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## **The Functions of Music-Listening across Cultures: The Development of a Scale Measuring Personal, Social and Cultural Functions of Music**

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### **Abstract**

We examined the functions of music-listening from a cross-cultural perspective. Two studies were conducted to capture personal, social and cultural experiences with music. Young people were sampled; mainly online surveys were used. Study 1 is a qualitative multicultural study that identified seven main functions of music: background, memories, diversion, emotion, self-regulation, reflection of self, and social bonding. In study 2, based on the qualitative data, we developed and validated a scale measuring Ratings of Experienced Social, PErsonal and Cultural Themes of MUSIC functions (RESPECT-MUSIC) in three cultural samples (Latin-American, Anglo-Saxon, and Germanic). A ten-factorial solution was found to be structurally equivalent and reliable across three cultural samples. The factors represent the functions: background, dancing, emotions, venting, focus, value development, political attitudes, social bonding with friends, family bonding, and cultural identity. Limitations of this research and future directions are discussed. The investigation complements previous psychological research on music with a cross-cultural perspective.

Music has been identified as a strong human universal (e.g., Blacking, 1974; Cross, 1999, 2001; Falck & Rice, 1982; Merriam, 1964). But are the psychological functions that music serves in different cultures also universal? The current research explores this intriguing question from a cross-cultural perspective.

### **Which Functions Does Music Serve?**

Merriam (1964) generated a list of ten functions of music, which are “equally applicable to all societies” (Merriam, 1964, p. 218). Naturally, as an ethnomusicological account, the focus was on analyzing what music does for and in human society; however, the functions Merriam identified also imply a number of individual and social psychological constructs. The list of musical functions can be categorized into individual (emotional expression, aesthetic enjoyment, entertainment, physical response), social (communication, symbolic representation), and cultural functions (enforcing conformity, validating institutions, cultural continuity, integration).

More recently, a number of models were developed compiling psychological functions of music (e.g., Behne, 1997; Hargreaves & North, 1999; Tarrant, North, & Hargreaves, 2000; Sloboda, 2005). However, it is often assumed that music-listening is an individual practice that is done alone (Juslin & Lukka, 2004; Sloboda, 2005). Hence, there is a predominant focus on the individual level of musical functions neglecting collective aspects of musical experiences (Hargreaves & North, 1999; Rentfrow & Gosling, 2006). Sociologists and ethnomusicologists remind us that music is also a fundamental feature contributing to social and cultural settings (DeNora, 2000; Frith, 1987; Merriam, 1964; Mitchell, 1996). Therefore, music also serves functions at the social and cultural level. Previous psychological research has largely ignored these different levels of musical experience. Advancing research in this regard, the present paper takes three levels into account: significance of music at individual, social, and cultural levels.

### **Cross-Cultural Approaches**

A growing body of studies takes cross-cultural psychological perspectives on various functions of music. For instance, Saarikallio (2008) focused on the use of music for mood regulation. Her study with Finnish and Kenyan adolescents revealed that the nature of mood regulation through the use of music is similar across the two cultural samples. Gregory and Varney (1996) conducted a study on the affective responses to music comparing European and Asian listeners. They found that European and Asian listeners responded differently to Western and Asian music. Rana and North's (2007) study on Pakistanis revealed striking similarities on the role of music in everyday life compared with a British sample (North, Hargreaves, & Hargreaves, 2004). Finally, Schaefer, Sedlmeier, and Tipandjan (2008) examined 17 functions of music and their links to music preferences in a German and an Indian sample. Their results revealed that in India music seems to fulfill the same functions in everyday life and to the same extent as in Germany (Schaefer, Sedlmeier, & Tipandjan, 2008). These studies suggest that there are universalities, but also cultural specifics in the functions of music.

Empirical psychological studies show a tendency to apply imposed etic approaches (application of theory and methodology from one culture to other cultures without culture-sensitive adaptation). The pitfalls of such approaches have been intensively discussed, and the advantages of derived etic approaches (appropriate adaptation of culture-specific theory and methods to other cultures) have been promoted in the cross-cultural literature (e.g., Berry, 1969, 1989; Segall, Lonner, & Berry, 1998).

In order to develop a framework of functions of music that is applicable across cultures, we need to consider major methodological issues that are neglected in imposed etic research. The decentered approach has been promoted to ensure a cultural balance and avoid construct bias in cross-cultural research (van de Vijver & Leung, 1997). Generally, in a decentered approach, multiple cultural perspectives on the studied phenomenon are gathered reducing the likelihood of construct bias. Hence, we intended to engage participants from various cultural and geographical regions. More precisely, we aimed to sample participants from Latin-America,

(South) East Asia, the Anglo-Saxon region, and Western Europe. These regions differ with regard to particular cultural characteristics (e.g., Hofstede, 1980; Schwartz, 2004).

In short, Latin-American cultures, such as Brazil or Mexico, accentuate collectivistic cultural values (putting group goals over individual ones) and lean towards mastery values (dominance over others and nature). (South) East Asian cultures, such as the Philippines or Hong Kong, are also collectivistic and value hierarchical structures. Anglo-Saxon societies, such as New Zealand, the UK, and the USA, are individualistic (independence of individuals) cultures and are characterized by affective autonomy (freedom of emotional expression and experience) and mastery. Western European cultures, such as Germany, are also individualistic and emphasize egalitarianism, intellectual autonomy, and harmony values (harmonious relationship with others and nature).

### **Aim of This Research**

The aim of study 1 is to identify functions of music experienced by culturally diverse music fans. In a qualitative survey-study, we include questions regarding the personal, social and cultural meaning of music, since these three levels comprise the multifaceted nature of musical functioning (Merriam, 1964). Based on the qualitative data of study 1, we then develop a scale measuring functions of music (RESPECT-MUSIC). In study 2, RESPECT-MUSIC is tested in three cultural samples using three language versions (English, Spanish, and German). The comparability of instruments is a major issue in cross-cultural research, because various factors can bias cross-cultural measurements (Fontaine, 2005; van de Vijver & Leung, 1997). Therefore, the aim of study 2 is to provide first findings for the reliability, structural property, and comparability of RESPECT-MUSIC across three cultural samples from Anglo-Saxon, Latin-American, and Western European regions. The culturally diverse samples in our studies allow multicultural input in form of qualitative data (study 1) and a first cross-cultural validation of a new instrument (study 2). However, they do not allow generalizations with regard to the cultures from which participants are drawn.

## **Study 1**

The first study aimed to gather qualitative input from young people about their personal, social and cultural experiences with music. We analyzed the responses to open-ended questions asking about the meaning of music in young people's lives from a variety of cultures. Study 1 intended to gain rich descriptions of musical functions from music fans of four distinct cultural regions (as described earlier). We took an inductive approach to the function of music-listening in a culturally decentered study. In this study, we aim to develop a model of musical functions that is sought to be applicable across cultures.

## **Method**

### **Data Collection and Participants**

We used the Internet in order to get responses from a culturally heterogeneous population of music fans and young people. The link to the online survey was posted in discussion boards of music-related websites hosted in seven countries, because they are located in Latin-America (Brazil), (South) East Asia (Singapore, Hong Kong, the Philippines), Anglo-Saxon regions (New Zealand, USA), and Western Europe (Germany).

The sample of 222 participants had an average age of 23 years ( $SD = 9.05$ ; range = 13-69) 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 backgrounds, participants can be categorized for descriptive purposes in four cultural clusters based on their stated home country (country where they grew up) and ethnicity: South-American, Asian, Anglo-Saxon, and European (Table 1). These cultural clusters overall match with the cultural regions we described

earlier. However, the European cluster contains participants from other parts of Europe [e.g., Greece, or Russia], not only Western Europe.

**Table 1**

*Sample description (study 1)*

Region	South-American	Asian	Anglo-Saxon	Europe
N	34 <sup>1</sup>	44	49	95
Female	50%	34%	45 %	81%
Age	26 years	25 years	26 years	18 years
Home country (N)	Bermuda (1) Brazil (30) Chile (1) USA (1)	Hong Kong (7) India (2) Kazakhstan (1) Malaysia (4) Philippines (8) Singapore (21) Vietnam (1)	Canada (4) Ireland (1) New Zealand (24) South Africa (1) UK (8) USA (11)	Austria (2) Croatia (1) Finland (4) Germany (68) Greece (1) Italy (3) Luxembourg (1) Netherlands (3) Poland (1) Romania (1) Russia (1) Sweden (2) Switzerland (7)

*Note.* <sup>1</sup> One participant resided in Brazil but did not state home country or particular ethnicity. This person was categorized as South-American based on country of residence. One participant stated the USA as home country, but emphasized Hispanic roots and ethnicity, hence the categorization as South-American.

## Questionnaire

The online questionnaire consisted of two parts. First, demographic details were obtained: age, gender, home country, ethnicity, and country of residence. In the second part, open-ended questions regarding the meaning and functions of music in people's lives were asked. Those questions covered three levels of significance: personal meaning of music, social meaning of music, and cultural meaning of music.

Asking multiple questions enhances the validity and reliability of capturing the phenomenon qualitatively. Therefore, we phrased three questions to capture the personal significance of music. The first question targeted the meaning of music in life (*What does music mean to you? Please write your thoughts about the role that 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 the 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 that randomly contained three of the seven open-ended questions in the second part to shorten the survey. We included responses if participants answered at least two of three questions. 361 participants started filling in the survey. Of those, 139 individuals only answered the demographic part or one of three open-ended questions, which indicated low commitment to participation. Hence, these responses were omitted from analysis and the final sample comprised 222 participants (92% answered all three questions).

Enhanced drop-out rates are a concern in Internet studies; however, the current drop-out rate is in the common range (e.g., Birnbaum, 2004; Reips, 2000).

### Analytical Strategy

The content of the responses was analyzed using inductive thematic analysis. Thematic analysis is a qualitative method that identifies, analyzes and reports patterns within data (Braun & Clarke, 2006). The cultural background of participants or the different questions were not explicitly considered in the qualitative analysis, given that we did not want to force cultural differences or a predefined structure onto the analyses.

## Results and Discussion

We identified seven main themes in the qualitative responses: music in the *background*, *memories* through music, music as *diversion*, *emotion* in music, *self-regulation* through music, music as *reflection of self*, and *social bonding* through music.

1. *Music in the Background.* Music is used as a background element while doing something else or to help passing time. The use of music as a background element while being engaged in other activities was mentioned by a Singaporean (36 years, male), who considered music as “*something meant to be played (softly) in the background while [...] doing something else.*” Previous research referred to the background function as a facet of individual use, for example, as a diffuse listening style (Behne, 1997), or the use of music for distraction from routine tasks (Sloboda, 2005).

Additionally, this study revealed the social element of this function. For instance, it was brought up by a participant from Malaysia (34 years, male) who uses “*Background music to keep the ambience warm and cosy*” when spending time with his friends.

2. *Memories through Music.* Particular songs can trigger memories and can connect the listener to her/his past. A participant from England (15 years, female) 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).

However, this 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 female New Zealand Maori (32 years) 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. An important issue to note is that it is *not* music in general that seems to serve the reminiscence function, but rather particular songs, favorite music or sometimes even parts of songs that remind participants of individuals, events, and occasions.

3. *Music as Diversion.* Music is a medium of entertainment as it is used to feel good and enjoy oneself. Music is “*mainly to have fun,*” as a German participant (15 years, female) stated. Furthermore, music is essential for dancing. A Brazilian (28 years, female) provided the following quote: “*along with listening to the music there is the dancing that helps on the “felling good” part.*” The diversion function is distinct from the next emotional functions since the simple enjoyment of music is without connection to prior mood and emotions. The entertaining function of music contains social aspects, for instance, dancing as a social practice (e.g., DeNora, 2000; Merriam, 1964; Saarikallio & Erkkilä, 2007; Sloboda, 2005).

4. *Emotion in Music.* The emotional function of music is complex. Music can convey emotions and also trigger emotions or emotional reactions. Listening to music can express the emotions of the listener. Therefore, particular songs are chosen by their emotional content in order to express a specific emotional state. People also choose particular songs to change their emotions and mood. A 30-year-old female participant 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?*”

The emotional function of music has been intensively analyzed by music psychologists (e.g., Behne, 1997; Saarikallio & Erkkilä, 2007; Sloboda, 2005) and sociologists (e.g., DeNora, 2000; Frith, 1987).

*5. Self-regulation through Music.* The listener uses music actively to alter or improve the current state of mind. Music can help to relax and relieve stress, or to enhance creativity and intellectual focus. On the one hand, listening to music can reduce loneliness; on the other hand, it can be an escape from this world. 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 venting frustration and aggression. Music can be a form of therapy: it can ease sorrow and negative moods in times of crisis.

Within the self-regulation function of music, the listener is an active agent, using music consciously to change a current mental state. This function of music has also been studied within music psychology and sociology (Behne, 1997; DeNora, 2000; Saarikallio & Erkkilä, 2007; Sloboda, 2005).

*6. Music as Reflection of Self.* Music can indicate three kinds of identities: individual, social and cultural identity. First, music can be an outlet for personal self-expression. It can express a person's individuality and lifestyle. For a 31-year-old female New Zealander music is *“a way for me to express my individuality - liking a particular sound or band was a way of saying who and what you stood for.”* Music expresses and influences values and attitudes; it can be an inspiration and can give guidance. Secondly, music indicates social identity through signifying group membership, for instance, belonging to a particular social group (alternative, rave) or the current 'cool group' in school. Thirdly, music can reflect identification with a culture, comment on its history and current conditions for its members. A 29-year-old Romanian woman stated that *“the folk, traditional music is more related to national identity, Romanian customs and traditions, and history.”* In summary, music preference of a person communicates identity, values, and attitudes to others, which has also been described in previous studies (DeNora, 2000; Frith, 1987; Hargreaves & North, 1999; Merriam, 1964).

*7. Social Bond through Music.* Music can provide a collective activity, e.g., listening to music or going to concerts. These shared musical activities can influence the relationship to friends and family members. Music can create a special bond. A participant from the US (17 years, male) pointed out that music *“gives us a topic. [...] It helps us bond in a way that nothing else can.”*

The sociological and social psychological investigation of the social bonding function started growing recently (Bakagiannis & Tarrant, 2006; Boer et al., 2010; DeNora, 2000; Frith, 1996; Hargreaves & North, 1997; Rentfrow & Gosling, 2006). Further studies from evolutionary studies (Cross, 2001) and biomusicology (Freeman, 2001) underline the importance of music for human development and social bonding.

## Summary of Study 1

The seven main functions of music are not new discoveries. They have been described in previous literature, but - to the best of our knowledge - have not been compiled within one holistic model. Although our study is limited in several ways, it provides two major advances in the research of music. First, we considered culture in the process of developing a model of psychological functions of music. In the study of music, this perspective has not been taken into account since the paradigm shift in ethnomusicology from etic to emic approaches in the 1980's (Falck & Rice, 1982). Secondly, we included multiple levels of significance, which are important for a holistic understanding of musical experience.

However, we need to address some shortcoming in our study. The nature of internet sampling introduces self-selection and pre-selection biases to the study. Only individuals that have access to certain resources, who are committed to music and who are engaged in internet activities make up the population of this study. The sample is by no means representative and therefore, the results cannot be generalized to the cultures of the participants. The cultural distribution of the sample is not balanced, although we aimed to culturally balance the sample



by posting the link in the same amount of discussion boards per host country. The reasons for the unbalanced distribution may be various, e.g., variant frequentation of homepages, or cultural differences in willingness to voluntarily participate in posted surveys.

## Study 2

Based on the multicultural qualitative responses in study 1, we developed an inventory measuring the essence of each main function of music (Ratings of Experienced Social, Personal and Cultural Themes of MUSIC functions, RESPECT-MUSIC). Study 2 describes the scale development of RESPECT-MUSIC and presents first evidence for reliability, internal validity, and comparability across three language versions (English, Spanish, and German).

### Item Generation for Respect-Music

Based on the qualitative responses in study 1, we generated four to fifteen items for each main function of music (depending on the number of sub-functions). We extracted items directly from responses or generated items summarizing responses. For instance, from the quote *“And what is more powerful than a song or just a tune which is able to bring tears in your eyes?”* we generated the item *“Some songs are so powerful that they are able to bring tears into my eyes.”*

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 categorize 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 a selected number of sub-functions which represent the seven main functions of music that were identified in study 1. The committee perceived the 74 items as clearly phrased and holding face validity. The third aim was to identify the most appropriate instruction and response scale to measure functions of music listening. The committee agreed that the following response scale was the most appropriate for RESPECT-MUSIC: 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.”

The initial set of items and response scale were developed in English and translated into German and Spanish. A German-speaking research assistant translated RESPECT-MUSIC into German. We subsequently proofread and corrected the translation if necessary. The validity of the translation was then confirmed and finalized in a committee approach including three bilinguals. The translation into Spanish was conducted by three collaborators. They translated and back-translated the instrument. We examined the back-translation and provided comments regarding potential translation issues. The initial translation was then revised and finalized.

Study 2 aims to reduce the initial pool of 74 items to a more practical scale size. We assess reliabilities and structural properties of RESPECT-MUSIC in three language versions (tested in three cultural samples primarily from Mexico, New Zealand and Germany). The simultaneous development and item selection in multiple languages and cultural groups reduces the likelihood of culture-sensitivity or language-sensitivity of the instrument. The assessment of structural equivalence of RESPECT-MUSIC across three language samples will provide first evidence of possible universal or cultural-specific dimensionality of functions of music as measured by the newly developed RESPECT-MUSIC.

## Method

### Participants

A total of 854 participants took part in this study. We collected data using online surveys (60%) and paper-and-pen questionnaires at universities (40%) in New Zealand, Mexico, and Germany. 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 that was created for this project (<http://www.jungedenkmusik.net>).

350 participants filled out the English version of the survey. Their average age was 22 years ( $SD = 7.31$ ), 50% of them were female and 83% were students. The majority of the English speaking sub-sample came from New Zealand (78%), 11% from the US, and the remaining 11% lived in other Anglo-Saxon countries.

175 participants completed the Spanish version of the survey. Their average age was 22 years ( $SD = 6.27$ ), 51% of them were female, and 87% were students. The majority of the Spanish-speaking sub-sample came from Latin America (71% Mexico, 15% from other South American countries), 11% came from Spain, and the remaining 3% were Hispanics living in other countries.

329 participants filled out the German version of the survey. Their average age was 24 years ( $SD = 6.54$ ), 48% of them were female, and most of them (77%) were students. The vast majority of the German-speaking sub-sample came from Germany (95%), 4% came from Austria and Switzerland, and the remaining 1% were Germans living in other countries.

The three samples were matched with regard to age and gender distribution.

### Analytical Strategy

The analytical strategy involved 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, an exploratory factor analytical approach was used. In order to assess the factor structure, Principal Component Analyses (PCA) were conducted on the pooled within-groups correlation matrix. Pooled factor analysis was chosen as this approach adjusts for unequal samples sizes (Bond, 1988; Fischer & Fontaine, in press). We rotated the pooled factor solution with Varimax rotation in order to identify independent functions of music.

Structural equivalence was investigated by applying procrustean target rotation (for details see Fischer & Fontaine, in press; van de Vijver & Leung, 1997). This analysis assesses the structural similarity of a factor solution to the factorial solutions of a target group. The Varimax-rotated factor solution of the pooled within-groups correlation matrix was used as the target group. 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 (Fischer & Fontaine, in press; van de Vijver & Leung, 1997). Tucker's Phi is an agreement coefficient that was examined as a statistical indicator of factor similarity. Is Tucker's Phi higher than 0.95, it gives evidence for factorial similarity (van de Vijver & Leung, 1997); while indices between 0.90-0.95 would not suggest a perfect, but still adequate, level of similarity of factor structures (Leung et al., 2002).

## Results and Discussion

### Structure of Respect-Music

The first PCA including 74 items extracted thirteen factors; however, several items loaded on single factors, had cross or low loadings, or were of inconsistent content across samples.



5. Music is emotion flowing in sound.	0.62										<b>0.58</b>
6. I meet with friends and listen to good music.		0.76									<b>0.65</b>
7. Through music my friends and I can commemorate happy past moments together.		0.77									<b>0.72</b>
8. Listening to music with friends is a way of sharing good old memories of our lives.		0.75									<b>0.66</b>
9. Going to concerts and listening to records is a way for me and my friends to get together and relate to each other.		0.72									<b>0.68</b>
10. We live these moments of true connection when I listen to music or go to concerts with my friends.		0.71									<b>0.66</b>
11. Music allows me to have a common interest with my family.			0.84								<b>0.81</b>
12. Our shared music taste is something that brings my family together.			0.82								<b>0.78</b>
13. I like talking to my family about music.			0.82								<b>0.74</b>
14. I enjoy listening to music with my family / relatives.			0.80								<b>0.71</b>
15. Music is what alleviates my frustration.				<b>0.76</b>							<b>0.77</b>
16. Music is a means of venting my frustration.				<b>0.77</b>							<b>0.79</b>
17. Through listening to music I can let off steam.				<b>0.81</b>							<b>0.79</b>
18. Music seems to reduce stress.				<b>0.74</b>							<b>0.71</b>
19. I like dancing to certain music.					<b>0.92</b>						<b>0.88</b>
20. Some music makes me want to dance.					<b>0.86</b>						<b>0.81</b>
21. I like to go dancing, and the type of music is essential for this.					<b>0.86</b>						<b>0.79</b>
22. I need music in the background while doing something else.						<b>0.86</b>					<b>0.85</b>
23. In many situations I need music in the background.						<b>0.81</b>					<b>0.78</b>
24. Whatever I do, I listen to music in the background.						<b>0.81</b>					<b>0.83</b>
25. I can keep my focus on a task while listening to the right music.							<b>0.85</b>				<b>0.84</b>
26. Music helps me to focus.							<b>0.81</b>				<b>0.84</b>
27. Listening to music allows me to concentrate.							<b>0.82</b>				<b>0.88</b>
28. Music is very important in the process of developing my values.								<b>0.77</b>			<b>0.79</b>
29. Somehow music steers my								<b>0.71</b>			<b>0.75</b>

approach to life and my values.											
30. My personal development was positively influenced by music.								<b>0.74</b>			<b>0.75</b>
31. My favorite music is often political.									<b>0.87</b>		<b>0.79</b>
32. I usually listen to music that goes somewhat with my political beliefs.									<b>0.80</b>		<b>0.70</b>
33. Music plays an important role in my life as a means of political engagement.									<b>0.80</b>		<b>0.76</b>
34. The music of my country represents an image of my country to the outside world.										<b>0.84</b>	<b>0.78</b>
35. The music in my country is part of building our identity.										<b>0.80</b>	<b>0.74</b>
36. Music is a reflection of a country's culture and history.										<b>0.79</b>	<b>0.68</b>
<i>Eigenvalue</i>	27.77	9.88	7.42	<b>6.60</b>	<b>5.38</b>	<b>4.88</b>	<b>4.13</b>	<b>3.42</b>	<b>2.90</b>	<b>2.85</b>	
<i>Variance explained (75.23%)</i>	9.33%	8.97%	8.47%	<b>8.27%</b>	<b>7.12%</b>	<b>7.06%</b>	<b>7.04%</b>	<b>6.50%</b>	<b>6.44%</b>	<b>6.03%</b>	
<i>Factor congruence Tucker's Phi</i>											
Anglophone sample	0.99	0.98	0.98	<b>0.97</b>	<b>0.97</b>	<b>0.98</b>	<b>0.95</b>	<b>0.95</b>	<b>0.98</b>	<b>0.99</b>	
Hispanic sample	0.98	0.99	0.98	<b>0.96</b>	<b>0.97</b>	<b>0.96</b>	<b>0.97</b>	<b>0.95</b>	<b>0.97</b>	<b>0.97</b>	
German sample	0.99	0.99	0.99	<b>0.99</b>	<b>0.99</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.99</b>	<b>0.98</b>	
<i>Internal consistency Cronbach's alpha</i>											
Anglophone sample	0.84	0.78	0.88	<b>0.87</b>	<b>0.90</b>	<b>0.89</b>	<b>0.92</b>	<b>0.87</b>	<b>0.87</b>	<b>0.84</b>	
Hispanic sample	0.88	0.88	0.87	<b>0.87</b>	<b>0.91</b>	<b>0.91</b>	<b>0.90</b>	<b>0.89</b>	<b>0.76</b>	<b>0.82</b>	
German sample	0.84	0.87	0.89	<b>0.90</b>	<b>0.87</b>	<b>0.88</b>	<b>0.93</b>	<b>0.83</b>	<b>0.82</b>	<b>0.72</b>	

*Note.* Factor loadings above 0.30 displayed;  $h^2$  – communality (measures the percent of variance of each item explained by all factors)

## General Discussion

The current paper gathered a holistic picture of personal, social and cultural functions of music from a culturally diverse sample of young music lovers (study 1). The identified seven main functions of music (background, memories, diversion, emotion, self-regulation, reflection of self, and social bonding through music) are not new discoveries. These functions, however, show an intriguing trend of social aspects in musical functions including cultural identity, considering that previous models primarily encompassed personal psychological functions of music (e.g., Sloboda, Lamont, & Greasley, 2009). The subsequently developed scale RESPECT-MUSIC (study 2) captures the essence (emotion, social bonding, background) or particular sub-domains (venting, dancing, focus, values and development, political attitudes, cultural identity) of the qualitatively identified functions.

Several functions of music, which have been identified as separate domains in study 1, merged in study 2. For instance, music as a means of social bonding is strongly associated with the collective reminiscence function of music, when collective listening to music triggers memories of shared events. This is an interesting link that has not been investigated before. It appears that social bonding through music is a long-term process based on shared musical activities and experiences that are memorized, and thus, can become an integral part of the interpersonal attachment.

Furthermore, several functions being grouped together in study 1 represent separate facets of musical functions as measured by RESPECT-MUSIC. For instance, the self-regulation sub-domains *venting* and *focus* appear as distinct factors, and three sub-facets encompassing

reflection of self were measured as the separate functions value development, political attitudes, and cultural identity. RESPECT-MUSIC allowed the structural assessment of musical functions that have been subjectively categorized into seven themes in study 1. Study 2 revealed a more detailed picture of ten musical functions.

RESPECT-MUSIC was simultaneously tested in three languages providing first evidence for applicability, reliability, and structural properties in English-speaking, Latin-American and German samples. The 36 items inventory RESPECT-MUSIC was found to be structurally equivalent (ten factors) across three cultural samples. Study 2 provided first indications for a universal underlying structure of functions of music. 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 reduces 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 limited applicability to non-Indo-European languages cannot be ruled out. Before we can suggest that these factors are universal dimensions, they ought to be tested in and adapted to other cultural settings, samples, and other languages. Furthermore, before claims about the robustness of RESPECT-MUSIC can be made, re-test reliability needs to be assessed in future research.

The current research was conducted by sampling young educated, urban adults as participants. In order to generalize the findings of this research, further studies with samples of different age groups, occupational groups and rural regions would elucidate the research on functions of music. Research could explore whether the holistic topography of musical functions entails similar functions and a similar structure in other samples. The qualitative and quantitative approaches inform and complement each other by capturing functions of music in a comprehensive model. Multicultural and multi-lingual approaches were used providing 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. For instance, rural populations in traditional societies may use music for spiritual and religious purposes, which is not explicitly captured in this research (somewhat implicitly in the value and identity function). Moreover, the potential domain under-representation of culture-specific musical functions in study 1 may have carried over to study 2, since the items were developed based on the qualitative responses.

The studies of this paper relied solely on self-reports. Self-report research may be subject to social desirable responses, response sets, methodological artifacts due to survey method, or potential translation issues. Future research including participatory observational studies, archival analyses or content analysis of lyrics is welcomed to further examine the identified functions.

Despite its limitations, this research opens avenues for future research on music across cultures. RESPECT-MUSIC is a practical, comprehensive and relatively brief tool that can be included in surveys assessing other psychological and demographic variables. This enables for instance the exploration of cross-cultural similarities and differences in the importance and psychological determinants of the ten functions of music.

Musical behaviors offer an exciting applied field for cross-cultural psychological research. Emerging cross-cultural psychological research methods emphasize 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 dimensions, 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 has explored culture-specifics in much detail. It is time to complement these in-depth cultural studies with a broader view on the cultural dynamics and similarities. Given the centrality of music to culture, a cross-cultural psychology of music could

advance our understanding of musical universals and cultural processes in the expression and function of music (Huron, 2008). The integrated examination of both universals and culture-specifics may be a key ingredient for future research on music and culture.

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