; Percentage of occurrence in responses; N = 172, sub-samples matched by age)

Function of music	Western Anglophone N = 49	Western Non-Anglophone N = 45	Asian N = 44	South American N = 34	*Chi-square* df = 3
Background	8%	11%	19%	8%	5.37
Memories	4%	15%	6%	4%	8.42*
Diversion	32%	24%	15%	24%	5.86
Emotion	21%	35%	12%	20%	10.89*
Self-regulation	27%	39%	33%	33%	2.77
Identity	20%	21%	29%	20%	2.30
Social Bond	12%	6%	1%	6%	6.53

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Significance (2-sided)

Appendix C6

Factor structure of initial 74 items (Study 6; PCA with Varimax rotation; pooled within correlation matrix, N = 1085)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13
Whatever I do, I listen to music in the background.						0.74							
I need music in the background while doing something else.						0.80							
In many situations I need music in the background.						0.78							
Music in the background keeps the ambience warm and cosy when I meet my friends.						0.40		0.34					
Music sets the vibes when I hang out with my friends.	0.58					0.33		0.30					
Music creates a nice environment in social settings.	0.31					0.35							
Some pieces of music remind me of phases of my life.		0.32						0.68					
Listening to a particular song can remind me of past events.								0.71					
Listening to music with friends is a way of sharing good old memories of our lives.	0.45							0.61					
Through music my friends and I can commemorate happy past moments together.	0.50							0.58					
Listening to music is a good way to entertain myself.												0.55	
I enjoy listening to music.			0.32									0.61	
Listening to music is a way to have fun.			0.34									0.58	
I like dancing to certain music.							0.92						
I like to go dancing, and the type of music is essential for this.							0.85						
Some music makes me want to dance.							0.86						
I believe good music should convey emotions.		0.66											
It's important to me that music transports feelings.		0.77											
Music is emotion flowing in sound.		0.67											
Feelings conveyed in a song can make my heart melt.		0.81											
Some songs pluck my heartstrings.		0.70											
Some songs are so powerful that they are able to bring tears into my eyes.		0.70											
I can indulge in my emotions listening to particular music.		0.69											
I use music to indulge in certain moods I'm in.		0.50											
Through music I can regulate my emotions.		0.37	0.53										
Music enhances the mood I'm in.		0.45	0.33										
Music can be a great stress reliever.			0.73										
Music makes me calm.		0.30	0.62										
Music seems to reduce stress.			0.78										
Music gives me energy to go through the day.			0.49		0.35								
Music helps me to focus.			0.30							0.75			
Music gives me the spirit to go through activities and daily chores with much more energy and passion.			0.46										
Listening to music allows me to concentrate.			0.34							0.75			

Item	F1	F2	F3	F4	F5	F6	F7	F8	F9
I can keep my focus on a task while listening to the right music.						0.78			
Music gives me the feeling that there is someone who understands me.		0.60			0.32				
If a songs describes exactly how I feel. then I don't feel so lonely with my emotions anymore.		0.57			0.36				
Through music I know that somebody else feels the same emotions as I do.		0.60							
Music keeps my mind off the outside world.			0.32		0.66				
The right song and atmosphere can bring me a sense of detachment from this world.		0.41	0.33		0.40				
Music makes me forget about reality.		0.30	0.35		0.65				
Music is a means of venting my frustration.			0.66						
Through listening to music I can let off steam.			0.75						
Music is what alleviates my frustration.			0.67						
Songs can give comfort to me when I'm sad.		0.49	0.49						
Music helps me to cope with crisis.		0.34	0.50		0.42				
Without music I couldn't cope with many life situations.			0.30		0.46				
For me music is a way of expressing myself.	0.31	0.40		0.39					
Music plays an important role in shaping and reflecting my personal identity.	0.43	0.34		0.52					
Through music I can belong to a group of people who like the same kind of music as I do.	0.70								
I share my lifestyle with other people who like the same kind of music.	0.67								
I identify with a particular music scene.	0.46			0.45					
Music is a reflection of a country's culture and history.									0.75
The music of my country represents an image of my country to the outside world.									0.83
The music in my country is part of building our identity.									0.80
Somehow music steers my approach to life and my values.	0.32	0.31		0.57					
Music is very important in the process of developing my values.	0.33			0.60					
I usually listen to music that goes somewhat with my political beliefs.							0.79		
Music plays an important role in my life as a means of political engagement.							0.79		
My favourite music is often political.							0.86		
My personal development was positively influenced by music.	0.33			0.56					
The topic music comes up in conversations with my friends.	0.49							0.54	
Going to concerts and listening to records is a way for me and my friends to get together and relate to each other.	0.78								
I spent time listening to music with my friends.	0.62							0.37	
I meet with friends and listen to good music.	0.71								
We live these moments of true connection when I listen to music or go to concerts with my friends.	0.68								
Music makes us - me and my friends - feel truly united and as one.	0.72								

It creates a stronger bond to friends if I share musical taste with them.	0.63												
Music helps me to form friendships with people through similar musical taste.	0.74												
Music helps me to have more friends.	0.61												
In some cases music has been the main reason for my friendship with certain people.	0.68												
I like talking to my family about music.				0.81									
Music allows me to have a common interest with my family.				0.83									
I enjoy listening to music with my family/relatives.				0.81									
Our shared music taste is something that brings my family together.				0.82									
Eigenvalue	23.61	4.74	4.12	3.31	2.66	1.94	1.73	1.64	1.54	1.39	1.17	1.14	1.06
Variance explained (67.63%)	31.91	6.40	5.57	4.47	3.59	2.62	2.34	2.21	2.08	1.88	1.59	1.54	1.43

Note. Factor loadings above 0.30 displayed; Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 12 iterations.
Grey: Items excluded in successive PCA.

Appendix C7

Comparison of functions of music listening between age groups and gender (Study 6; ANOVA, two-way interaction effects between age and culture, gender and culture; three-way-interaction between culture, gender and age)

	Age groups					Gender		Two-way interaction		Three-way interaction
	under 17 years	17 to 19 years	20 to 24 years	25 to 34 years	over 34 years	male	female	*Culture x gender*	*Culture x age group*	
	N = 52	N = 274	N = 399	N = 184	N = 59	N = 557	N = 412			
FOMI	M	M	M	M	M	M	M	*F* (2, 959)	*F* (8, 959)	*F* (12, 959)
Emotions	5.52	5.12	5.46	5.27	5.66	5.25	5.44	0.34	1.64	1.23
Friends	4.80	4.70	4.73	4.67	4.67	4.76	4.64	0.36	1.24	1.60
Family	3.45	3.38	3.23	3.05	3.05	3.08	3.46	1.16	1.12	0.71
Venting	5.56	5.05	5.38	4.88	5.01	5.31	5.00	1.55	2.39 *	1.45
Background	5.26	4.78	4.60	4.41	3.97	4.65	4.55	0.77	0.93	0.97
Dancing	4.77	5.48	5.09	5.01	4.70	4.76	5.69	0.10	0.92	0.49
Focus	4.81	4.32	4.37	3.85	4.27	4.38	4.13	1.62	1.15	1.78 *
Values	5.42	4.32	4.78	4.77	4.85	4.91	4.39	0.90	4.05 ***	1.83 *
Politic	2.85	2.90	3.14	3.16	2.88	3.11	2.95	1.66	1.47	1.61
Cultural Id	3.90	3.63	3.92	3.94	3.77	3.63	4.11	0.55	2.76 **	1.40

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; $N = 968$ due to missing data in demographic variables

Appendix D1

Survey used in Study 1 (New Zealand version)

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

International Music Survey 1: Values and Music preferences

Dear Participant,

You are invited to participate in this survey on musical preferences, values and national identity. The research is being conducted by Diana Boer and supervised by Dr Ronald Fischer at Victoria University Wellington. We are interested in how certain domains of identity, like personal values, are represented in your musical preferences.

It will take about 15 minutes to fill out the questionnaire. Your answers are completely anonymous and only investigators directly involved in the project will have access to the data. You will never be personally identified in this research project or in any presentation or publication. The information you provide will be coded by number only.

I would appreciate if you would be willing to fill out the following questionnaire. Your participation is entirely voluntary. You are free to withdraw at any stage before you complete and hand back the questionnaire to us or submit the on-line version. By completing and returning the questionnaire you agree that the data will be used and analysed.

On the following pages, you will be asked a number of questions about your personal values, and your preferences in music. Please answer these questions as honestly as possible using the provided rating scales by marking the appropriate number. Please remember, there are no right or wrong answers. We are interested in your personal opinion on these issues.

Thank you very much for your help and cooperation.

SECTION 1: VALUES

Here we briefly describe some people. Please read each description and think about how much each person is or is not like you. Tick the box to the right that shows how much the person in the description is like you.

	How much is this person like you?					
	Very much like me	**Like me**	**Some-what like me**	**A little like me**	**Not like me**	**Not like me at all**
01. Thinking up new ideas and being creative is important to him/her. He/she likes to do things in his/her own original way.	1	2	3	4	5	6
02. It is important to him/her to be rich. He/she wants to have a lot of money and expensive things.	1	2	3	4	5	6
03. He/she thinks it is important that every person in the world be treated equally. He/she wants justice for everybody, even for people he/she doesn't know.	1	2	3	4	5	6
04. It's very important to him/her to show his/her abilities. He/she wants people to admire what he/she does.	1	2	3	4	5	6
05. It is important to him/her to live in secure surroundings. He/she avoids anything that might endanger his/her safety.	1	2	3	4	5	6
06. He/she thinks it is important to do lots of different things in life. He/she always looks for new things to try.	1	2	3	4	5	6
07. He/she believes that people should do what they're told. He/she thinks people should follow rules at all times, even when no-one is watching.	1	2	3	4	5	6
08. It is important to him/her to listen to people who are different from him/her. Even when he/she disagrees with them, he/she still wants to understand them.	1	2	3	4	5	6
09. He/she thinks it's important **not** to ask for more than what you have. He/she believes that people should be satisfied with what they have.	1	2	3	4	5	6
10. He/she seeks every chance he/she can to have fun. It is important to him/her to do things that give him/her pleasure.	1	2	3	4	5	6
11. It is important to him/her to make his/her own decisions about what he/she does. He/she likes to be free to plan and to choose his/her activities for him/herself.	1	2	3	4	5	6
12. It's very important to him/her to help the people around him/her. He/she wants to care for other people.	1	2	3	4	5	6
13. Being very successful is important to him/her. He/she likes to impress other people.	1	2	3	4	5	6
14. It is very important to him/her that his/her country be safe from threats from within and without. He/she is concerned that social order be protected.	1	2	3	4	5	6
15. He/she likes to take risks. He/she is always looking for adventures.	1	2	3	4	5	6
16. It is important to him/her always to behave properly. He/she wants to avoid doing anything people would say is wrong.	1	2	3	4	5	6

	How much is this person like you?					
	Very much like me	Like me	Some-what like me	A little like me	Not like me	Not like me at all
17. It is important to him/her to be in charge and tell others what to do. He/she wants people to do what he/she says.	1	2	3	4	5	6
18. It is important to him/her to be loyal to his/her friends. He/she wants to devote him/herself to people close to him/her.	1	2	3	4	5	6
19. He/she strongly believes that people should care for nature. Looking after the environment is important to him/her.	1	2	3	4	5	6
20. Religious belief is important to him/her. He/she tries hard to do what his/her religion requires.	1	2	3	4	5	6
21. It is important to him/her that things be organized and clean. He/she **doesn't** want things to be a mess.	1	2	3	4	5	6
22. He/she thinks it's important to be interested in things. He/she likes to be curious and to try to understand all sorts of things.	1	2	3	4	5	6
23. He/she believes all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to him/her.	1	2	3	4	5	6
24. He/she thinks it is important to be ambitious. He/she wants to show how capable he/she is.	1	2	3	4	5	6
25. He/she believes it is best to do things in traditional ways. It is important to him/her to follow the customs he/she has learned.	1	2	3	4	5	6
26. Enjoying life's pleasures is important to him/her. He/she likes to 'spoil' him/herself.	1	2	3	4	5	6
27. It is important to him/her to respond to the needs of others. He/she tries to support those he/she knows.	1	2	3	4	5	6
28. It is important to him/her to be obedient. He/she believes he/she should always show respect to his/her parents and to older people.	1	2	3	4	5	6
29. He/she wants everyone to be treated justly, even people he/she doesn't know. It is important to him/her to protect the weak in society.	1	2	3	4	5	6
30. He/she likes surprises. It is important to him/her to have an exciting life.	1	2	3	4	5	6
31. He/she tries hard to avoid getting sick. Staying healthy is very important to him/her.	1	2	3	4	5	6
32. Getting ahead in life is important to him/her. He/she strives to do better than others.	1	2	3	4	5	6
33. Forgiving people who might have wronged him/her is important to him/her. He/she tries to see what is good in them and not to hold a grudge.	1	2	3	4	5	6
34. It is important to him/her to be independent. He/she likes to rely on him/herself.	1	2	3	4	5	6
35. Having a stable government is important to him/her. He/she is concerned that the social order be protected.	1	2	3	4	5	6

	How much is this person like you?					
	Very much like me	**Like me**	**Some-what like me**	**A little like me**	**Not like me**	**Not like me at all**
36. It is important to him/her to be polite to other people all the time. He/she tries never to disturb or irritate others.	1	2	3	4	5	6
37. He/she really wants to enjoy life. Having a good time is very important to him/her.	1	2	3	4	5	6
38. It is important to him/her to be humble and modest. He/she tries not to draw attention to him/herself.	1	2	3	4	5	6
39. He/she always wants to be the one who makes the decisions. He/she likes to be the leader.	1	2	3	4	5	6
40. It is important to him/her to adapt to nature and to fit into it. He/she believes that people should not change nature.	1	2	3	4	5	6

Please read carefully the basic values listed below and their descriptions. Please indicate how important you consider each of these values **as a guiding principle in your life**. Please write the **according rating of importance beside each value**.

1 Completely Unimportant	2 Not Important	3 Not Very Important	4 More or Less Important	5 Important	6 Very Important	7 Of the Utmost Importance

01.____**OBEDIENCE.** To fulfill your daily duties and obligations; to respect your parents, superiors or elders.

02.____**SUCCESS.** To reach your goals; to be efficient in everything you do.

03.____**SOCIAL SUPPORT.** To obtain help when you need it; to feel that you are not alone in the world.

04.____**KNOWLEDGE.** To look for the latest news on matters of interest for you; to try to discover new things about the world.

05.____**EMOTION.** To enjoy challenges and unknown situations; to look for adventure.

06.____**POWER.** To have the power to influence others and to control decisions; to be the boss of a team.

07.____**AFFECTIVITY.** To have a deep and enduring affectionate relationship; to have somebody to share successes and failures.

08.____**RELIGIOSITY.** To believe in God as the saviour of humanity; to complete the will of God.

09.____**HEALTH.** To look after your health at all times, not just when sick; not to be sick.

10.____**PLEASURE.** To live for the moment; to satisfy all your desires.

11.____**PRESTIGE.** To know that a lot of people know and admire you; when you are older to receive an homage for your contributions.

12.____**SEXUALITY.** To have sexual relationships; to obtain sexual pleasure.

13.____**PERSONAL STABILITY.** To have the certainty that tomorrow you will have all that you have today; to have an organized and planned life.

14.____**BELONGING.** To have good neighbourly relationships; to form part of a group (e.g., social, religious, sporting, etc.)

15.____**BEAUTY.** To be able to appreciate the best in art, music and literature; to go to museums or exhibitions where you can see beautiful things.

16.____**TRADITION.** To follow the social norms of your country; to respect the traditions of your society.

17.____**SURVIVAL.** To have water, food and shelter every day in your life; to live in a secure place with enough food.

18.____**MATURITY.** To feel that your purpose in life has been fulfilled; to develop all your capacities.

SECTION 2: MUSIC PREFERENCES
How do you like the following music styles?
Please rate the music styles from "1 – I don't like it at all" to "7 – I like it very much".

	I don't like at all					I like it very much		I don't know that music style
	1	2	3	4	5	6	7	0
Bollywood	1	2	3	4	5	6	7	0
Classical & Opera	1	2	3	4	5	6	7	0
College Punk	1	2	3	4	5	6	7	0
Country music	1	2	3	4	5	6	7	0
Crossover	1	2	3	4	5	6	7	0
Dub	1	2	3	4	5	6	7	0
Emo	1	2	3	4	5	6	7	0
Folk	1	2	3	4	5	6	7	0
Gospel	1	2	3	4	5	6	7	0
Gothic	1	2	3	4	5	6	7	0
Hardcore	1	2	3	4	5	6	7	0
Hip-hop & Rap	1	2	3	4	5	6	7	0
Indie	1	2	3	4	5	6	7	0
Jazz & Blues	1	2	3	4	5	6	7	0
J-Pop	1	2	3	4	5	6	7	0
Metal	1	2	3	4	5	6	7	0
New Age	1	2	3	4	5	6	7	0
Pop	1	2	3	4	5	6	7	0
Punk	1	2	3	4	5	6	7	0
R'n'B	1	2	3	4	5	6	7	0
Reggae & Ska	1	2	3	4	5	6	7	0
Rock / Alternative	1	2	3	4	5	6	7	0
Samba	1	2	3	4	5	6	7	0
Techno & Electronica	1	2	3	4	5	6	7	0
World Music	1	2	3	4	5	6	7	0
Other _____	1	2	3	4	5	6	7	0

SECTION 3: DEMOGRAPHICS

AGE   _____years

GENDER   ☐ Female   ☐ Male

What is your occupation?   _____

Do you play an instrument or do you sing?   ☐ yes   ☐ no

If yes, please state which instrument you play or whether you sing in a band, choir or solo?

                               _____

How often do you play music?   _____

Do you own a stereo?   ☐ yes   ☐ no

How often do you listen to music?   _____

How many music CDs (or mp3 albums) do you buy per year (approximately)? _____

International Music Survey 1: Values and music preferences

Thank you for taking the time and effort to complete this questionnaire and for participating in this research.

This study was about music preferences, national identity and values. The results of this study will reveal whether individuals from different cultures use musical preferences to display their national identity and values. Listening to national music can serve as a symbol for national identity (McDonald et al., 2001) and music preferences for local and global music styles are thought to relate to values (Wicklund & Gollwitzer, 1985). These links between music, values and national identity have been described in sociological literature, for instance, regarding the role of Samba in Brazil (McCann, 2004), or Nor-Tec music in Tijuana, Mexico (Madrid, 2005), but have not been empirically demonstrated. Therefore, this study explores whether musical preferences are related to your values and national identity.

Culturally diverse societies like New Zealand face the challenge of incorporating individuals from different cultural backgrounds. This project will help us to better understand of how music is used to maintain one's own cultural identity, while also integrate into the larger NZ society. Music can be a unifying force for all members of a society, just think of songs like Trinity Roots' 'Aotearoa' or Katchafire's 'Get away'.

If you would like to know the results of this study, they will be available in approximately 4 weeks posted on the 4th floor notice board area of the Easterfield building and on the webpage of the Centre for Applied Cross-Cultural Research: **www.vuw.ac.nz/cacr/**. If you have any questions or comments or if you would like to receive more information about this project, please do not hesitate to contact us.

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Thank you very much again for your help in this research.

Appendix D2

Survey used in Study 3
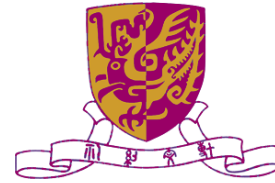
國際音樂問卷調查 一: 價值觀、音樂與民族身份

親愛的參與者:

您現被邀請參與這關於音樂喜好、價值觀及民族身份的問卷調查。是次研究是由香港中文大學彭邁克教授、林鈺曦同學、勞紫華同學，及於惠靈頓維多利亞大學（紐西蘭）的Ronald Fischer博士及Diana Boer共同進行。我們對你身分的個別傾向，如個人價值觀及對您祖國的支持及承諾，會怎樣反映你的音樂喜好有興趣。

完成這份問卷大概需要30分鐘。您的答案是完全不記名的，而只有與是次研究直接有關的調查員才能使用這些資料。您的身份永不會於是次研究報告或任何簡報或發佈中公開。您所提供的資料將只會以編號作識別。

我們非常感激您會願意完成以下的問卷調查。您的參與完全屬自願性質。您可隨時於完成問卷之前自由退出及交還問卷。完成及交還問卷將表示您同意資料將被使用及分析。

在問卷以下的部份，您將被問及您的個人價值觀、音樂喜好及民族身份。請盡量誠實地用提供的衡量表填上適當的數字作答。請緊記，答案無對錯之分。我們是對您的於這些問題的個人意見感興趣。

非常感激您的協助及合作!

第一節: 價值觀

請細閱以下一些**價值觀**及它們的描述。請表示你覺得每個價值觀對你，**一個**你的**密友**（那些你會與之分享你喜愛的音樂的一個人），普遍的香港人、普遍的中國人、普遍的日本人和普遍的韓國人有多重要。請將相應的重要性指標填於每個價值觀的**旁邊**。*(1 -*「*完全不重要*」*，2-*「*不重要*」*, 3-*「*不太重要*」*, 4-*「*多少有點重要*」*, 5-*「*重要*」*6-*「*非常重要*」*7 -*「*極之重要*」*)*

以下的價值觀對...的重要性	你
權力: 社會地位和威望，支配，控制他人和資源（社會勢力，權力，財富）	
成功: 透過根據社會標準下表現出自己的能力而達到個人成功（成功，能幹，有野心，有影響力）	
快樂主義: 愉悅和感官上的滿足（愉快，享受生活）	
刺激: 興奮，新穎感，生活上的挑戰（敢於冒險，生活多樣化，刺激的生活）	
自身管理: 有獨立的思想和行動選擇，創造，發掘（創意，自由, 獨立,好奇，選擇個人的目標）	
普遍性	
體諒，欣賞，容忍和保衛所有人的福利和大自然的福利（心胸開闊，有睿智，社會公義，平等，世界和平，美好世界，與自然一體，環境保護）	
善意: 保存和提高那些常常接觸到的人的福利（樂於助人，誠實，寬容，忠誠，有責任心）	
傳統: 尊重，實行和接納一些傳統文化或宗教對自身的觀念（謙恭，接受自己是生命的一部分，虔誠，尊重傳統，中庸之道）	
服從: 克制會傷害或讓他人失望和違反社會期望或基準的行動，傾向或衝動。（禮貌，服從，自律，尊敬家長和長輩）	

以下的價值觀對...的重要性	你
安全感: 安全，和諧，社會穩定，穩定的關係，自身的穩定（家庭安全，國家安全，社會秩序，清潔，互惠）	

第二節: 音樂
你的音樂品味

你喜歡之以下的音樂風格嗎？你的密友也喜歡以下的音樂風格嗎
請填上適當的號碼，以顯示**你**對以下音樂風格的喜歡程度，以及**你認為你的密友**對以下音樂風格的喜歡程度。
(1 – 非常不喜歡　2 – 很不喜歡　3 – 不喜歡　4 – 一般　5 – 喜歡　6 – 很喜歡
　7 – 非常喜歡或0 – 不清楚這種音樂)

	你自己	你的密友
國際性的音樂風格		
古典和歌劇/ Classical & Opera		
書院龐客/ College Punk		
鄉村音樂/ Country		
混合音樂/ Crossover		
牙買加雷鬼音樂/ Dub		
電子體音樂和工業音樂/ EBM & Industrial		
電子音樂/ Electronica		
情感核音樂/ Emo		
民歌/ Folk Music		
放克音樂/ Funk & Soul		
福音/ Gospel		
哥德音樂/ Gothic		
硬心音樂/ Hardcore		
嘻哈音樂/ HipHop & Rap		
獨立音樂/ Indie		

	你自己	你的密友
爵士樂和藍調音樂/ Jazz & Blues		
重金屬音樂/ Metal		
新時代音樂/ New Age		
流行音樂/ Pop		
龐客/ Punk		
節奏藍調音樂/ R'n'B		

	你自己	你的密友
雷鬼搖擺樂/ Reggae & Ska		
搖滾樂/ Rock / Alternative / Grunge		
滑浪音樂/ Surf Music		
科技音樂和舞池音樂/ Techno & Dancefloor		
世界音樂/ World Music		
電影配樂/ Soundtracks		
其他_____		
本地/種族的音樂		
印度舞音樂/ Bhangra		
印度電影音樂/ Bollywood Music (Filmi)		
廣東流行音樂/ Canton-Pop		
國語流行音樂/ Mandarin-Pop		
中國古典音樂/ Chinese Classical		
粵曲/ Chinese Opera		
中國搖滾樂/ Chinese Rock		
中國民歌/ Chinese Folk		
中國霹靂樂/ Chinese HipHop		
日本流行音樂/ J-Pop		
日本搖滾樂/ Japanese Rock		
日本霹靂樂/ Japanese HipHop		
韓國流行音樂/ K-Pop		
印尼流行音樂/ Pop Indonesia		
貝多因牧羊人音樂/ Rai		
森巴舞曲 & 巴西音樂/ Samba & Pagode		
其他_____		
其他_____		

第三節: 你與你的室友的關系

下列問題是有關你與你的**室友**的關系。請圈出適當的號碼，以顯示你對下列句子的同意程度。

	非常不同意						非常同意
我認為我的室友能為我的朋友。	1	2	3	4	5	6	7
我願意和我的室友談天。	1	2	3	4	5	6	7
我和我的室友很難去見面和交談。	1	2	3	4	5	6	7
我們永遠沒法建立友誼。	1	2	3	4	5	6	7
我的室友沒法融入我的朋友圈子中。	1	2	3	4	5	6	7
我樂於與室友在一起。	1	2	3	4	5	6	7
我與室友有許多話題。	1	2	3	4	5	6	7
我不喜歡花時間與室友在一起。	1	2	3	4	5	6	7
我和我的室友可以成為親密的朋友。	1	2	3	4	5	6	7

	非常不同意						非常同意
我的室友是一個容易相處的人。	1	2	3	4	5	6	7
我的室友是一個很難容易相處的人。	1	2	3	4	5	6	7
我室友不太友善。	1	2	3	4	5	6	7
我室友和我的想法很類似。	1	2	3	4	5	6	7
我室友和我的行為很不相似。	1	2	3	4	5	6	7
我室友和我並不相同。	1	2	3	4	5	6	7
我室友和我有相同的價值觀。	1	2	3	4	5	6	7
我室友很似我。	1	2	3	4	5	6	7
我室友和我對人的態度很類似。	1	2	3	4	5	6	7
我室友和我的想法並不相同。	1	2	3	4	5	6	7
我室友和我很類似。	1	2	3	4	5	6	7
我室友和我有不同的價值觀。	1	2	3	4	5	6	7
我室友和我的行為很不一樣。	1	2	3	4	5	6	7
我室友很不似我。	1	2	3	4	5	6	7
我室友和我對人的態度很不同。	1	2	3	4	5	6	7
我室友的想法和意念和我的很類似。	1	2	3	4	5	6	7
我的室友和我所表達的態度不同。	1	2	3	4	5	6	7
我室友有很多方面和我的很類似。	1	2	3	4	5	6	7
我室友喜歡的音樂和我喜歡的很類似。	1	2	3	4	5	6	7

你認識了你的室友多久了？_____個月

第五節 基本個人資料

年齡
性別
主修
種族 (中國香港、中國內地 …)
你能演奏樂器或唱歌嗎?   是/否
如答是，請填寫你所演奏的樂器或你參與的樂團、歌詠團或獨唱。
_____
你有多久才演奏樂器或唱歌?
你擁有立體音響裝置嗎?
你有多久才聽音樂?
你平均每年會買多少唱碟或mp3音樂?

國際音樂問卷調查一: 價值觀、音樂與民族身份

多謝你所付出的時間和努力去完成是次問卷調查。

世界各地的人都聽音樂。有些音樂風格在世界各地都很受歡迎, 例如嘻哈(hip hop)

或搖滾(rock), 同時有的則局限於某些國家或地區(例如 巴黎的森巴(samba) 和(manqué beat) 或德國的

Hamburger Schule。. 重要的是, 音樂對世界各地的人是十分重要的。

是次調查是首項有關音樂喜好, 國民身份和價值觀的心理學研究。我們有興趣了解個人的價值和國民身份如何與音

樂喜好相關。我們主要的研究問題是: 音樂喜好如何反映一個人的國民身份?

音樂家和音樂愛好者常認為音樂是身份的表達。如果這樣, 國家音樂風格的元素是什麼?

過往的研究提出愈認同自己國家的人會愈傾向於喜愛自己母語的音樂。

再者, 此研究會探討音樂的喜好是否與某些價值取向相關。喜愛嘻哈音樂(Hip

Hop)是否喜歡玩樂, 而喜歡搖滾樂(rock)的是否關心環境?

是次研究的結果會大約於4 星期之後上載於the Centre for Applied Cross-Cultural

Research網頁上 www.vuw.ac.nz/cacr/.

如有任何疑問或意見或如想索取更多是項研究的資料, 請透過E-

mail聯絡本人(plkjasonhk@yahoo.com.hk或eva_twl@yahoo.com.hk),Diana

Boer(diana.boer@vuw.ac.nz)、 或本人的監督人(ronald.fischer@vuw.ac.nz).

多謝參與是項研究!

Appendix D3

Survey used in Study 4 (design differed in online format)

Die Partygespräch Studie

Liebe/r Teilnehmer/in,
Vielen Dank, dass Du an dieser Studie teilnimmst. In dieser Studie geht es um deinen Musikgeschmack und um eine Wahrnehmung von anderen Personen. Am Ende des Fragebogens erhältst du weiter Informationen zu diesem Projekt.
Das Ausfüllen des Fragebogens wird ungefähr 5-10 Minuten in Anspruch nehmen. Deine gesamten Antworten werden nur zu statistischen Zwecken in anonymisierter Form verwendet. Nur Personen, die direkt in dieses Projekt eingebunden sind, werden Zugang zu den Daten haben. Deine Teilnahme ist natürlich freiwillig und Du kannst jederzeit abbrechen. Durch das Ausfüllen des Fragebogens willigst Du ein, dass Deine Angaben zu wissenschaftlichen Zwecken verwendet werden. Bitte beantworte die Fragen ehrlich, da wir an Deiner persönlichen Meinung interessiert sind. Es gibt keine falschen und richtigen Antworten – kreuze einfach aus dem Bauch heraus an.

Vielen Dank für Deine Hilfe und Mitarbeit.

Dein Musikgeschmack
Bitte kreuze auf der Skala von *1 – „mag ich überhaupt nicht"* bis *7 – „mag ich sehr gern"* an, wie Du die Musikstile findest.

	Mag ich überhaupt nicht					Mag ich sehr gern		Diesen Musikstil kenne ich nicht
Country	1	2	3	4	5	6	7	◯
Crossover	1	2	3	4	5	6	7	◯
Dub	1	2	3	4	5	6	7	◯
EBM & Industrial	1	2	3	4	5	6	7	◯
Electronica (Ambient, House, Drum'n'Bass, Chill Out, Elektro, Trip Hop)	1	2	3	4	5	6	7	◯
Emo (Emotional Core)	1	2	3	4	5	6	7	◯
Folk	1	2	3	4	5	6	7	◯
Funk & Soul	1	2	3	4	5	6	7	◯
Gospel	1	2	3	4	5	6	7	◯
Gothic & Dark Wave	1	2	3	4	5	6	7	◯
Hardcore	1	2	3	4	5	6	7	◯
HipHop	1	2	3	4	5	6	7	◯
Rap	1	2	3	4	5	6	7	◯
Old-school Rap	1	2	3	4	5	6	7	◯
Conscious Rap	1	2	3	4	5	6	7	◯
Gangster Rap	1	2	3	4	5	6	7	◯
Boom Bap Rap	1	2	3	4	5	6	7	◯
Black / Clubmusic	1	2	3	4	5	6	7	◯

Deutscher Rap	1	2	3	4	5	6	7	○
Indie (Independent)	1	2	3	4	5	6	7	○
Jazz & Blues	1	2	3	4	5	6	7	○
Klassik & Oper	1	2	3	4	5	6	7	○
Liedermacher	1	2	3	4	5	6	7	○
Metal	1	2	3	4	5	6	7	○
Death Metal	1	2	3	4	5	6	7	○
Heavy Metal	1	2	3	4	5	6	7	○
Speed Metal	1	2	3	4	5	6	7	○
Power Metal	1	2	3	4	5	6	7	○
Nu Metal	1	2	3	4	5	6	7	○
Metalcore	1	2	3	4	5	6	7	○
Grindcore	1	2	3	4	5	6	7	○
Doom Metal	1	2	3	4	5	6	7	○
Black Metal	1	2	3	4	5	6	7	○
Deutscher Metal	1	2	3	4	5	6	7	○
NDW (Neue Deutsche Welle)	1	2	3	4	5	6	7	○
Pop	1	2	3	4	5	6	7	○
Punk	1	2	3	4	5	6	7	○
R&B	1	2	3	4	5	6	7	○
Reggae & Ska	1	2	3	4	5	6	7	○
Rock / Alternative (Grunge, Progressive Rock, Rock'n'Roll, Hardrock)	1	2	3	4	5	6	7	○
Techno & Dancefloor	1	2	3	4	5	6	7	○
Sonstige _____	1	2	3	4	5	6	7	

Soziodemografische Daten

Alter   _____ Jahre

Geschlecht   ❐   weiblich   ❐   männlich

In welchem Bundesland (Land) lebst Du?   _____

In welchem Bundesland (Land) wurdest Du geboren? _____

Was machst Du beruflich?   _____

Zu welcher kulturellen / ethnischen Gruppe fühlst Du Dich zugehörig? _____

Bitte kreuze Deine politische Orientierung an.
○   links   ○   rechts   ○   Mitte   ○   konservativ   ○   grün

○   liberal   ○   kommunistisch   ○   Andere: _____

Spielst Du ein Instrument oder singst Du?   ❐   ja   ❐   nein

Bitte stell dir vor...

Stell Dir bitte vor, dass Du von einem/r Freund/in zu einer Party eingeladen bist. Es ist eine Grillparty im Garten mit gemütlichen Sitzgelegenheiten unter einem Baum, leckerem Essen und musikalischer Untermalung. Als Du bei der Party eintriffst, sind Deine Freunde noch nicht da. Eine Menge Leute stehen oder sitzen schon herum und unterhalten sich, sodass Du irgendwie allein herumstehst. Dann taucht eine Person Deines Geschlechts bei der Party auf, die Du nicht kennst und die auch keinen Gesprächspartner hat. Diese Person gesellt sich zu Dir und ihr unterhaltet euch eine Weile über eure Hobbys, euren Sommerurlaub und so weiter. Die Person erzählt Dir, dass er/sie…

… ein/e Student/in aus Schweden ist, der/die gerade in Deine Stadt gezogen ist.
… ein/e Student/in aus Brasilien ist, der/die gerade in Deine Stadt gezogen ist.
… ein/e Student/in aus Polen ist, der/die gerade in Deine Stadt gezogen ist.
… ein/e Student/in aus der Türkei ist, der/die gerade in Deine Stadt gezogen ist.
... gerade in Deine Stadt gezogen ist.
.. in der gleichen Strasse wohnt wie Du.

Dann wechselt der Gastgeber der Party die Musik und Ihr fangt an Euch über euren Musikgeschmack zu unterhalten. Du stellst fest, dass die Person…
…gern Metal und Rock Musik hört und HipHop und Rap nicht mag.
…gern HipHop und Rap hört und Metal und Rock Musik nicht mag.

Die Person besucht gern Konzerte und Festivals und erzählt Dir von seinem/ihrem letzten Plattenkauf.

In den folgenden Fragen sind wir daran interessiert, was Du über diese Person denkst.

Könntest Du Dich mit dieser Person anfreunden?
In den folgenden Fragen geht es um Deine Wahrnehmung dieser Person. Bitte gib an, inwieweit Du den Aussagen zustimmst.

	Stimme ganz und gar nicht zu						Stimme voll und ganz zu
Mit dieser Person könnte ich mich anfreunden.	1	2	3	4	5	6	7
Wir könnten niemals eine persönliche Freundschaft miteinander entwickeln.	1	2	3	4	5	6	7
Diese Person würde einfach nicht in meinen Freundeskreis passen.	1	2	3	4	5	6	7
Ich bin gern mit dieser Person zusammen.	1	2	3	4	5	6	7
Ich würde ungern Zeit mit dieser Person verbringen.	1	2	3	4	5	6	7
Ich könnte ein enger Freund/eine enge Freundin von dieser Person werden.	1	2	3	4	5	6	7
Man könnte gut mit dieser Person auskommen.	1	2	3	4	5	6	7
Ich bin ungern mit dieser Person zusammen.	1	2	3	4	5	6	7
Diese Person ist nicht sehr freundlich.	1	2	3	4	5	6	7
Diese Person denkt wie ich.	1	2	3	4	5	6	7
Diese Person ist anders als ich.	1	2	3	4	5	6	7
Diese Person teilt meine Werthaltungen.	1	2	3	4	5	6	7

Diese Person ist wie ich.	1	2	3	4	5	6	7
Diese Person denkt nicht wie ich.	1	2	3	4	5	6	7
Diese Person ist mir ähnlich.	1	2	3	4	5	6	7
Diese Person teilt nicht die gleichen Werte wie ich.	1	2	3	4	5	6	7
Diese Person ist mir unähnlich.	1	2	3	4	5	6	7
Diese Person hat ähnliche Gedanken und Meinungen wie ich.	1	2	3	4	5	6	7
Diese Person hat andere Einstellungen als ich.	1	2	3	4	5	6	7
Ich habe viel gemeinsam mit dieser Person.	1	2	3	4	5	6	7

Deine persönlichen Charakteristiken und die der Person?

Bitte denke nun an Deine eigenen Eigenschaften and Charakteristiken und mögliche Ähnlichkeiten und Unterschiede zwischen Dir und der Person, wenn Du die nächsten Fragen beantwortest. Bitte gib an, inwieweit die Charakteristiken auf Dich zutreffen und wie ähnlich oder unähnliche Dir dieser Person sein könnte. Bitte denk daran dass es keine falschen oder richtigen Antworten gibt. Wir sind an Deiner persönlichen Meinung und Einschätzung interessiert.

	bin ich dieser Person…					
Bezüglich der Werteschätzung von	sehr ähnlich	ähnlich	eher ähnlich	eher unter-schied-lich	unter-schied-lich	sehr unter-schiedlich
MACHT: Sozialer Status und Prestige, Kontrolle oder Dominanz über Leute und Ressourcen	◯	◯	◯	◯	◯	◯
LEISTUNG: Persönlicher Erfolg durch die Demonstration von Kompetenz gemäß sozialer Maßstäbe	◯	◯	◯	◯	◯	◯
HEDONISMUS: Vergnügen und sinnliche Belohnung des Selbst	◯	◯	◯	◯	◯	◯
ANREGUNG: Aufregendes Leben, Reiz des Neuen und Herausforderungen im Leben	◯	◯	◯	◯	◯	◯
SELBSTBESTIMMUNG: Eigenständiges Denken und Verhalten, Kreieren und Erkunden	◯	◯	◯	◯	◯	◯
UNIVERSALISMUS: Verständnis, Wertschätzung, Toleranz und Schutz des Wohles aller Menschen und der Natur	◯	◯	◯	◯	◯	◯
SOZIALITÄT: Erhaltung und Verbesserung des Wohlergehens der Menschen, mit denen man regelmässigen Kontakt hat	◯	◯	◯	◯	◯	◯
TRADITION: Respekt, Verpflichtung und Akzeptanz von Bräuchen und Meinungen, die die Tradition oder Religion vorschreibt	◯	◯	◯	◯	◯	◯
KONFORMITÄT: Zügelung von Verhalten oder Neigungen, die Andere verärgern oder schaden könnten und die soziale Erwartungen und Normen verletzen	◯	◯	◯	◯	◯	◯
SICHERHEIT: Schutz, Harmonie und Stabilität der Gesellschaft, von Beziehungen und des Selbst	◯	◯	◯	◯	◯	◯
Bezüglich der Merkmale „extravertiert, begeistert"	◯	◯	◯	◯	◯	◯
Bezüglich der Merkmale „kritisch, streitsüchtig"	◯	◯	◯	◯	◯	◯
Bezüglich der Merkmale „zuverlässig, selbstdiszipliniert"	◯	◯	◯	◯	◯	◯

Bezüglich der Merkmale „ängstlich, leicht aus der Fassung zu bringen"	○	○	○	○	○	○
Bezüglich der Merkmale „offen für neue Erfahrungen, vielschichtig"	○	○	○	○	○	○
Bezüglich der Merkmale „zurückhaltend, still"	○	○	○	○	○	○
Bezüglich der Merkmale „verständnisvoll, warmherzig"	○	○	○	○	○	○
Bezüglich der Merkmale „unorganisiert, achtlos"	○	○	○	○	○	○
Bezüglich der Merkmale „gelassen, emotional stabil"	○	○	○	○	○	○
Bezüglich der Merkmale „konventionell, unkreativ"	○	○	○	○	○	○
Bezüglich des Musikgeschmacks	○	○	○	○	○	○

Vielen Dank für Deine Teilnahme an dieser Studie. Bitte bestätige Deine Teilnahme mit dem „FERTIG" Button.

Auf der folgenden Seite erhältst Du weitere Informationen über dieses Projekt.

Debriefing

Vielen Dank für Deine Teilnahme an dieser Studie.

In dieser Studie ging es um die sozialen Funktionen von Musik: wie der gemeinsame Musikgeschmack Bindungen zwischen Leuten schafft, und wie die musikalische Community auch über kulturelle Grenzen hinweg besteht.

Frühere Forschung konnte bestätigen, dass der gemeinsame Musikgeschmack eine besondere Bindung zwischen Freunden, Familienmitgliedern und Fremden erzeugen kann. Communities wie die HipHop Community oder die Metal/Rock Community basieren auf dieser sozialen Funktion von Musik. Bisher gibt es noch keine psychologische Forschung die belegt, dass die soziale Verbindung durch Musik über nationale Grenzen hinweg funktioniert. Es ist allerdings offensichtlich, dass gerade Musik Communities globale Gemeinschaften sind – egal wo man hinreist, man trifft immer Leute, die den gleichen Musikgeschmack haben und mit denen man durch die Musik ins Gespräch kommt.

In dieser Studie wurde Dir eine Person vorgestellt, die entweder aus Deutschland, der Türkei, Polen oder aus Brasilien kommt, und entweder HipHop oder Metal mag oder gar keinen Musikgeschmack hat. Mit diesem Forschungsprojekt können wir herausfinden, inwieweit der gleiche/ungleiche Musikgeschmack oder die Nationalität einer Person (oder deren Kombination) ausschlaggebend für die wahrgenommene Ähnlichkeit und Sympathie sind.

Erste Ergebnisse der Studie werden in ein paar Wochen auf der Webpage www.jungedenkmusik.net veröffentlicht. Falls Du weitere Fragen hast, so wende Dich bitte an diana.boer@vuw.ac.nz.

Nochmals vielen Dank für Deine Teilnahme!

Invitation and survey used in Study 5 (English version; design differed in online

format)

Hello,

I'm a student at Victoria University Wellington in New Zealand, and I'm very interested in music and its meanings for people around the globe. I'd like to invite you to participate in this study as your opinion and interest in music is highly valued for my research. The purpose of this study is to look at how you feel and think about your favourite music. This project is supervised by Dr. Ronald Fischer at Victoria University Wellington, New Zealand.

Your responses, as well as your identity will remain completely anonymous. Your personal identity will NOT be recorded at any stage of the questionnaire.

Please click on the following link (or copy and paste it in your browser) to access the questionnaire:

http://www.stud.uni-
goettingen.de/~s115927/jungedenkmusik/survey_english.html

Please note that this link is not spam or for any commercial purposes.

At the end of the questionnaire you'll find further information about my research project.

For more information, please do not hesitate to contact me via e-mail (diana.boer@vuw.ac.nz) or my supervisor (ronald.fischer@vuw.ac.nz).

Thank you very much for your help and cooperation.

Diana Boer

Dear participant,

Thanks a lot for participating in this study.

On the following two questionnaire pages you'll find some questions about yourself. Furthermore, there will be three questions about the meaning of music. I'd like you to write down your thoughts, opinion, or experience. You may use a few sentences or keywords in this regard. Please remember, there are no right or wrong answers. If you feel uncomfortable with one question – just skip it and go on! Your participation is voluntary and you can withdraw at any point before submitting the questionnaire.

Please note that your responses as well as your personal identity will remain completely anonymous. Your response information will be identified by coded number only and at no point will you be personally identified. Please do not write your name or any identifying information on the questionnaire itself. By completing and returning this questionnaire you acknowledge permission for your responses to be

analysed. Some of the data might be used for my PhD thesis, in academic publications and/or presentations. The data will be stored electronically and is password protected on two university servers (server of Victoria University of Wellington, New Zealand, and Georg-August-University of Göttingen, Germany as a security back-up copy).

At the end of the questionnaire you'll find further information about my research project.

Thank you very much!

---

1. In which part of the world are you?

O	O	O	O	O	O	O	O
Aotearoa/ New Zealand	US	Brazil	Philippines	Hong Kong	Singapore	Germany	somewhere else

2. How old are you?

O	O	O	O	O
under 15	between 15 and 19	between 20 and 24	between 25 and 30	over 30

3. What is your gender?

O	O
female	male

4. Do you play an instrument or do you sing in public/on stage?

O	O
yes	no

If yes, please state what instrument you play or whether you sing (e.g., choir, solo, band).

5. In which country did you grow up? Please state your home country.

Three of the following open ended questions were asked:

What does music mean to you? Please write your thoughts about the role music plays in your life.

What role does music play when you are hanging out with your friends?

What is the meaning of music for your family members?

How does music influence your life?

What is the meaning of music in your cultural community/group?

What is the meaning of music in your home country?

Think about one specific situation when you were listening to music in the last 3 days. Please describe what you thought, felt and did in that situation.

Debriefing

Thank you for taking the time and effort to complete this questionnaire and for participating in this research.

People all over the world listen to music. Some music styles are enjoyed around the globe, like Hip Hop or Rock, whereas other styles are specific to some countries or regions only (for instance, samba and manqué beat in Brazil or Volksmusik in Germany). One thing is for sure: Music is very important for almost all people around the world! But are there differences why people are listening to certain styles of music?

This study is about the functions of music for young people in different cultures. I would like to find out whether there are differences in the usage of music within one culture and between different cultures. There are areas that seem very important. First, music is important for people and how they feel personally. Second, music is something social, you meet with friends and listen to your favourite songs together. This implies some social meaning. Third, music also provides us with some sense of who we are and what is important in our culture or country. Therefore, music also has a cultural function. I am interested how people perceive these different levels of music and its function.

This project will help us to a better understanding of how young people around the globe think and feel about music. This study is the first of its kind and I am planning to look at the functions of music in more detail in future studies. If you have any questions or comments or if you would like to see the results and receive more information about this project, please do not hesitate to contact me via e-mail (diana.boer@vuw.ac.nz) or my supervisor (ronald.fischer@vuw.ac.nz).

Thank you very much again for your help in this research.

Appendix D5

Survey used in Study 6 (English version)

International Music Survey 2: On Functions of Music

Dear Participant,

You are invited to participate in this survey on the functions of music. The research is being conducted by Diana Boer and supervised by Dr Ronald Fischer at Victoria University of Wellington (New Zealand). We are interested in how music affects your life on a daily basis. The purpose of this study is to look at different uses of music and links to your personality, values and your wellbeing.
It will take about 10 minutes to fill in the questionnaire. Your answers are completely anonymous and only investigators directly involved in the project will have access to the data. You will never be personally identified in this research project or in any presentation or publication. The information you provide will be coded by number only. Your participation is entirely voluntary. You are free to withdraw at any stage before you complete and submit the online survey. By completing and submitting the questionnaire you agree that the data will be used and analysed.
Please answer these questions as honestly as possible using the provided rating scales by marking the appropriate number. Please remember, there are no right or wrong answers. We are interested in your personal opinion on these issues.

Thank you very much for your help and cooperation.

ROLE OF MUSIC IN YOUR LIFE
In the following section we are interested in how you experience and use music in everyday life. Please indicate the degree to which each of the following statements applies to your experience with music from "**1 – not at all**" to "**7 – to a great extent**".

	not at all		some-what				to a great extent
Music gives me the spirit to go through activities and daily chores with much more energy and passion.	1	2	3	4	5	6	7
Listening to music with friends is a way of sharing good old memories of our lives.	1	2	3	4	5	6	7
Some music makes me want to dance.	1	2	3	4	5	6	7
Music is very important in the process of developing my values.	1	2	3	4	5	6	7
Music gives me energy to go through the day.	1	2	3	4	5	6	7
Music is a means of venting my frustration.	1	2	3	4	5	6	7
Listening to a particular song can remind me of past events.	1	2	3	4	5	6	7
I usually listen to music that goes somewhat with my political beliefs.	1	2	3	4	5	6	7
I spent time listening to music with my friends.	1	2	3	4	5	6	7
Music in the background keeps the ambience warm and cosy when I meet my friends.	1	2	3	4	5	6	7

Statement	1	2	3	4	5	6	7
Listening to music is a good way to entertain myself.	1	2	3	4	5	6	7
I believe good music should convey emotions.	1	2	3	4	5	6	7
Through music I can regulate my emotions.	1	2	3	4	5	6	7
Music helps me to have more friends.	1	2	3	4	5	6	7
Music makes me calm.	1	2	3	4	5	6	7
Music is a reflection of a country's culture and history.	1	2	3	4	5	6	7
My personal development was positively influenced by music.	1	2	3	4	5	6	7
I identify with a particular music scene.	1	2	3	4	5	6	7
The right song and atmosphere can bring me a sense of detachment from this world.	1	2	3	4	5	6	7
In some cases music has been the main reason for my friendship with certain people.	1	2	3	4	5	6	7
I enjoy listening to music.	1	2	3	4	5	6	7
Music helps me to focus.	1	2	3	4	5	6	7
Through music I know that somebody else feels the same emotions as I do.	1	2	3	4	5	6	7
If a songs describes exactly how I feel, then I don't feel so lonely with my emotions anymore.	1	2	3	4	5	6	7
Music is what alleviates my frustration.	1	2	3	4	5	6	7
In many situations I need music in the background.	1	2	3	4	5	6	7
The topic music comes up in conversations with my friends.	1	2	3	4	5	6	7
Music helps me to form friendships with people through similar musical taste.	1	2	3	4	5	6	7
Music creates a nice environment in social settings.	1	2	3	4	5	6	7
I use music to indulge in certain moods I'm in.	1	2	3	4	5	6	7
I can keep my focus on a task while listening to the right music.	1	2	3	4	5	6	7
Somehow music steers my approach to life and my values.	1	2	3	4	5	6	7
Music allows me to have a common interest with my family.	1	2	3	4	5	6	7
Songs can give comfort to me when I'm sad.	1	2	3	4	5	6	7
The music of my country represents an image of my country to the outside world.	1	2	3	4	5	6	7
Music helps me to cope with crisis.	1	2	3	4	5	6	7
Music makes us - me and my friends - feel truly united and as one.	1	2	3	4	5	6	7
Whatever I do, I listen to music in the background.	1	2	3	4	5	6	7
Some pieces of music remind me of phases of my life.	1	2	3	4	5	6	7
Listening to music is a way to have fun.	1	2	3	4	5	6	7
Some songs are so powerful that they are able to bring tears into my eyes.	1	2	3	4	5	6	7
Music can be a great stress reliever.	1	2	3	4	5	6	7
I need music in the background while doing something else.	1	2	3	4	5	6	7
For me music is a way of expressing myself.	1	2	3	4	5	6	7
Music makes me forget about reality.	1	2	3	4	5	6	7
Going to concerts and listening to records is a way for me and my friends to get together and relate to each other.	1	2	3	4	5	6	7
Music is emotion flowing in sound.	1	2	3	4	5	6	7
Music keeps my mind off the outside world.	1	2	3	4	5	6	7
We live these moments of true connection when I listen to music or go to concerts with my friends.	1	2	3	4	5	6	7
I enjoy listening to music with my family/relatives.	1	2	3	4	5	6	7
It's important to me that music transports feelings.	1	2	3	4	5	6	7
Feelings conveyed in a song can make my heart melt.	1	2	3	4	5	6	7
Through listening to music I can let off steam.	1	2	3	4	5	6	7
I share my lifestyle with other people who like the same kind of music.	1	2	3	4	5	6	7
My favourite music is often political.	1	2	3	4	5	6	7
I meet with friends and listen to good music.	1	2	3	4	5	6	7

I can indulge in my emotions listening to particular music.	1	2	3	4	5	6	7
Music seems to reduce stress.	1	2	3	4	5	6	7
Listening to music allows me to concentrate.	1	2	3	4	5	6	7
Music plays an important role in shaping and reflecting my personal identity.	1	2	3	4	5	6	7
Our shared music taste is something that brings my family together.	1	2	3	4	5	6	7
Some songs pluck my heartstrings.	1	2	3	4	5	6	7
Through music my friends and I can commemorate happy past moments together.	1	2	3	4	5	6	7
Without music I couldn't cope with many life situations.	1	2	3	4	5	6	7
Through music I can belong to a group of people who like the same kind of music as I do.	1	2	3	4	5	6	7
Music sets the vibes when I hang out with my friends.	1	2	3	4	5	6	7
Music enhances the mood I'm in.	1	2	3	4	5	6	7
Music plays an important role in my life as a means of political engagement.	1	2	3	4	5	6	7
I like dancing to certain music.	1	2	3	4	5	6	7
The music in my country is part of building our identity.	1	2	3	4	5	6	7
I like talking to my family about music.	1	2	3	4	5	6	7
It creates a stronger bond to friends if I share musical taste with them.	1	2	3	4	5	6	7
I like to go dancing, and the type of music is essential for this.	1	2	3	4	5	6	7
Music gives me the feeling that there is someone who understands me.	1	2	3	4	5	6	7

DEMOGRAPHICS

Age   _____ years

Gender   ◯ Female   ◯ Male

In which country do you live?   _____

What is your ethnicity?   _____

What is your occupation?   _____

Do you play an instrument or do you sing?   ◯ yes   ◯ no

How often do you listen to music?   _____

Thank you very for your help in this research.

Debriefing

International Music Survey 2: On Functions of Music

Thank you for taking the time and effort to complete this questionnaire and for participating in this research.

People all over the world listen to music. Some people listen music to relax and to relief stress, others like to be stimulated and energised by music. These are just two examples of functions music can serve.

This study is a psychological investigation about the different functions music can serve. We are interested in how music affects people's lives emotionally, socially and in other domains. The results of this study will reveal how these different functions relate to each other. Furthermore, the cultural background of the listeners might influence that some functions are more important than others.

If you have any questions or comments or if you would like to receive more information about this project, please do not hesitate to contact me via e-mail (diana.boer@vuw.ac.nz) or my supervisor (ronald.fischer@vuw.ac.nz).

Thank you very much again for your help in this research.