m*US*ic or mus*I*c?: Examining the Role of Self-Construal in Affective Experiences with Music Across Cultures

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Abstract

Building on previous recommendations for cross-cultural research in music cognition, this thesis introduces a novel approach to investigating affective experiences with music across cultures. Chapter One outlines the motivations for this doctoral study, defines key constructs, provides an overview of the thesis, and discusses its main contributions and implications. Chapter Two critically examines operationalisations of 'culture' in prior cross-cultural research and proposes a theoretical framework delineating key cultural dimensions within the music context. This framework posits that the self is shaped by the cultures to which one belongs, and I argue that self-construal theory provides valuable insights into how culture interacts with affective experiences of music. Chapters Three and Four report complementary studies investigating how self-construal influences emotional experiences with music. Using an online exploratory questionnaire and an in-person listening experiment, these studies found that interdependent self-construal was associated with socially engaging emotions, both perceived and felt in response to favourite music. Independent self-construal, however, was linked to socially disengaging emotions felt but not perceived in favourite music, highlighting nuanced cultural influences on emotional experiences. Chapter Five explores the relationship between self-construal and musical reward through an online questionnaire, revealing that interdependent self-construal was linked to social reward, while independent self-construal was associated with musical seeking reward across cultures. Chapter Six examines whether music can prime self-construal, and Chapter Seven re-evaluates the functions of music from a cross-cultural perspective, demonstrating music's role in shaping self-perception and its diverse functions across cultures. Overall, this thesis provides empirical support for the significant role of self-construal in affective experiences with music and underscores the importance of articulating specific cultural variables in cross-cultural research. By fostering a more inclusive and culturally informed understanding of musical experiences, this work paves the way for future research exploring the intersections of music, culture, and the self.

Keywords: culture, cross-cultural, self, self-construal, self-perception, individual differences, affect, emotion, emotion perception, felt emotion, music, music preference, uses of music, music function, musical reward

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Declaration

I, the author, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means (www.sheffield.ac.uk/ssid/unfair-means). This work has not been previously presented for an award at this, or any other, university.

List of Publications by Candidate

Published Journal Paper

For the published article in Chapter Two, please see:

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For the article in Chapter Six, please see:

Tang, J. (2025). *Sounds of the self: Exploring music as a self-construal priming tool* [Manuscript submitted for publication]. Department of Music, University of Sheffield.

For the article in Chapter Seven, please see:

Tang, J. (2025). *Second take on the functions of music: A cross-cultural perspective* [Manuscript submitted for publication]. Department of Music, University of Sheffield.

Underlying, Openly Accessible Datasets

For all raw data pertaining to the studies in this thesis, please see:

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CHAPTER ONE

"The true beauty of music is that it connects people. It carries a message, and we, the musicians, are the messengers."

– Roy Ayers, American record producer and composer

An Anecdote

Imagine yourself as a music therapist working in an acute inpatient psychiatric hospital in Singapore, facilitating music therapy groups for patients from diverse cultural backgrounds in the mood disorders unit. Over the past few weeks, you have been focusing on the theme of social support in your sessions, and an intriguing pattern has begun to emerge in patients' responses to music.

In one session, the group selected *You've Got a Friend in Me* by Randy Newman. As the familiar melody played, you observed a noticeable shift in the room – patients seemed energised, their moods visibly lifted. Following the song, you facilitated a song discussion, a music therapy intervention in which individuals explore the meaning and personal relevance of a song as a means of fostering psychological well-being (Gardstrom & Hiller, 2010). As the discussion unfolded, patients spoke animatedly, freely sharing details about themselves. They emphasised their own qualities – how dependable, compassionate, and supportive they were as friends. There was a sense of pride in their voices, a reaffirmation of their identities through the lens of friendship.

In another session, the group chose *朋友* (*Péng Yǒu,* meaning "Friends") by 周华健 (Emil Chau). This time, the atmosphere was markedly different. As the song played, patients appeared more subdued, their expressions more introspective. During the discussion, they spoke little about themselves. Instead, they focused on the people who had supported them through their struggles, recounting acts of kindness and service they had received during their mental health journeys. This shift was striking – while the previous session had prompted self-focus and a sense of invigoration or heightened positive mood, this one encouraged an other-focused perspective and a more neutral, contemplative emotional state.

This contrast in emotional and psychological responses to music raises several important questions. Although both songs shared similar themes of friendship, do they reflect underlying cultural values and imperatives? Does music influence how people perceive themselves, and in turn, shape their affective responses to it?

Impetus for Doctoral Study

My interest in cross-cultural differences began during my undergraduate studies in Singapore. Despite growing up in a multicultural society, my understanding of cultural differences remained largely theoretical. It was not until I lived and worked overseas, in the U.S. and the U.K., that these differences became strikingly apparent in my daily interactions, deepening my interest in how culture influences human behaviour.

The anecdote above is just one example of the many interactions I have had with individuals from diverse cultural backgrounds in professional, clinical, and personal settings. Throughout my clinical and continuing professional development as a music therapist, I became increasingly aware of the limited cross-cultural research in music therapy. This gap in the literature motivated me to explore related fields, namely music psychology and cultural psychology. However, despite a comparatively larger body of cross-cultural research in music psychology, I found that the theoretical frameworks and empirical methods used to investigate cultural differences were often limited in scope. To address this, I drew upon theories and research in cultural psychology to better understand how culture shapes musical behaviours.

This thesis is an extension of my curiosity about cultural differences in affective experiences with music. Through this research, I aim to contribute to a deeper understanding of how culture shapes emotional responses to music. I hope that this knowledge will ultimately inform music therapy practice, promoting more culturally sensitive and culturally responsive approaches to clinical work.

Positionality and Philosophical Perspective

Before outlining my epistemological and ontological stance, I feel it necessary to reflect on my positionality, as my philosophical perspective on research is shaped by my lived experiences. I am a cisgender, non-disabled, ethnically Chinese male who grew up in postcolonial Singapore with both majority status and a degree of economic privilege.

Growing up in a predominantly Chinese society, I was deeply influenced by Confucian values such as filial piety (孝*xiao*), loyalty (忠*zhong*), and benevolence (仁*ren*), values reinforced through familial interactions and Singapore's system of mandatory national and community service. At the same time, mass media and Singapore's English-based education system exposed me to Western ideals of democracy, individualism, and scientific rationalism. My experiences studying and working in the U.S. and the U.K. further heightened my awareness of the power dynamics and tensions between dominant cultural ideologies. I have experienced both the benefits and challenges of navigating these intersecting cultural identities, which have afforded me both privilege and marginalisation in different contexts. Exposure to anti-colonial perspectives (Sauvé et al., 2023; Tuck & Yang, 2012) further deepened my understanding of these dynamics, highlighting that most research – at least in the English language – is conducted with a small, culturally narrow subset of the world and fails to reflect the experiences of the global majority (Henrich et al., 2010; Jakubowski et al., 2025). These experiences have shaped my identity as a researcher, strengthening my commitment to advancing culturally diverse perspectives in research. I approach my work with an awareness of how power operates within research and a dedication to fostering more inclusive and culturally sensitive understandings of musical experience.

Given this backdrop, my philosophical perspective is eclectic, as my epistemological position straddles objectivism and constructionism (Matney, 2019). While I align with the objectivist principle

that meaning and reality exist independently of the subject, I also recognise the interactive nature of meaning-making between the subject and object. In other words, meaning emerges through the dynamic interplay between the two; we neither uncover purely objective knowledge nor impose entirely subjective interpretations, but rather construct meaning through our engagement with the world. Consequently, my theoretical perspective encompasses both post-positivism and interpretivism or phenomenology. This includes methodologies spanning the quantitative-qualitative spectrum, such as experimental methods, descriptive approaches, and phenomenological analysis. This balanced approach allows me to make cautious claims about objectivity while acknowledging that theories and knowledge are inherently limited, context-dependent, and socially constructed.

Thesis Overview

My lived experiences suggest that different music evokes varying emotional and psychological responses in people, as illustrated in the opening excerpt. However, many questions remain. Do these responses also differ among individuals from diverse cultural backgrounds? Broadly, this thesis explores how culture shapes musical behaviours and experiences, with the aim of investigating how culture influences affective experiences with music, broadly defined.

Theoretical Assumptions

This research broadly focuses on the role of culture in affective experiences with music. Three key theoretical assumptions underpin this thesis, concerning culture, music, and affective experience. I will unpack these assumptions to clarify the arguments I am making and to outline the specific aspects this thesis will address.

Culture

Culture is among the most complex words in the English language (Williams, 1985). Its meaning shifts depending on the context, ranging from a noun of process (e.g., the tending of crops or animals) to an abstract noun describing intellectual practices and artistic activities such as music, literature, or painting, and even to an adjective associated with class distinctions (e.g., "culture-vulture" and "sub-culture"). Some researchers conceptualise culture as different levels of analysis, distinguishing between personal, social, and cultural levels (e.g., Boer & Fischer, 2012).

In this thesis, I refer to culture as an independent noun, encompassing both material production and symbolic systems. In other words, the working definition of culture I adopt is that culture consists of "explicit and implicit patterns of historically derived and selected ideas and their embodiment in institutions, practices, and artifacts; cultural patterns may, on one hand, be considered products of action, and on the other as conditioning elements of further action" (Adams & Markus, 2004, p. 341). Thus, it is the interplay between the material product and symbolic systems that this thesis explores.

Although I am critical of the way culture has been operationalised in majority of cross-cultural research in music psychology, where culture is often equated with nationality, I recognise that recruiting participants based on sociodemographic factors is, to some extent, unavoidable in cross-

cultural studies (as discussed in greater detail in Chapter Two). In this thesis, I continue to recruit participants from different countries. However, I also specify the cultural variables under investigation, namely self-construal. This approach helps to clarify the mechanisms through which culture influences affective experiences with music.

Music

Building on this definition of culture, music can be regarded as a material artefact of culture. Cross-cultural research on the effects of music tends to adopt narrow conceptualisations, which will be explored in greater detail in Chapter Two. For example, such research often involves recruiting participants from different cultures, using music from diverse cultural traditions, or combining both approaches. Although these studies have undoubtedly offered insights into cross-cultural differences and similarities, they remain limited in scope.

In this thesis, I used favourite music as a lens to explore cultural differences – a departure from most existing cross-cultural research in music psychology, which typically relies on traditional music or music from various cultures. I chose to use favourite music for several reasons. First, studies have shown that emotional responses are strongest when an individual's favourite music is used (Blood & Zatorre, 2001; Fuentes-Sánchez et al., 2022; Ladinig & Schellenberg, 2012), which is essential for examining affective experiences with music. Second, cultural differences are highly nuanced, and the use of traditional music overlooks the ecological validity of today's musical landscape that is predominantly characterised by popular music. Third, it is reasonable to assume that people across cultures have music they prefer, and this shared phenomenon (equivalence) provides a basis for meaningful cross-cultural comparison. Fourth, I argue that cultural nuances can also be explored through favourite music. Research has demonstrated that favourite music reflects both individual and cultural influences – personality traits combined with personal and cultural values better explain variations in music preferences (Andrews et al., 2022). While I acknowledge the challenges of using favourite music (to be discussed later; cf. Lamont & Webb, 2010), I contend that it presents an optimal strategy for uncovering cross-cultural similarities and differences in musical experiences.

Affective Experience

Researchers have used terms such as affect, emotion, feeling, and mood inconsistently – sometimes using the same term to refer to different concepts, and at other times using different terms to describe the same phenomenon. In this thesis, I adopt the working definition of affect as an umbrella term encompassing a range of affective phenomena, including music preference, mood, emotion, aesthetic experience, and even spiritual experiences (Juslin & Sloboda, 2010). This thesis primarily focuses on emotions (Chapters Three and Four). At the same time, it also considers other aspects of music listening that often occur alongside such experiences, namely musical reward experiences (Chapter Five), effects on self-perception (Chapter Six), and the uses and functions of

music (Chapter Seven). The relationship between these seemingly disparate concepts and the broader research question is discussed below.

Chapter Summary

This thesis follows a publication format, incorporating six papers as chapters. Since these papers have either been published or are currently under review in multiple journals, both American and British English are used throughout this thesis. Below, I outline the chapters and explain how they are interconnected within the broader aim of exploring how culture impacts affective experiences with music.

Chapter Two, *The Important Role of Self in Cross-Cultural Investigations of Affective Experiences with Music*, presents a critical commentary on how culture has been operationalised in previous research and proposes a theoretical framework that delineates key aspects of culture within the music context. My proposed framework recognises that culture manifests in three interrelated components: the individual, the music, and the environment or context. These components are mutually constitutive, influencing and shaping one another. Building on this framework, I argue that the self is constituted in relation to the cultures to which one belongs and propose that self-construal theory can enhance our understanding of how culture shapes affective experiences with music. Self-construal refers to how individuals define and construe the self – whether as interconnected with others (interdependent self-construal) or as distinct and separate from others (independent self-construal). The empirical evidence reviewed in this chapter demonstrates that self-construal influences motivation, cognition, and emotion in non-musical contexts, suggesting that it may similarly affect music preferences, perceived emotions, and emotional responses to music. Therefore, self-construal, as a means of operationalising the self, has the potential to elucidate similarities and differences in affective experiences with music both between and within cultural contexts.

Based on the extensive literature review in Chapter Two, the overarching research question of this thesis is as follows: how does self-construal shape affective experiences with music across and within cultural contexts? Within the psychology of music, scholars have distinguished between two facets of affective experiences with music: *perceived* emotion and *felt* emotion (Juslin, 2016). *Perceived* emotion refers to how individuals recognise emotions expressed in music, without necessarily experiencing them. In contrast, *felt* emotion refers to the emotional responses that music elicits in the listener. Consequently, two sub-questions emerge:

1. How does self-construal, both between and within cultures, influence the emotions perceived in favourite music?
2. How does self-construal, both between and within cultures, affect the emotions elicited by favourite music?

Chapters Three and Four report several empirical studies that address these two sub-questions. Chapter Three, *Favorite Music Expresses Socially Engaging Emotions: The Role of Self-Construal Across Cultures*, addresses the first sub-question by presenting two empirical studies that

investigate how self-construal influences the perception of emotions in favourite music. Similarly, Chapter Four, *Feeling Socially (Dis)Engaging Emotions with Favorite Music: The Role of Self-Construal Across Cultures*, addresses the second sub-question by reporting two empirical studies that examine how self-construal shapes the emotions elicited by favourite music. To answer these questions, the studies employed a combination of an online exploratory questionnaire and an in-person listening experiment.

In these chapters, I critically engage with the concept of emotion itself, arguing that cross-cultural research on music and emotions within music psychology has predominantly relied on emotion models rooted in Western paradigms. These models often assume that emotions are primarily intrapsychic experiences, detached from situational or relational contexts (Becker, 2010; Markus & Kitayama, 1991; Mesquita et al., 2016; Tsai & Clobert, 2019). However, this assumption may not accurately reflect the affective experience of people from non-Western cultures, where emotions tend to be more interpersonally focused, especially in collectivistic cultures. A corollary of this interpersonal versus intrapersonal distinction is that emotional experiences extend beyond basic (or discrete) emotion models and dimensional models (e.g., the two-dimensional circumplex model). They also encompass more culturally sensitive emotion types, such as *socially engaging emotions*, which facilitate connections with others, and *socially disengaging emotions*, which emphasise distinguishing oneself from others. While prior studies have demonstrated that interdependent self-construal is associated with socially engaging emotions and independent self-construal with socially disengaging emotions, these associations have not been explored within the context of music. Thus, Chapter Three investigates whether self-construal is associated with socially engaging and socially disengaging emotions perceived in favourite music, while Chapter Four examines whether self-construal is associated with socially engaging and socially disengaging emotions experienced while listening to favourite music.

In Chapter Three, the results provide evidence of an association between interdependent self-construal and socially engaging emotions perceived in favourite music. However, there is limited evidence for an association between independent self-construal and socially disengaging emotions perceived in music. In Chapter Four, the results demonstrate associations between interdependent self-construal and socially engaging emotions, as well as between independent self-construal and socially disengaging emotions felt while listening to favourite music. Together, these studies offer novel evidence of the role of self-construal in shaping both perceived and felt emotions in favourite music across and within cultural contexts.

Reflecting on my own experiences with music, I have found that most of them have been pleasurable, enjoyable, and, at times, highly rewarding. This rewarding experience may involve an affective element that falls under the broader umbrella of affect. Neuroimaging studies have found that both the dopaminergic reward system and emotional brain circuitry are activated when listening to highly pleasurable music (Zatorre, 2018). Consequently, this observation leads to an additional sub-

question: how does self-construal shape the experience of musical reward associated with favourite music between cultural contexts?

Chapter Five, *"I Feel Good… I Knew That I Would…": The Role of Self in Musical Reward Across Cultures*, addresses this sub-question by exploring the extent to which self-construal is associated with musical reward across and within cultural contexts. Utilising an online questionnaire method, this study revealed no significant differences in musical rewards experienced with favourite music between collectivist and individualist contexts. However, separate multiple linear regression analyses highlighted both cross-cultural similarities and differences in the determinants of musical reward and its subtypes. Regarding similarities, the findings indicate that interdependent self-construal was positively associated with social reward, while independent self-construal was positively associated with the musical seeking subtype in both groups. Regarding differences, self-construal and other factors were significantly associated with emotion evocation, mood regulation, and sensory-motor rewards in individualist but not collectivist cultures. In summary, this study provides preliminary evidence that self-construal influences the types of musical rewards experienced with favourite music across and within cultures.

Returning to the opening anecdote, the song *朋友* (*Péng Yǒu,* meaning "Friends") by 周华健 (Emil Chau) appeared to trigger an other-focused perspective, whereas *You've Got a Friend in Me* by Randy Newman seemed to evoke a self-focused perspective. Drawing on insights from critical and new musicology, which posit that music enables listeners to adopt particular subject positions and ways of being (Clarke, 2011; Frith, 1996), it is possible that different types of music may afford a vicarious experience of interdependent and independent selves. This reflection prompted another sub-question: can music activate different self-construals in individuals?

Chapter Six, *Sounds of the Self: Exploring Music as a Self-Construal Priming Tool*, addresses this research question by investigating whether music can be used to prime interdependent and independent self-construals. This study employed a listening experiment, in which bicultural participants were randomly assigned to one of three listening conditions: Chinese music, Western music, or a control condition (no music). The results revealed that participants reported significantly lower levels of both interdependent and independent self-construals at the post-test compared to the pre-test, regardless of the music condition. Further analysis indicated shifts toward the independent pole on specific self-construal dimensions, including self-direction vs. receptiveness to influence, consistency vs. variability, and self-interest vs. commitment to others, across all music conditions. These findings underscore the complexity of music's role in shaping self-perception and identity, suggesting that its influence on self-construal may be more nuanced than initially hypothesised.

Given the ubiquity of music in everyday life, research on musical functions has proliferated. Although distinct from the broader concept of affect, the uses or functions of music often run parallel to it, as people from cultures all around the world frequently report listening to music because of the

emotions it evokes (Swaminathan & Schellenberg, 2015). Yet, despite the extensive body of research on this topic, only a few studies – particularly those from a psychological perspective – have explored the functions of music through a cultural lens. Building on the insights from Chapters Three, Four, and Five, which emphasise the importance of critiquing the assumptions underlying key constructs, this prompted a re-examination of the functions of music from a cross-cultural perspective. The guiding research question for this exploration is: what are the functions of favourite music from a cross-cultural perspective?

Chapter Seven, *Second Take on the Functions of Music: A Cross-Cultural Perspective*, addresses this research question by presenting three empirical studies that explore the functions of music across cultures. Adopting a qualitative approach that acknowledges the researcher's active role in knowledge production, this study used online open-ended questionnaires and semi-structured interviews to achieve three objectives: (1) develop a framework of musical functions, (2) examine the prevalence of these functions across three cultural contexts, and (3) explore the nature of musical functions. Drawing on data from a large, culturally diverse sample, the study proposed a new framework of musical functions, comprising five other-directed functions (i.e., social entertainment, reminiscing about others, connecting with others, evoking socially engaging emotions, and conveying social stories) and ten self-directed functions (i.e., entertainment, reminiscence, self-reflection, emotion evocation, regulation, motivation, appreciation, education/work, self-expression, and transpersonal experiences). Quantitative analysis of the qualitative responses revealed that, among self-directed functions, regulation and emotion evocation were the most frequently reported across participants from China, Singapore, and the U.K. For other-directed functions, evoking socially engaging emotions was the most prevalent in China, while reminiscing about others was most common in the U.K. In Singapore, these functions were more evenly represented. Finally, this study revealed that while individuals may listen to music for specific purposes, these functions often overlap and are not always distinctly separated, underscoring the multifaceted nature of musical engagement.

Discussion

In this thesis, I explored the role of self-construal in shaping affective experiences with music across and within cultural contexts. The goal was to contribute a deeper understanding of how culture influences emotional responses to music, which could lead to more culturally sensitive and responsive approaches to music therapy practice. This thesis makes novel contributions, both theoretically and empirically, to the field of music psychology as set out below.

Although scholars have provided recommendations for cross-cultural research in music cognition (e.g., Jacoby et al., 2020), these recommendations have often been vague and continue to perpetuate narrow definitions of culture, typically reducing it to nationality, race, or ethnicity. In Chapter Two, I addressed this limitation by drawing on research from cross-cultural psychology to propose a theoretical framework that defines culture beyond sociodemographic categorisations. The proposed framework delineates key aspects of culture within the music context, allowing researchers

to articulate the specific dimensions of cultural differences (or similarities) they are examining. Additionally, I argued that the self is constituted in relation to the cultures that one is part of and posited that examining the self through the lens of self-construal represents a significant step forward in advancing theory and cross-cultural understanding of affective experiences within the psychology of music.

Empirically, the studies reported in this thesis provide evidence supporting my claim regarding the important role of self-construal in cross-cultural investigations of affective experiences with music. Specifically, the studies offer novel insights into the role of self-construal in shaping emotions perceived and felt with music (Chapters Three and Four) and musical reward experiences (Chapter Five), as well as music's potential effects on self-perception (Chapter Six) and its functions across cultures (Chapter Seven). My thesis extends insights from everyday emotional experiences to the music domain. Furthermore, it advances previous cross-cultural research on music and emotions by highlighting specific cultural variables, moving beyond the reliance on sociodemographic variables as proxies for cultural differences. In other words, the significant associations found between self-construal and emotional experiences illustrate the role of these cultural ways of being in shaping affective experiences with music not only between cultures, but also within cultures.

Taken together, two key implications emerge from the theoretical and empirical contributions of this thesis. First, this thesis highlights the importance of articulating specific cultural variables in cross-cultural research. As discussed in Chapter Two, previous cross-cultural research has often relied on nationality, geographical boundaries, and ethnicity as proxies for underlying cultural differences. These proxies, however, remain static and obscure the specific mechanisms through which culture influences affective experiences. My findings in Chapter Five support this claim, illustrating that using nationality as a proxy for collectivism-individualism was insufficient for detecting between-cultural variations. Instead, self-construal emerged as a significant predictor of musical reward and its subtypes within-cultures. Additionally, the mediation effects observed in Chapters Three and Four reinforce this point, demonstrating that cultural contexts influence self-construal, which in turn shapes emotional responses to music. Therefore, for cross-cultural research to progress, we need to specify the aspects of culture under investigation rather than solely relying on broad sociodemographic proxies.

Second, this thesis underscores the importance of reflecting on our own epistemological and ontological assumptions about music and musical behaviours. In other words, the ways in which we conceptualise and measure constructs of interest are inevitably shaped by our own worldview and cultural perspective. For example, in Chapter Five, a greater number of significant relationships were observed in individualist cultures compared to collectivist cultures. This suggests that the Barcelona Music Reward Questionnaire (Mas-Herrero et al., 2013), used to measure musical reward, may have been developed from an individualistic cultural perspective. For cross-cultural research to flourish, we need to embrace culturally diverse perspectives through a combination of top-down and bottom-up

approaches. In Chapters Three and Four, I critiqued the emotion models frequently used within music psychology and incorporated culturally sensitive models of emotions. By incorporating models derived a priori from cross-cultural psychology (top-down approach), these studies revealed cultural nuances and deepened our understanding of cultural diversity in affective experiences with music. Alternatively, constructs of interest can be re-examined through a bottom-up approach. For instance, in Chapter Seven, I explored the functions of music from a cross-cultural perspective using qualitative methods, allowing culturally specific insights to emerge. Thus, to advance understanding of cultural diversity in music psychology, we should make explicit our epistemological and ontological assumptions, and integrate both etic and emic theoretical perspectives and empirical approaches in cross-cultural research.

Limitations

As with all research, this thesis is not without limitations. This entire thesis hinges on the notion of favourite music, specifically the stability of music preferences and its ability to reflect cross-cultural differences. I acknowledge that favourite music is highly context-dependent and transient, as it can change from one moment to the next (Lamont & Webb, 2010). Some might argue that this instability or transience makes favourite music unsuitable for studying cross-cultural differences, which may be perceived as relatively more enduring and stable over time. To this, my response is that the cultural variable explored in this thesis – i.e., self-construal – is similarly dynamic and malleable. As discussed in Chapter Two, self-construal shifts depending on the prevailing sociocultural context (Hong et al., 2000; Oyserman, 2011). Consequently, favourite music appears well-suited to explore cultural differences through the lens of self-construal because both are similarly transient and context-sensitive. Thus, I maintain that favourite music represents an effective and appropriate strategy for investigating cross-cultural differences in this context.

This thesis also rests on the assumption that favourite music reflects an individual's prevailing self-construal. I acknowledge that this assumption was not empirically tested within this thesis. Nonetheless, this assumption is grounded in prior research on music and identity, which has shown that music preferences are closely linked to personality, cultural identity, and cultural values (Andrews et al., 2022; Boer et al., 2013; Brittin, 2014; Dys et al., 2017; Rentfrow & Gosling, 2006). For instance, studies have demonstrated that music preferences can signal meaningful information about racial identity; preferences for rap, hip-hop, and soul genres tend to be associated with Black individuals, whereas preferences for rock, alternative, pop, country, and folk genres are more commonly associated with White individuals (Marshall & Naumann, 2018; Rentfrow et al., 2009). Given this evidence, it is reasonable to assume that an individual's prevailing self-construal may be reflected in their favourite music. Future research could explore these links more explicitly by adopting qualitative methods (e.g., interviews) and arts-based approaches to investigate the relationship between favourite music and self-construal. Such efforts would strengthen the claim that favourite music reflects cultural nuances.

Reflecting on the overall aim of this thesis – to explore how culture influences affective experiences with music – it is evident that this work merely scratches the surface in terms of the breadth of cultural variables that can be examined in cross-cultural research. Specifically, this thesis primarily focuses on self-construal, an aspect shaped by the prevailing sociocultural context. The approach adopted here can be extended to other cultural variables. For instance, future research could investigate factors similarly influenced by sociocultural contexts, such as religious heritage (Croucher, 2013), cognitive styles (Yama & Zakaria, 2019), and indigenous philosophies (Nobles, 2015), and their effects on musical behaviours and experiences.

Conclusion

This doctoral research grew out of my deep interest in culture, shaped by my lived experiences of living and working internationally, and interacting with individuals from diverse cultural backgrounds in professional, clinical, and personal settings. Motivated by the aim of contributing to a deeper understanding of how culture shapes emotional responses to music and fostering a more culturally sensitive and responsive approach to music therapy practice, this thesis explores the role of culture in affective experiences with music.

In this thesis, I critically examine how culture has been operationalised in previous research and propose a framework which recognises that culture manifests in three interrelated components – the individual, the music, and the environment or context. Based on this framework, I argue that the self is constituted in relation to the cultures to which one belongs and posit that self-construal theory can enhance our understanding of how culture shapes affective experiences with music. Through five empirical papers, I investigate the role of self-construal in shaping a range of affective experiences with music, including emotions perceived and felt with music, as well as musical reward experiences. Additionally, I examine the effects of music on self-perception and the uses and functions of music across cultures.

Overall, this thesis makes novel contributions – both theoretically and empirically – to the field of music psychology. Theoretically, it introduces a framework that delineates key aspects of culture within the music context, providing a more nuanced understanding of cultural influences on musical experiences. This framework enables researchers to articulate the specific dimensions of culture under investigation. Empirically, it offers evidence supporting the important role of self-construal in cross-cultural investigations of affective experiences with music, highlighting both between-culture and within-culture variability. These include the emotions perceived and felt in response to favourite music, musical reward experiences, self-perception, and the uses or functions of music.

Two key implications emerge from this work. First, this thesis underscores the importance of articulating specific cultural variables in cross-cultural research, moving beyond solely using sociodemographic categories as static proxies for cultural differences. Second, it highlights the need to reflect on our epistemological and ontological assumptions about the affordances of music and

musical experiences. Advancing cross-cultural research in music psychology requires both a critical examination of these assumptions and a willingness to incorporate culturally diverse perspectives. It is my hope that the insights gained from this research will inspire further cross-cultural studies, ultimately shedding light on the rich diversity of musical behaviours and experiences across cultures.

Looking ahead, a promising next step would be to explore the role of self-construal in music-making. This includes examining how self-construal shapes music composition practices, songwriting, and the use of various musical elements during the creative process. Such research would have direct applications to music therapy practice, which often involves active engagement with music. By understanding how self-construal influences music-making behaviours, music therapists and practitioners could gain valuable insights into designing culturally sensitive and appropriate interventions tailored to the needs of clients from diverse cultural backgrounds. Furthermore, this knowledge would enhance their ability to respond more effectively to their clients' musical expressions in the moment, maximising the therapeutic potential of music in a culturally responsive manner. Through this research, we can move toward a more inclusive and culturally informed understanding of music's role in people's lives.

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CHAPTER TWO

"Music is powerful. As people listen to it, they can be affected. They respond."

– Ray Charles

"Music does a lot of things for a lot of people. It's transporting, for sure. It can take you right back, years back, to the very moment certain things happened in your life. It's uplifting, it's encouraging, it's strengthening."

– Aretha Franklin

Overview

This chapter aims to expand on previous recommendations for cross-cultural research in music cognition and propose a novel approach to cross-cultural investigations of affective experiences with music. Drawing upon research in cultural psychology, I introduce self-construal theory, demonstrating its theoretical relevance and potential in advancing theory and cross-cultural understanding of affective experiences within the psychology of music.

Abstract

In the last decade, the construct of 'culture' was featured very prominently in music cognition research. However, researchers have adopted a narrow conceptualisation and a limited repertoire of methodologies when investigating 'culture.' The purpose of this paper is to expand on Jacoby et al.'s (2020) recommendations and propose a novel approach to cross-cultural investigations of affective experiences with music. Firstly, I critically examine how culture has been operationalised in previous studies and present a theoretical framework outlining aspects of culture within the music context. My proposed framework recognises that culture manifests in the individual, the music, and the environment and context, and that these components are continually and mutually constituting one another. Secondly, I argue that the self is constituted in relation to the cultures that one is part of and hypothesise ways that self-construal theory, as a way of operationalising the self, can enhance current understanding of how culture impacts affective experiences with music. The empirical evidence reviewed shows that self-construal influences motivation, cognition, and emotion outside of musical contexts, which may similarly impact music preferences, perceived emotions, and felt emotions with music. Finally, I reflect on the implications of this approach for future developments in music psychology theory and research. Self-construal, as a means of operationalising the self, can potentially elucidate similarities and differences in affective experiences with music both between and within cultural contexts. Examining the self can be a step-change to advance theory and cross-cultural understanding of affective experiences within music psychology.

Keywords: culture, self, self-construal, music preference, affect, emotion, music

The Important Role of Self in Cross-Cultural Investigations of Affective Experiences with Music

There is renewed interest in cross-cultural research within psychology of music given contemporary discourse surrounding anti-colonialism in music studies (Adeogun, 2021; Loaiza et al., 2022; Sauvé et al., 2023; Tan, 2021). After all, music exists in cultures all around the world (Mehr et al., 2019) and affective experience of music is an important aspect of musical engagement for many, with empirical evidence showing that music elicits a wide spectrum of emotional experiences (Swaminathan & Schellenberg, 2015). Over the last decade, 'culture' has featured prominently in music perception and emotion research (Sauvé et al., 2023). However, researchers have adopted a narrow conceptualisation and a limited repertoire of methodologies when investigating 'culture.'

Conducting cross-cultural music cognition research presents multiple challenges. Based on an interdisciplinary discussion, Jacoby et al. (2020) recommended better operational definitions of culture and an integration of sociological and psychological approaches. This paper aims to expand on these recommendations and propose a novel approach to cross-cultural investigations of affective experiences with music. Firstly, I critically examine how culture has been operationalised in previous studies and present a theoretical framework outlining aspects of culture within the music context. Secondly, I argue that the self is constituted in relation to the cultures that one is part of, introducing self-construal as one way to operationalise the self. Thereafter, I hypothesise how this can enhance the understanding of culture's impact on affective experiences with music. Given that affective experiences cover a wide spectrum of topics, I will focus on music preference, emotion perception, and felt emotions in music because they are relevant to well-being and music therapy, and have been central to music and emotion research in music psychology (Dingle et al., 2021; Gabrielsson, 2001; Kallinen & Ravaja, 2006; MacDonald, 2013; Schubert, 2007, 2013; Västfjäll et al., 2013). Finally, I reflect on the implications of this approach for future developments in music psychology theory and research.

Conceptualising and Operationalising Culture

Culture in Psychology and Music Psychology

The term 'culture' is widely regarded as one of the most complex to define and definitions have changed over time (Rohner, 1984; R. Williams, 1985). In psychology, one definition describes culture as "shared elements that provide the standards for perceiving, believing, evaluating, communicating, and acting among those who share a language, a historic period, and a geographic location" (Triandis, 1996, p. 408). These "shared elements" were vague and assumed to be demarcated geographically such that culture was frequently associated with nation-states. Consequently, researchers operationalised culture using categories such as nationality and race when studying emotions outside musical contexts (e.g., Boiger et al., 2018; Furukawa et al., 2012; Liu et al., 2015; Scollon et al., 2004). Researchers in music psychology have adopted similar approaches. For

example, Midya et al. (2019) compared emotional responses to Hindustani music between participants residing in India and those in other countries. Researchers have also compared music from different countries, such as traditional Chinese and Western classical music (Beier et al., 2020; Cowen et al., 2020; X. Wang et al., 2021). A Web of Science search using the terms "music," "culture," and "emotion," revealed 91 publications in 2022, with all but one recruiting participants of various nationalities and ethnicities, and/or investigating music from different countries.

Cultural psychologists have elaborated on these "shared elements" to include an expansive set of material and symbolic concepts, such as cultural systems, social practices, group norms, and cultural values (Niedenthal et al., 2006; Roberts, 2016). In other words, culture comprises shared attitudes and beliefs within and between groups of individuals. By aggregating individual-level survey data to the national level, cultural psychologists have identified various cultural values (see Supplementary Materials Appendix A). Consequently, researchers have elucidated cross-national differences on emotions in everyday life using these cultural dimensions (e.g., Baker et al., 2013; Laukka & Elfenbein, 2021; Lim, 2016; Schimmack et al., 2002; Yon et al., 2021). Researchers in music psychology have adopted analogous approaches in their cross-cultural investigations. Specifically, they used nationality to operationalise individualism and collectivism, attributing cross-national differences to these cultural values (Barradas & Sakka, 2021; Boer & Fischer, 2011; Juslin et al., 2016; Saarikallio et al., 2021; Schäfer et al., 2012). For instance, Saarikallio et al. (2021) compared music-evoked emotions between participants from Finland and India, suggesting that the highest-scoring emotion factor of power-empowerment for Finns was due to their individualistic culture, while the highest-scoring emotion factor of peaceful-transcendence for Indians was because of their collectivistic culture.

Taken together, nationality, geographical boundaries, and ethnicity have often been used as proxies for underlying cultural differences. Albeit insightful, using these factors to operationalise culture relies on several assumptions. Firstly, demographic categories were deemed the most appropriate dimension for clustering cultures because it assumes within-group homogeneity and between-group heterogeneity. However, research shows considerable heterogeneity within countries in terms of affective experiences (Eid & Diener, 2001; Matsumoto, 1993) and cultural values (Talhelm et al., 2014; Taras et al., 2016).

Secondly, these variables, typically gathered at intake, remain static and may obscure rather than explain the mechanisms regarding how culture influences affective experiences. Cross-cultural research in music psychology have mainly sampled participants from countries deemed to be collectivistic based on low scores on Hofstede et al.'s (2010) index of individualism. However, scholars argue that individualism and collectivism are orthogonal dimensions, such that individuals may possess both values simultaneously (Gelfand et al., 1996; Y. Lee et al., 2019). Furthermore, individualism is rising in many societies worldwide (Santos et al., 2017), calling into question the appropriateness of using countries to operationalise these cultural values.

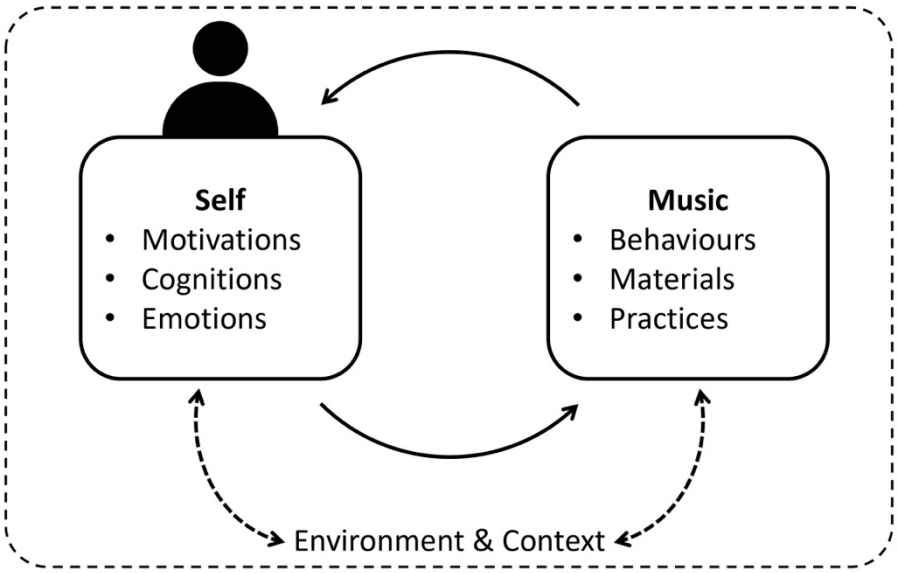
This brief overview is not exhaustive; researchers have also defined and operationalised culture using artefacts, cultural practices, and indigenous philosophies (e.g., Dalal & Misra, 2010; Nobles, 2015; Yama & Zakaria, 2019). Given the limitations of using nation-state to operationalise culture, it is imperative to combine definitions of culture with appropriate methodological innovations that do justice to a nuanced theoretical understanding of how musical experiences are shaped by cultural specificities.

A Theoretical Framework for Investigating Culture in Music

The working definition of 'culture' I adopt here is that culture consists of "explicit and implicit *patterns* of historically derived and selected ideas and their embodiment in institutions, practices, and artifacts; cultural patterns may, on one hand, be considered products of action, and on the other as conditioning elements of further action" (Adams & Markus, 2004, p. 341; emphasis in original). In other words, culture includes "the *ideas, institutions,* and *interactions* that guide *individuals'* thoughts, feelings, and actions" (Markus & Hamedani, 2019, p. 15; emphasis in original). One important idea underlying these definitions is that culture and individuals continually and mutually constitute one another; as cultural content changes, the mediating self and psychological functioning changes as well (Markus & Kitayama, 2010).

Based on this working definition, culture is ubiquitous. Culture may reside "inside the head" in individuals, and culture may reside "outside the head" in daily situations, cultural products, and pervasive ideas (Morling, 2016). This conceptualisation can be applied to the study of music (see Figure 2.1). In this model, 'culture' manifests at the individual level through psychological constructs such as motivation, cognition, and emotion. 'Culture' is also apparent in musical behaviours (e.g., musicians interacting with one another, an audience watching a performance, etc.), materials (e.g., instrumentation, notation, etc.), and practices (e.g., ceremonies, religious festivals, etc.). Furthermore, 'culture' permeates the broader environment and context such as within a country (macro-level), a concert hall (meso-level), or at home (meso-level). In Figure 2.1, the influence of environment and context are depicted by dotted lines because individuals and music may move between environments, and bear vestiges of the context from where they originate. Whilst 'culture' can be found in these domains, it is important to recognise that these components continually and mutually shape one another.

Figure 2.1 Mutual Constitution of Self, Music, and Context



This conceptual framework offers a nuanced understanding of how cultural specificities shape musical experiences. Take the song "Happy Birthday" as an example. While seemingly universal, variations exist due to macro- and meso-contextual influences. Different countries and social groups have their own renditions in terms of language, melody, and accompanying behaviours (e.g., cake with lighted candles, clapping, etc.; Condé Nast Traveler, 2018). Individual factors also play a role. Professional jazz musicians and family members may have varying motivations (i.e., financial renumeration for the former and a celebration of life for the latter) and perform "Happy Birthday" in radically different ways. Awareness and recognition of these different components allow us to distinguish specific 'cultural' aspects that influence affective experiences with music.

As discussed earlier, most research on affective experiences with music have examined cross-cultural differences based on geographical regions and ethnicity. Researchers have also operationalised individualism-collectivism using demographic variables that assume the homogeneity of cultural groups. Based on this theoretical framework, previous studies have illuminated how culture influences music and emotions at the macro-level of national context. However, it overlooks the individual's role in navigating the cultural world. Culture is not separate from the individual; one important function of culture is to provide guidance, both consciously and unconsciously, for what the individual should be doing and how to be a person. Therefore, investigating individual differences, such as the self, can significantly enhance our understanding of how culture influences affective experiences with music.

Culture, Self, and Affective Experiences with Music

Culture and the Self

Cultural psychologists have operationalised various "inside the head" constructs. One example is self-construals: how individuals define and make meaning of the self (Cross et al., 2011;

Markus & Kitayama, 1991, 2010). At this juncture, I feel it necessary to state my positionality to elucidate my motivations and clarify the arguments I am making. Born and raised in postcolonial Singapore, I am ethnically Chinese, have studied and worked in the U.S., and currently reside in the U.K. These experiences have shaped my worldview, making me acutely aware of the power and privilege, as well as dynamics and tensions between dominant theories and ideologies from different cultural traditions. I recognise that the notion of self has been theorised extensively across disciplines including philosophy (Pitson, 2002; Walker, 2017), sociology (Callero, 2003; Petrunik & Shearing, 1988), social psychology (Baumeister, 1999; Decety & Sommerville, 2003), and music education (Creech et al., 2020). To go beyond WEIRD (western, educated, industrialised, rich, and democratic) frameworks (Broesch et al., 2020; Masuda et al., 2020; Sauvé et al., 2023), I adopt a concept of self informed by indigenous perspectives (Morris, 1994; Nwoye, 2006; Okolo, 1992; Yu, 2008) and grounded in cultural psychological theories (Cross et al., 2011; Markus & Kitayama, 1991, 2010; Zhu & Han, 2008).

In cultural psychology, the self represents the "me" at the centre of experience – "a continually developing sense of awareness and agency that guides action and takes shape as the individual, both brain and body, becomes attuned to the environment it inhabits" (Markus & Kitayama, 2010, p. 421). Self-construals represent how people view themselves with respect to others – as unique and independent, as related to close friends and family, or as part of larger social groups (Cross et al., 2011). While the self and identity are synonymous and often used interchangeably by scholars (e.g., Spychiger, 2017; Swann Jr. & Bosson, 2010), they are theoretically distinct. The self is closely tied to self-concept, referring to how individuals define and make meaning of themselves (Cross et al., 2011; Markus & Kitayama, 1991, 2010). Identities, in contrast, refer to traits, social relations, roles, and group memberships that define who one is (Stryker, 1980; Stryker & Burke, 2000; Tajfel, 1981, 1982). Therefore, the self and identity can be considered as nested elements: the self is more malleable and dynamic, whereas identities are relatively stable constructions of the self (e.g., Chinese identity, female identity, etc.), which consequently form one's self-concept. For a detailed overview of these concepts, see Morf and Mischel (2012) and Oyserman et al. (2012).

Research in cultural psychology identified two prevailing self-construals found in East Asian and Western cultures (Cross et al., 2011; Markus & Kitayama, 1991, 2010). The empirical evidence suggests that people of non-Western, primarily East Asian cultures, have interdependent self-construals: the self is viewed as embedded within the social context and less differentiated from others. This interconnectedness guides thoughts, feelings, and actions to maintain relational harmony and pursue group goals over individual needs. In contrast, the evidence suggests that people of Western cultures have independent self-construals: the self is viewed as a relatively integrated motivational and cognitive entity such that awareness, emotion, judgement, and action are organised into a distinctive whole, separate from others against a social and natural backdrop.

In essence, Markus and Kitayama (1991) proposed that national differences in collectivism-individualism give rise to interdependent-independent self-construals respectively. Although conceptually similar, these constructs represent different levels of analysis: collectivism-individualism describe large-scale entities such as nation-states, while self-construals represent individual-level components. Research indicates that other factors, such as religious heritage (Croucher, 2013), socioeconomic development (Taras et al., 2016), and the history of voluntary settlement (Kitayama, Ishii, et al., 2006; Kitayama & Bowman, 2010) also impact these self-construals. Several approaches have been developed to measure self-construals, including self-report questionnaires (e.g., Gudykunst et al., 1996; Hackman et al., 1999; Hardin et al., 2004; Singelis, 1994; Yamada & Singelis, 1999) and implicit measures (see Cross et al. (2011) and Smith (2011) for an overview).

It is important to note that interdependent and independent self-construals are not opposite ends of a single construct, but are separate factors that exist concurrently within the same individual (Singelis, 1994). Individuals can hold both self-construals, which vary between and within cultural contexts (Oyserman et al., 2002). The "culture as situated cognition" theory posits that variations in self-construals depend on social-contextual factors, which influences behaviours and other processes (Oyserman, 2011; Oyserman & Lee, 2008). Similarly, the "dynamic constructivist approach to culture" stresses the interaction between individual, situation, and culture, suggesting that different selves emerge due to the availability, accessibility, and applicability of cultural factors (Hong et al., 2000; Hong & Mallorie, 2004). In other words, within a cultural context, certain self-construals may be chronically accessed, making them more readily accessible (Oyserman & Sorensen, 2009).

Guided by these theories, researchers developed priming manipulations to examine causal hypotheses and cultural consequences of interdependent and independent self-construals (Brewer & Gardner, 1996; Gardner et al., 1999; Trafimow et al., 1991; Ybarra & Trafimow, 1998). For instance, participants may be asked to reflect on what makes them similar to (interdependent self-construal prime) or different from (independent self-construal prime) their friends and family (Trafimow et al., 1991). Studies have shown that different self-construals can be activated in people from the same cultural context, resulting in behaviours congruent with interdependent or independent selves (Ikeda, 2021; Kafetsios & Hess, 2013; Liddell et al., 2017; Neumann, 2020; Pusaksrikit & Kang, 2016). Hence, self-construal, as a means of operationalising an arguably important aspect of culture, can potentially elucidate similarities and differences in affective experiences with music both between and within cultural contexts.

This simple dichotomy of interdependent and independent selves as representing East Asian and Western cultures has been challenged (see Matsumoto, 1999). One might argue that this East-West mapping of self-construal types may reflect an Orientalist perspective and perpetuate stereotypes about cultural differences being essentially "Eastern" or "Western" (Hamdi, 2013; Matsumoto, 1999; Oyserman et al., 2002; Takano & Osaka, 1999). Consequently, alternative models have been proposed to capture the complexity of selfhood across cultures (e.g., Fernández et al., 2005;

Harb & Smith, 2008; Hardin, 2006; Hardin et al., 2004). For instance, Vignoles et al. (2016) developed a seven-dimensional model of selfhood across 55 cultural groups in 33 countries. Their findings suggest that the simple binary of interdependence and independence does not adequately capture the diverse cultural self that exists globally. Instead, cultural groups emphasise different ways of being both interdependent and independent.

Research in cultural psychology has been slow to adopt alternative models of selfhood across cultures. Nevertheless, research involving self-construal has flourished, highlighting its importance in influencing cognition, perception, motivation, emotion, and health (for an overview, see Cohen & Kitayama, 2019). Hence, I argue that self-construal also plays an important role in affective experiences with music. In subsequent sections, I review current cross-cultural research and hypothesise how self-construal theory can enhance our understanding of how culture impacts music preference, emotion perception, and felt emotions in music. My hypotheses are based on the current state of knowledge regarding the role of self-construal in affective experiences, which have predominately used the two-factor model of selfhood: interdependent and independent self-construals.

Self and Music Preferences

Music preference refers to a person's liking for one piece of music over another (Hargreaves et al., 2015). Beyond this, the music people like may reveal much information about themselves (North & Hargreaves, 2007a, 2007b, 2007c), including their personalities and identities (Dys et al., 2017; Vuoskoski, 2017). Research has shown a consistent pattern of correlations between personality types and music preference (Rentfrow & Gosling, 2006; Schäfer & Mehlhorn, 2017).

Music, as a cultural product, may reflect different cultural values. Research on popular music reveals that lyrics of Chinese songs contained more collectivistic themes whereas U.S. songs contained more individualistic themes (Rothbaum & Tsang, 1998; Rothbaum & Xu, 1995). At the individual level, Huang et al. (2020) found that most Chinese college students preferred Chinese pop music because they shared the same cultural background. Similarly, Marshall and Naumann (2018) found that individuals identifying strongly with their race preferred music that was typically associated with that race (e.g., African Americans and rap music). These findings underscore the reciprocal relationship between the self and music. However, this still begs the question: where do music preferences come from?

The reciprocal feedback model of music response suggests that music preferences are influenced by the interplay between the music, the situation, and the listener (Hargreaves et al., 2015; Schubert et al., 2014). For example, listeners tend to like music that evokes positive feelings and avoid music that trigger negative ones (Ladinig & Schellenberg, 2012). Contextually, music congruent with the listener's mood is preferred (Xue et al., 2018). Furthermore, individual factors including age (Cohrdes et al., 2017), gender (Dobrota et al., 2019), familiarity (Kang & Yoo, 2016; Sangnark et al., 2021; Schubert, 2007), and intelligence (Račevska & Tadinac, 2019) also shape music preferences.

Several studies have explored how culture influences music preference. Schäfer and Sedlmeier (2010) investigated this by operationalising culture at the macro-context level within a single country. Participants were asked about the relevance of classical, rock, pop, electro, rap, and beat music (German "Schlager" or "Volksmusik") to national identity (e.g., "this music can express the identity of our country"). Surprisingly, they found no significant association between the preference for these music genres and nationality.

In another study, Schäfer et al. (2012) observed cultural differences among participants from different countries. The German participants preferred rock and pop music, whereas Indian participants preferred Carnatic classical music. Additionally, German participants generally exhibited higher preference ratings compared to Indian participants, with variations attributed to different music functions (i.e., why people use music). These findings were interpreted in light of distinct cultural values, with Germany tending towards individualism and India towards collectivism. Alternatively, I hypothesise that these music preferences may reflect individuals' dominant self-construal. Future research could test this empirically, examining how preferred music correlates with interdependent or independent self-construals, in terms of lyrical content, affordances, and other musical elements.

Self-Construal as a Predictor of Ideal Affect and Music Preference

There is strong evidence suggesting that self-construal influences ideal affect, the affective state that individuals value and would ideally like to feel (see Supplementary Materials Appendix B). Individuals with an independent self-construal prioritise their individual subjective experience, leading to a preference for maximizing positive and minimizing negative emotions (Tamir & Gutentag, 2017; Tsai, 2007; Tsai et al., 2006). Conversely, individuals with an interdependent self-construal prioritise external and public aspects of the self (e.g., status, roles, and relationships), valuing interpersonal harmony over individual needs. They would prefer not to feel too much positive emotions, which would threaten group cohesion, and use negative emotions to attune more to others. Although they still generally desire more positive than negative emotions, the gap between their desire for positive and negative states is smaller compared to those with an independent self-construal.

Studies employing surveys and experimental primes have consistently shown that individuals with an independent self tend to report more positive affect and less negative affect (Grossmann et al., 2016; Kim et al., 2014; Sims et al., 2015; Spencer-Rodgers et al., 2010; P. Williams & Aaker, 2002). Conversely, those with an interdependent self often report mixed affect experiences. Further investigations have revealed that individuals with an independent self prefer high arousal positive states (e.g., excited, enthusiastic, elated), while those with an interdependent self prefer low arousal positive emotions (e.g., calm, peaceful, relaxed; Tamir et al., 2016; Tsai et al., 2006; Tsai, Miao, et al., 2007). Neuroimaging studies have provided converging evidence for these cultural differences (Park et al., 2016, 2017).

These different self-construals lead individuals to prefer people and activities aligned with their ideal affect (Bencharit et al., 2019; Koopmann-Holm & Tsai, 2014; Sims et al., 2014, 2018; Tsai,

2017; Tsai et al., 2019; Tsai, Louie, et al., 2007; Tsai, Miao, et al., 2007). For instance, European Americans were more likely to choose the high arousal positive CD (its cover depicting a man surfing with a large wave behind him; the back containing fictitious music reviews indicating high energy and invigoration), whereas Hong Kong Chinese participants preferred the low arousal positive CD (its cover depicting a man meditating on a rock overlooking a bay; the back containing reviews indicating calm and relaxation; Tsai, Miao, et al., 2007). It is crucial to note that this study relied on CD covers and fictious reviews, not actual music. In the absence of other contextual factors, I predict that individuals with an independent self would prefer music that evokes high arousal positive emotions, while those with an interdependent self would prefer music that elicits low arousal positive emotions. Future research could test these hypotheses empirically, investigating whether individuals with different self-construals prefer different types of music within and between cultural contexts. Additionally, future studies could explore aspects of the musical experience that evoke high or low arousal positive states, and examine their relationship to music preference.

Self and Emotion Perception in Music

Emotion perception in music refers to recognising emotions expressed in music without necessarily feeling them (Gabrielsson, 2001; Juslin, 2016; Kallinen & Ravaja, 2006; Schubert, 2007, 2013). Cross-cultural research has mostly examined whether individuals from different countries perceive similar (or different) emotions in various music genres (Athanasopoulos et al., 2021; Balkwill et al., 2004; Balkwill & Thompson, 1999; Bodner, 2014; Fritz et al., 2009; Kwoun, 2009; Laukka et al., 2013; X. Wang et al., 2021). Other studies have examined how individuals from different cultures use musical structures when perceiving emotions in music (Adachi et al., 2004; Athanasopoulos et al., 2021; X. Wang et al., 2021; Zacharopoulou & Kyriakidou, 2009). These studies generally found that people are better at judging affect from culturally familiar versus unfamiliar music. Upon closer scrutiny, these studies did not investigate any ‘cultural’ factor per se but actually examined how familiarity with and exposure to a certain genre of music influences emotion perception.

Research has shown that self-construal influences emotion perception outside of musical contexts (see Supplementary Materials Appendix C). Through facial perception studies (which typically involve visual stimuli), alongside self-report and experimental manipulations, research showed that self-construal affects decoding of facial expressions (Blais et al., 2008; Ikeda, 2021; Miyamoto et al., 2011; Yuki et al., 2007), accuracy in inferring others’ emotions (Kafetsios & Hess, 2013; Ma-Kellams & Blascovich, 2012; Stanley et al., 2013), and perception of emotion intensity (Matsumoto et al., 2018). Specifically, individuals with an interdependent self were more attuned to negative emotions, whereas those with an independent self were better at recognising positive emotions (T. Li et al., 2015; Ma-Kellams & Blascovich, 2012). Additionally, when perceiving emotions, individuals with an interdependent self were influenced by contextual information more than individuals with an independent self (Federici et al., 2011; Hess et al., 2016; Ito et al., 2013; Ko

et al., 2011; Kuwabara et al., 2011; H. Lee et al., 2017; Masuda et al., 2008a, 2012; Matsumoto et al., 2012). Neuroscientific studies measuring event-related potentials (ERPs) provide further empirical support for these cultural differences (Fong et al., 2014; Goto et al., 2013; Russell et al., 2015, 2019).

Research indicates that self-construal influences emotion perception in auditory tasks too. Participants tasked with judging the valence of word meanings after listening to them spoken in different emotional vocal tones showed cultural differences. Asians (both Japanese and Filipinos) tended to focus more on the auditory context, whereas North Americans prioritised the meaning of the word (Ishii et al., 2003, 2010; Kitayama & Ishii, 2002). Further investigations using ERP methods showed that individuals with an interdependent self-construal were more sensitive to the incongruence between word content and vocal tones (Ishii et al., 2010).

Examining the self within the musical context may provide insights into how culture influences emotion perception in music. Differences in emotion perception were often attributed to distinct cognitive styles associated with different self-construals (Varnum et al., 2010). Individuals with interdependent selves tend to employ holistic cognitive styles, focusing on contextual information and relationships, and emphasising situational causes in attribution. Conversely, individuals with independent selves tend to use analytic cognitive styles, characterised by a narrow visual focus, taxonomic categorisation of objects, and dispositional bias in causal attribution (Nisbett, 2003; Nisbett et al., 2001). The empirical evidence consistently shows how these different self-construals and their related cognitive styles influence visual perception, decision making, narrative construction, and memory judgements (Chua et al., 2005; Ji et al., 2000; L. M. W. Li et al., 2015; Masuda et al., 2008b; Masuda & Nisbett, 2001, 2006; Senzaki et al., 2014; H. Wang et al., 2012). Similarly, I argue that individuals with different self-construals may adopt these distinct cognitive styles when perceiving emotions in music.

Based on self-construal theory, several hypotheses can be made. Since individuals with interdependent selves tend to employ holistic cognitive styles, they may be more influenced by contextual information when perceiving emotions in music. Conversely, individuals with independent selves tend to employ analytic cognitive styles and may not be as influenced by contextual information. For songs (i.e., music with lyrics), contextual information may encompass the interplay between musical features (e.g., harmony, timbre, expression) and lyrical content (meaning of words). I predict that self-construal would impact the accuracy of classifying emotions in a music excerpt, contingent upon the congruence or incongruence of auditory cues and lyrical content.

Additionally, contextual information may include interactions between instruments or musicians, listener-performer/music dynamics and relationships, and broader social contexts of music engagement. There is evidence demonstrating cross-modal interactions in emotion perception during music performances, with higher emotional intensity reported when visual information accompanied the musical experience (Chapados & Levitin, 2008; Vines et al., 2006, 2011). As described earlier, cross-cultural studies have mainly focused on individual musical elements and how they contribute to

the perception of emotions in music. If we regard music as social praxis (Regelski, 2009; Small, 1998), we should consider the broader social context of music engagement and its influence on emotion perception. In many cultures, music is rarely a solitary act and multiple actors, both real and imagined, are involved (Mehr et al., 2019; Trehub et al., 2015). The presence of others, even during a seemingly solitary iPod-listening activity, may impact emotion perception to varying degrees, depending on one's self-construal. Future research could test these hypotheses empirically, focusing on the self to elucidate cultural differences in how individuals perceive emotion in music.

Self and Felt Emotion in Music

Felt emotions in music refers to the affective response that music evokes in listeners (Gabrielsson, 2001; Juslin, 2016; Kallinen & Ravaja, 2006; Schubert, 2007, 2013). Research shows that music can elicit emotions across cultures. Some studies emphasized cross-cultural similarities, such as participants experiencing chills in response to both familiar and unfamiliar musical styles (Beier et al., 2020), individuals from different countries reporting similar felt emotions when listening to the same piece of music (Midya et al., 2019), and common emotional patterns during music listening across countries (Juslin et al., 2016). However, there are also notable cross-cultural differences (Cowen et al., 2020; Gregory & Varney, 1996). Emotions such as peaceful-transcendence, nostalgia-longing, and joy-happiness were more prevalent in collectivistic cultures, whereas sadness-melancholy and power-empowerment were more common in individualistic cultures (Juslin et al., 2016; Saarikallio et al., 2021). In these studies, culture was investigated at the macro-context level, where the researchers operationalised individualism-collectivism using nationality.

Unlike cultural values, which is a measure of group (or national) differences, the self is a measure of individual difference that may better explain why individuals from different cultures experience certain emotions with music. There is strong evidence that self-construal influences emotional experiences outside of musical contexts (see Supplementary Materials Appendix D). Using diary and survey methods along with self-report, implicit, and experimental self-construal measures, research has shown that self-construal influences the frequency, type, and intensity of felt emotions (Chentsova-Dutton & Tsai, 2010; Elliott & Coker, 2008; Grossmann et al., 2016; Koeda et al., 2013; Neumann, 2020; Neumann et al., 2009; Nezlek et al., 2008; Wege et al., 2014). Specifically, individuals with interdependent selves experience socially engaging emotions (e.g., feeling connected, friendly, guilty, ashamed) more frequently and intensely, whereas individuals with independent selves experience socially disengaging emotions (e.g., feeling superior to, proud, angry, frustrated) more frequently and intensely (Boiger, Deyne, et al., 2013; Boiger, Mesquita, et al., 2013; Eid & Diener, 2001; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2009; Kitayama, Mesquita, et al., 2006; Leu et al., 2010; Pusaksrikit & Kang, 2016; Savani et al., 2013; Uchida et al., 2009).

These differences can be explained by the interpersonal versus intrapersonal model of emotions associated with different self-construals (Markus & Kitayama, 1991; Mesquita et al., 2016;

Tsai & Clobert, 2019). For individuals with an interdependent self, emotions are shaped by intersubjectivity and social connection, leading to a greater emphasis on emotions that connect themselves with others (i.e., socially engaging emotions). Consequently, their affective state is also more influenced by the surrounding social context. Conversely, individuals with an independent self-construal prioritise personal subjective experiences, leading to a greater emphasis on emotions that distinguish themselves from others (i.e., socially disengaging emotions). Similarly, their affective state is less influenced by the social context.

Based on self-construal theory, several hypotheses can be made regarding how self-construals influence felt emotions in music. Returning to the interpersonal versus intrapersonal model of emotions, individuals with interdependent selves might experience more socially engaging emotions when listening to music, while individuals with independent selves might experience more socially disengaging emotions. Additionally, the extent to which social context influences an individual's emotional response to music is contingent upon their prevailing self-construal. Research has examined how social context impacts felt emotions in music. However, the findings are mixed. Some studies found that social feedback (positive vs. negative judgements) influenced both arousal and valence dimensions (Egermann et al., 2009, 2013), whereas others found that social feedback influenced only arousal responses (Koehler & Broughton, 2017). Additionally, some listeners reported more intense emotions when listening with a close friend (Liljeström et al., 2013), but others reported more intense emotions when listening alone (Egermann et al., 2011; Sutherland et al., 2009). I postulate that self-construal theory may offer a nuanced understanding of these conflicting findings. Self-construal is a measure of individual difference, and interdependent-independent selves vary within a cultural context. Although participants in these studies came from Western countries (Egermann et al., 2009, 2011, 2013; Koehler & Broughton, 2017; Liljeström et al., 2013; Sutherland et al., 2009), they may possess different self-construals. This means that the effect of socio-contextual information on felt emotions would differ based on the individual's self-construal, with interdependent selves being more influenced by others than independent selves. Future research could test these hypotheses empirically, investigating how self-construal influences felt emotions in music.

Role of Culture in Theories of Emotion Induction with Music

Thinking about self-construal in relation to dominant theories of felt emotion with music reveals the potential to reconceptualise theories of emotion induction with music. Current theories, such as the BRECVEMA framework (Juslin, 2013a, 2016) and the multifactorial process approach (Scherer & Coutinho, 2013), start from the premise that any research on emotion and music should focus on music characteristics, namely musical structure and performance variables. I agree that musical factors play an important role in eliciting emotions.

Nevertheless, scholars have critiqued the BRECVEMA framework for its limited consideration of broader socio-cultural influences (Reber & Bullot, 2013; Simonton, 2013). For instance, Hargreaves et al. (2013) noted that the model "is effective in explaining intra-individual

factors in emotional responses to music, but it is much less effective in dealing with inter-personal, inter-group, and cultural influences" (p. 269). Although Juslin (2013b) acknowledges these limitations, he contends that socio-cultural considerations are beyond the purview of a psychological theory which aims to model individual differences. Here, I respectfully disagree. If we regard music as social praxis (Regelski, 2009; Small, 1998) and embrace diverse cultural understandings of music involving people and multiple artistic mediums (Mehr et al., 2019; Nzewi, 1997), it is imperative to equally consider the socio-cultural context of music engagement and its influence on felt emotions. While the multifactorial process approach accounts for listener characteristics and contextual features, it is ambiguous about how it accommodates cultural factors beyond familiarity and exposure to different music cultures. In short, these theories merely regard 'culture' as an add-on. Instead, I argue that cultural factors should be more embedded into theories of music-evoked emotions, aligning with constructionist (Cespedes-Guevara & Eerola, 2018; Lennie & Eerola, 2022) and active sense-making approaches (Schiavio et al., 2017). Based on this discussion of self-construal theory, the impact of culture is clearly ubiquitous and its role in affective experiences with music needs to be afforded due consideration.

Discussion and Future Directions

In this paper, I reviewed how culture was operationalised in previous studies and presented a theoretical framework for investigating aspects of culture within the music context. My proposed framework recognises that culture manifests in the individual, the music, and the environment and context, with these components continually and mutually constituting one another. Given that previous research has mostly focused on culture at the macro-context level, investigating individual differences, such as the self, can enhance our understanding of how culture influences affective experiences with music.

The empirical evidence reviewed suggests that self-construal can potentially elucidate similarities and differences in affective experiences with music both between and within cultural contexts. Self-construal influences ideal affect which consequently impacts preferred individuals and activities (see Supplementary Materials Appendix B), affects emotion perception through its related cognitive styles (see Supplementary Materials Appendix C), and shapes felt emotions through its interpersonal and intrapersonal focus (see Supplementary Materials Appendix D). Based on this, self-construal may play an important role in affective experiences with music in the domains of music preferences, emotion perception, and felt emotions in music.

This discussion reflects the formulation of self-construal found in the reviewed literature, which describes people as having interdependent and independent self-construals. Three nuances need to be considered. Firstly, majority of the reviewed research recruited participants from different countries, suggesting that sampling based on sociodemographic factors is inevitable in any cross-cultural investigation. However, including self-construal measures (e.g., self-report questionnaires) alongside recruiting participants from different countries clarified specific 'cultural' aspects

influencing affective experiences. For example, Hess et al. (2016) found that interdependent self-construal mediated the observed differences between Greek (more interdependent) and German (more independent) participants, confirming that interdependence and its related holistic cognitive tendencies influenced how social context impacted Greek participants' perception of emotions.

In some cases, results revealed that individuals from different countries do not always conform to the expected differences in self-construal (Levine et al., 2003; Matsumoto, 1999; Oyserman et al., 2002). For example, Kitayama et al. (2009) found that American participants had higher interdependent self-construals than Japanese participants, and Japanese participants had higher independent self-construals than Americans. Such findings align with "the culture as situated cognition" hypothesis (Oyserman, 2011; Oyserman & Lee, 2008) and the "dynamic constructivist approach to culture" (Hong et al., 2000; Hong & Mallorie, 2004), which argue that different self-construals can become salient in different situations. These results underscore the limitation of using sociodemographic variables to operationalise cultural values such as collectivism-individualism. As Smith noted (2011): "cultures are characterised by the interrelatedness of their various components and are consequently more than the simple aggregate of the individuals within them" (p. 252).

In addition to self-report measures, researchers have utilised experimental self-construal manipulations (e.g., Fong et al., 2014; Ishii et al., 2010; Kafetsios & Hess, 2013; Neumann, 2020; Neumann et al., 2009). These manipulations enable comparisons between individuals from different cultural contexts and those from the same cultural context. For instance, Neumann et al. (2009) found that both Chinese and German participants felt more pride thinking about others' achievements when primed with an interdependent self-construal. In another study, Fong et al. (2014) found that Asian Americans displayed holistic and analytic cognitive tendencies when primed with interdependent and independent self-construals respectively. Manipulating self-construals allow for confident causal inferences regarding the role of culture in affective experiences. This approach extends Jacoby et al.'s (2020) recommendations whereby these priming manipulations allow cross-cultural research to be conducted with individuals from the same cultural context. Future studies could test the hypotheses presented in this paper, operationalising self-construal through both self-report questionnaires and priming manipulations.

Secondly, the literature predominantly relies on the two-factor model of selfhood: interdependent and independent self-construals. Alternative models, such as Vignoles et al.'s (2016) seven-dimension model, remain underutilised within empirical research in cultural psychology. While Markus and Kitayama's (2010) characterization of East Asian and North American cultural selfhood has been partially validated, the two-factor model does not adequately capture the complexity of global variation in selfhood. This paper refrains from speculating on reasons for this limitation but proposes preliminary hypotheses based on Markus and Kitayama's theory, offering a foundation for rethinking cross-cultural investigations of affective experiences with music. Future research could embrace alternative models and explore the interactions between various cultural components. After

all, different cultural systems may incentivise individuals to adopt different ways of behaving interdependently or independently. For instance, people with interdependent self-construals in Brazil may dance more to express their connectedness with others compared to those in China who may perceive dancing to be more self-enhancing (Loaiza et al., 2022; J. Wang et al., 2021).

Thirdly, music may reflect an individual's self-concept and cultural identity. Returning to the notion that culture and individuals are continually and mutually constituting one another, we should also consider the idea that music, as a cultural artefact and social practice, helps construct and maintain one's self. The work of critical and new musicology posits that music enables listeners to adopt particular subject positions and ways of being (Clarke et al., 2011). In other words, music "constructs our sense of identity through the direct experiences it offers of the body, time and sociability, experiences which enable us to place ourselves in imaginative cultural narratives" (Frith, 1996, p. 124). From an ecological psychology perspective, different music may afford vicarious experience of interdependent-independent selves, which consequently impacts affective responses to music (Windsor & de Bézenac, 2012). Future research could examine whether specific music shapes listeners' self-construal and affects their affective responses.

Throughout this discussion, I have primarily emphasised self-construal as one way to operationalise "inside the head" cultural constructs or individual cultural differences. However, I acknowledge that other individual differences influence affective experiences, which are also (at least partially) shaped by culture. For example, culture impacts the prevalence of personality traits, based on the five-factor model (Terracciano & McCrae, 2006), which also influences music preferences (Schäfer & Mehlhorn, 2017), perceived emotions (Dibben et al., 2018) and felt emotions with music (Ladinig & Schellenberg, 2012). It is essential to note that while the Big Five are etic dimensions of personality, studies incorporating an emic perspective have unveiled cultural subtleties in personality types and factors (Triandis & Suh, 2002; K.-S. Yang, 2006). For cross-cultural understanding of affective experiences with music to flourish, I contend that we, as researchers, need to exercise critical self-reflexivity by reflecting on our own positionality, making explicit our epistemological and ontological assumptions, and embracing both etic and emic theoretical perspectives.

In this paper, I have explored how self-construal theory can be applied to cross-cultural investigations of music preferences, emotion perception, and felt emotions in music. Self-construal theory can be extended to various aspects of affective experiences and other domains of musicking including music-making, music education, and music therapy. In fact, several studies have linked self-construal to music consumption habits among Malaysians (Taman et al., 2009), unauthorised music downloading and sharing behaviours (Z. Yang et al., 2015), and willingness to support crowdfunding effects in the music industry (Cook, 2015). Recently, Lawendowski and Besta (2020) found direct relationships between independent self and self-awareness functions of music, and interdependent self and social functions of music within a music festival context. Future studies could delve into the role of self-construal in composition, improvisation, and performance to offer insights into the subtleties of

musicking between and within cultural contexts. These insights have practical applications for music creators looking to make music for a select audience, as well as for music therapists and practitioners in terms of developing culturally appropriate clinical and therapeutic practice.

In conclusion, I have critically examined current operationalisations of culture in cross-cultural research on music preferences, emotion perception, and felt emotions in music. I have proposed a framework for investigating culture within the music context and highlighted the role of self in cross-cultural investigations of music-related affective experiences. I have shown that self-construal, as a means of operationalising the self, can potentially elucidate similarities and differences in affective experiences with music both between and within cultural contexts. Through this discussion, I have demonstrated the theoretical relevance and potential of self-construal theory in advancing theory and cross-cultural understanding of affective experiences within music psychology.

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CHAPTER THREE

"Music is a language that doesn't speak in particular words. It speaks in emotions, and if it's in the bones, it's in the bones."

– Keith Richards, according to the Rolling Stones

Overview

Scholars within music psychology have differentiated perceived and felt emotion. This chapter focuses on perceived emotion, which refers to how individuals recognise emotions expressed in music, without necessarily experiencing them. It addresses the research question: how does self-construal, both between and within cultures, influence the emotions perceived in favourite music?

Abstract

Emotion is a fundamental aspect of human experience. Studies have shown cultural differences in emotional experiences in everyday contexts, but little research has explored how these differences manifest in musical encounters. This paper reports two studies investigating how culture influences the perception of emotions in music, incorporating cultural factors (self-construal) and interpersonal and intrapersonal models of emotions (socially engaging vs. socially disengaging). Study One used an online questionnaire, where participants from various cultural backgrounds reflected on the emotions they perceived their favorite music to be expressing. This study found that interdependent self-construal was positively associated with the intensity of positive socially engaging emotions perceived in favorite music, while independent self-construal was positively associated with the frequency of negative socially disengaging and negative general emotions, alongside the intensity of positive general emotions. Study Two employed a listening experiment, where participants from Singapore, China, and the U.K. listened to their favorite music and reported the emotions they perceived their music to express. This study found that interdependent self-construal directly influenced the frequency of positive socially engaging emotions perceived in favorite music and mediated between-country differences in these emotions. However, independent self-construal directly influenced the frequency and intensity of aesthetic emotions. Overall, our results show that the emotions individuals perceive in their favorite music are a product of their self-construal. Furthermore, these findings underscore the importance of integrating specific cultural variables and embracing culturally informed emotion models in cross-cultural research on music and emotions.

Keywords: culture, self, self-construal, preferred music, perceived emotion

Favorite Music Expresses Socially Engaging Emotions: The Role of Self-Construal Across Cultures

As Judith Wright said, "feelings or emotions are the universal language and are to be honored. They are the authentic expression of who you are in your deepest place." Emotion is indeed a fundamental aspect of human experience, transcending cultural boundaries while simultaneously reflecting cultural specificity. Significant empirical research has demonstrated that emotional experience and expression vary across cultures (for an overview, see Tsai & Clobert, 2019). For example, emotions tend to be more interpersonally focused in East Asian or collectivistic cultures, whereas they are often more intrapersonally oriented in Western or individualistic cultures (e.g., Kitayama et al., 2006, 2009). Despite extensive studies on cultural differences in everyday emotional contexts, little research has explored how these differences manifest in musical encounters. After all, music is a universal phenomenon, present in every culture (Mehr et al., 2019), and the affective experience it elicits is a critical component of musical engagement for many individuals (Swaminathan & Schellenberg, 2015). This raises the intriguing possibility that cultural differences in everyday emotional experiences may also extend to the musical domain. The present paper seeks to address this gap by examining how culture influences the perception of emotions in music. By doing so, it aims to contribute to a deeper and more nuanced understanding of cultural diversity in music psychology, enriching our knowledge of the interplay between music, emotion, and culture.

Emotions, Culture, and Self-Construal

We define culture as an expansive array of tangible and intangible ideas that guide individuals' thoughts, feelings, and behaviors (Adams & Markus, 2004; Markus & Hamedani, 2019). Within this framework, culture may reside "outside the head" in cultural products and practices (e.g., music) as well as pervasive ideas (e.g., collectivistic and individualistic values; Morling, 2016). Additionally, culture may reside "inside the head" in individuals through psychological constructs such as motivation, cognition, and emotion. Central to this perspective is the idea of mutual constitution, where culture and individuals continuously shape each other; alterations in cultural content induce corresponding changes in self-concept and psychological processes (Markus & Kitayama, 2010).

Markus and Kitayama (1991) theorized that national variations in collectivism and individualism give rise to interdependent and independent self-construals respectively. Self-construals refer to how individuals perceive themselves in relation to others. There is empirical evidence showing that people of non-Western, primarily East Asian cultures, have a more dominant interdependent self-construal: the self is viewed as interconnected within their social milieu and minimally distinct from close others (S. E. Cross et al., 2011; Markus & Kitayama, 1991, 2010). Conversely, the evidence suggests that people from Western cultures have a more dominant independent self-construal: the self is viewed as a relatively autonomous entity, separate from others

amidst a social and natural backdrop. While collectivism-individualism and interdependent-independent self-construals share conceptual similarities, they represent distinct levels of analysis, with the former pertaining to broad-scale entities like nation-states and the latter representing individual-level constructs.

Self-construal theory acknowledges that individuals actively engage with and potentially shape the cultures they are a part of, whether consciously or unconsciously (Hong & Mallorie, 2004; Markus & Kitayama, 2010; Oyserman, 2011). Consequently, individuals may possess both interdependent and independent self-construals, which can vary between and within cultural contexts (Oyserman et al., 2002). In other words, different self-construals may be activated depending on the prevailing social-cultural conditions or settings. Considering the idea that music engagement is culturally embedded (Becker, 2010; Clarke, 2011; Frith, 1996), this implies that music, being a cultural product reflecting cultural meanings, may serve as a means for evoking specific self-construals. Therefore, it becomes imperative to consider the implications of these self-construals on our experiences of music listening, including our emotion perception of music.

Considerable research has demonstrated that collectivism-individualism and interdependent-independent models of self impact emotional experiences outside of musical contexts (Markus & Kitayama, 1991; Mesquita et al., 2016; Triandis, 1994; Tsai & Clobert, 2019). In collectivistic cultures, emotions are perceived to stem from and belong to interpersonal relationships, whereas in individualistic cultures, emotions are seen as originating within the individual. In a series of investigations, Uchida et al. (2009) found that Japanese participants produced more emotion words in social contexts, while American participants produced more emotion words when focusing on themselves. For instance, Japanese athletes used more emotion words compared to their American counterparts when discussing their relationships. Moreover, Japanese students inferred more emotions when athletes referenced relationships or were depicted with teammates, whereas American students inferred more emotions when athletes centered on themselves or were depicted alone. This suggests that emotions are perceived as interpersonal phenomena in interdependent cultures, whereas they are seen as intrapsychic experiences in independent cultures.

An important corollary is that emotions are more interpersonally focused in collectivistic cultures whereas emotions are more intrapersonally focused in individualistic cultures (Markus & Kitayama, 1991; Mesquita et al., 2016; Tsai & Clobert, 2019). Within collectivistic cultures, the affective process is characterized by the primacy of intersubjectivity, which arises from the interdependence with others. Consequently, individuals with an interdependent self-construal might be more sensitive to emotions that facilitate connections with others, described as socially engaging emotions. Conversely, in individualistic cultures, the affective process centers on personal subjective experience. Thus, individuals with an independent self-construal might be more sensitive to emotions that distinguish themselves from others, termed as socially disengaging emotions.

Several studies have provided empirical support for these hypotheses (Eid & Diener, 2001; Furukawa et al., 2012; Jakubanecs et al., 2019; Savani et al., 2013). For example, Kitayama et al. (2000, 2006) found that Japanese participants reported socially engaging emotions (e.g., feeling connected, friendly, guilty, ashamed) more frequently and intensely, whereas people from Western countries (i.e., Germany, the U.K., and the U.S.) reported socially disengaging emotions (e.g., feeling superior to, proud, angry, frustrated) more frequently and intensely. Additionally, Japanese participants perceived shameful situations to be more likely to occur than Americans who perceived angering situations to be more likely to occur (Boiger et al., 2013). Across differently-valenced situations (i.e., positive, negative, and mixed), East Asians reported more socially engaging emotions while North Americans reported more socially disengaging emotions (Leu et al., 2010). Based on these findings, it is possible that individuals might be more likely to perceive socially engaging and socially disengaging emotions in certain culturally relevant music.

Preferred Music and Culture

One significant type of culturally relevant music is preferred music, which refers to an individual's liking for one piece of music over another (Hargreaves et al., 2015). Research has demonstrated that music preferences are closely linked to factors such as personality, cultural identity, and cultural values (Boer et al., 2013; Brittin, 2014; Dys et al., 2017; Rentfrow & Gosling, 2006). For instance, Huang et al. (2020) found that Chinese college students predominantly preferred Chinese pop music, reflecting their shared cultural background. Similarly, music preferences can convey meaningful information about racial identity. Studies have shown that preferences for rap, hip-hop, and soul genres tend to be associated with Black individuals, whereas preferences for rock, alternative, pop, country, and folk genres are more commonly associated with White individuals (Marshall & Naumann, 2018; Rentfrow et al., 2009). Furthermore, Andrews et al. (2022) found that personal and cultural values explained differences in music preferences more effectively than personality traits alone.

These findings suggest that an individual's dominant self-construal may be reflected in their preferred music, which in turn influences their perception of emotions in music. Building on this, the present study examines the emotions that individuals perceive in their favorite music. Specifically, we hypothesize that interdependent and independent self-construals will be associated with more frequent and intense socially engaging and socially disengaging emotions respectively. In the following section, we review cross-cultural research in music psychology related to this hypothesis.

Cross-Cultural Research in Music Psychology

Music Preferences

Researchers have investigated cross-cultural differences in music preferences. For instance, students from Croatia were found to prefer national rock music, while students from Slovenia preferred popular folk, traditional music, and Balkan music (Habe et al., 2018). Various factors contribute to these cross-cultural differences, including age (Bonneville-Roussy et al., 2013),

familiarity with the music tradition (Soley & Hannon, 2010), personality traits (Greenberg et al., 2022; Yoo et al., 2018), and language (W. Ho, 2004). Additionally, cultural dimensions such as masculinity, long-term orientation, and indulgence have been associated with cross-country differences in album and artist preferences, though not genre preferences (M. Liu et al., 2018). This finding suggests that examining album and artist preferences in conjunction with specific cultural variables may offer explanatory insights into such differences between cultures (Brisson & Bianchi, 2022).

Cross-cultural differences in music preferences have also been explored through bottom-up approaches, such as analyzing musical features. Park et al. (2019) analyzed music streamed via Spotify across 51 countries and found regional variations, with music in Asia tending to be more relaxed and music in Latin America being more intense compared to that of Oceania, Europe, and North America. Similarly, Liew and colleagues compared the official Spotify Top-50 chart playlists across various countries, identifying distinct musical features. For example, Taiwanese popular music is characterized by high acousticness, Japanese music by high energy, and American music by high speechiness (Liew et al., 2021). They also observed that the playlists in East Asian countries (Japan, Taiwan, Hong Kong, and Singapore) scored higher on instrumentalness, while the playlists in Western countries (Australia, Canada, the U.K., and the U.S.) scored higher on danceability (Liew, Koh, et al., 2023). Furthermore, their analysis revealed that the lyrics in Singaporean playlists contained more socially oriented words and "we" pronouns, whereas the American playlists contained more angry lyrics (Liew, Uchida, et al., 2023). This finding aligns with earlier research on popular music, which demonstrated that lyrics of Chinese songs emphasized collectivistic themes, while U.S. songs reflected more individualistic themes (Rothbaum & Tsang, 1998; Rothbaum & Xu, 1995).

Taken together, these cross-country differences in musical features reflect underlying sociocultural differences and affordances for emotion. In particular, the findings on cross-cultural variations in lyrical content (Liew, Uchida, et al., 2023; Rothbaum & Tsang, 1998; Rothbaum & Xu, 1995) support the proposition that interdependent self-construal may be associated with socially engaging emotions, while independent self-construal may be linked to socially disengaging emotions. However, while the analysis of musical features provides valuable insights into the types of emotions that music may convey, it is insufficient for understanding the specific emotions that individuals perceive in their favorite music. Consequently, further investigation is needed to elucidate how these features interact with individual and cultural factors to shape emotion perception in music.

Functions of Music

Researchers have examined whether the functions of music differ across cultures. Boer & Fischer (2012) found that the social bonding function of music was equally prevalent in both collectivistic countries (Hong Kong, Philippines, Brazil, and Singapore) and individualistic countries (New Zealand, Germany, and the U.S.). However, another study by Boer et al. (2012) revealed that participants from Kenya and the Philippines reported experiencing family bonding through music

most strongly, followed by participants from Mexico and New Zealand, while participants from Germany and Turkey reported this function less frequently. Further analysis indicated that the social bonding function of music was negatively associated with secular values. These findings suggest that collectivism-individualism may not directly determine whether one uses music for social purposes.

In contrast, Granot et al. (2021) found that during the COVID-19 pandemic, participants from collectivistic countries (Argentina, Brazil, China, Colombia, and Mexico) rated music as more effective in achieving togetherness goals compared to participants from individualistic countries (Italy, Netherlands, Norway, Spain, the U.K., and the U.S.). This discrepancy in findings may stem from differences in the countries sampled or the framing of survey questions, as participants in these studies were asked about music functions more broadly without reference to specific types of music. In particular, Granot et al.'s (2021) findings demonstrate that even when individuals from different countries face similar threats, such as the pandemic, those in collectivistic cultures tend to rely more on their social groups for coping. Thus, music that conveys socially engaging emotions may play a critical role in facilitating this bonding process. Despite these inconsistencies, the observed association between the social functions of music and collectivistic cultures, alongside traditional values, support the notion that socially engaging emotions expressed through music may align with interdependent self-construal.

Researchers have also explored cross-cultural differences in the functions of preferred music. Saarikallio et al. (2021) found that mood management functions were more prevalent among participants from India, whereas self-enhancement functions were more prevalent among participants from Finland. However, Schäfer et al. (2012) reported that Indian participants associated their favorite music with background, emotion regulation, and self-regulation functions, while German participants linked their favorite music to prompting memories and social bonding. These results suggest a complex relationship between culture and the functions of preferred music. On one hand, Saarikallio et al. (2021) suggest that self-enhancement functions may be associated with individualistic cultures, implying a connection between socially disengaging emotions and independent self-construal. On the other hand, Schäfer et al. (2012) report social bonding functions in an individualistic country such as Germany, seemingly contradicting this association. These contrasting findings may stem from the use of nationality as a proxy for collectivism and individualism, potentially oversimplifying the nuanced dimensions of cultural differences (Santos et al., 2017). This underscores the importance of directly examining cultural variables rather than relying on sociodemographic categories as proxies of culture.

We propose that self-construal theory provides a more nuanced framework for understanding these conflicting results. As a measure of individual differences, interdependent and independent self-construals vary within cultural contexts, meaning that individuals in collectivistic countries (e.g., India) or individualistic countries (e.g., Finland and Germany) may possess both types of self-construal. This variation implies that the functions of preferred music depend on the individual's self-construal, rather than solely on the cultural context. Therefore, the present study incorporates self-

construal as a key measure in examining how culture influences the emotions individuals perceive in their favorite music.

Emotion Perception in Music

Music psychologists have distinguished between two facets of affective experience with music: emotion perception and emotion evocation (Juslin, 2016). Emotion perception pertains to the emotions conveyed by music to listeners, regardless of whether the listeners felt those emotions. Emotion evocation, on the other hand, refers to individuals' emotional responses elicited by music. In this paper, we focus on the former, the emotions that individuals perceive music to express.

Cross-cultural research in music and emotion has grown in the last decade (Sauvé et al., 2023), particularly in the area of emotion perception in music. Scholars have proposed several theoretical models to explain the cross-cultural perception of emotion in music, including the cue-redundancy model (Balkwill & Thompson, 1999), the fractionating emotional systems model (Thompson & Balkwill, 2010), and the dock-in model of music culture (Fritz, 2013). Despite differences in emphasis among these models, they converge on the idea that listeners rely on two types of cues to decode the musically expressed emotion: psychophysical cues – any property of sound that can be perceived independent of musical experience, knowledge, or enculturation such as tempo, rhythm, or timbre; and culture-specific cues – culturally determined conventions including scales and harmonic relationships.

Based on these models, three empirical patterns emerge. First, individuals can accurately identify the intended emotion in music from unfamiliar cultures by relying on psychophysical cues (Adachi et al., 2004; Athanasopoulos et al., 2021; Balkwill & Thompson, 1999; Bodner, 2014; Kwoun, 2009; Laukka et al., 2013). For example, Fritz et al. (2009) found that Mafa listeners, who were unfamiliar with Western music, were able to recognize happy, sad, and scared emotions in Western music excerpts. Similarly, Balkwill et al. (2004) showed that Japanese listeners were sensitive to expressions of anger, joy, and sadness in Western, Japanese, and Hindustani music, showing that emotion perception does not necessarily require familiarity with culture-specific musical conventions.

Second, individuals are better at identifying the intended emotion from culturally familiar music because they can also rely on culture-specific cues. Laukka et al. (2013) found that participants from Sweden, India, and Japan were more accurate in recognizing emotional expressions in music from their own culture (i.e., Swedish folk music, Hindustani music, Japanese traditional music) compared to unfamiliar music traditions. Similarly, Argstatter (2016) observed an in-group advantage, with participants from Germany and Norway outperforming participants from Korea and Indonesia in correctly identifying emotions expressed by Western classical musicians.

Third, people from similar cultural backgrounds tend to report similar musically expressed emotions, likely due to a shared understanding of culture-specific cues. Hu and Lee (2012) compared the emotion judgments of U.S. and Chinese participants on the same set of popular songs and found

greater agreement among participants from the same culture. In another study, Hu and Lee (2016) observed that Hong Kong listeners showed higher levels of agreement in their emotion judgements of Chinese music compared to U.S. listeners.

Taken together, current theorizing and empirical research focused on the listener's use of musical elements in emotion perception of music. These studies, however, overlooked other psychological mechanisms that might influence cross-cultural perception of emotion in music. In response, Susino and Schubert (2017) proposed the Stereotype Theory of Emotion in Music, whereby cultural stereotypes influence the perception of emotions in music. They argued that only when such stereotypes are absent, the musically expressed emotion may be interpreted more freely through psychophysical or culture-specific cues. In other words, listeners filter the emotion they perceive in music based on the stereotypes of the encoding music culture. In a series of studies, Susino and Schubert (2019) found that specific emotions reported for a music genre were similar to stereotypical emotional associations of the corresponding culture. These include peace and calm for Koto music and Japanese culture, and anger and aggression for heavy metal music and culture. They did not find any association in other music cultures – i.e., Fado music and Portuguese culture, hip hop music and culture, pop music and culture, Samba music and Brazilian culture, Bolero music and Cuban culture, and Western classical music and Western culture. Although only a few associations were found, this provides some empirical support that stereotyping competes with musical cues when perceiving emotions in music.

The abovementioned studies have undoubtedly provided insights into universal and culture-specific aspects of emotion perception in music. However, three key limitations should be considered. Firstly, as mentioned, the theories underlying emotion perception have focused almost exclusively on the listeners' use of musical elements (psychophysical and culture-specific cues). As demonstrated by Susino and Schubert (2017, 2019), other psychological mechanisms, such as stereotyping, might also influence how individuals decode musically expressed emotion. Given the limited associations supporting the Stereotype Theory of Emotion in Music, we need to consider other factors that might impact cross-cultural emotion perception of music.

Secondly, culture was vaguely defined with cross-cultural differences attributed primarily to the listeners' level of enculturation to the conventions of the music stimuli (Balkwill & Thompson, 1999; Fritz, 2013; Thompson & Balkwill, 2010). Researchers often assumed that participants would be familiar with music from their own culture and therefore recruited participants from different nations and utilized music from various countries, typically classical music traditions (e.g., Hindustani, Japanese traditional, and Western classical). However, cultural difference extends beyond enculturation and familiarity with (classical) music genres. It encompasses patterns of ideas, practices, institutions, or artifacts generated by people, who are also influenced by culture (Adams & Markus, 2004). This broader conceptualization raises questions about the exact mechanisms by which culture, beyond enculturation and familiarity, influences emotion perception in music. Additionally, it remains

unclear whether findings based on classical music generalize to more ecologically relevant forms, such as popular music. Hence, better conceptualizations of culture and the inclusion of diverse music genres are needed to advance research on cross-cultural emotion perception of music.

Thirdly, previous studies have predominantly employed self-report measures based on discrete (or basic) emotion models (e.g., happiness, anger, sadness, and tenderness; Ekman, 1992; Izard, 1992). To our knowledge, only one study (i.e., Wang et al., 2021) incorporated dimensional emotion models (e.g., two-dimensional circumplex model comprising valence and arousal; Russell, 1980). By restricting the types of emotions to basic emotions, it leaves unanswered the question of whether there is diversity in the spectrum of emotions perceived in music across cultures. Interestingly, the researchers did not include aesthetic emotions despite its unique relevance to music (Coutinho & Scherer, 2017; Menninghaus et al., 2019; Zentner et al., 2008). Aesthetic emotions are emotional responses that emerge from an individual's engagement with and appreciation of the music's qualities (e.g., awe, wonder, moved, and inspired) rather than concerns for survival or well-being (e.g., scared or happy). Furthermore, these emotion frameworks are implicitly rooted in Western conceptualizations of emotions, which posit emotions as internal psychological states belonging to the individual, separate from their context or relationships (Becker, 2010; Tsai & Clobert, 2019). Such emotions may not accurately reflect the emotional experiences of individuals from non-Western cultures. For instance, Benamou (2003) observed cross-cultural discrepancies in the internal organization and connotations of emotional categories when comparing Javanese and Western music. To address this, better tools to measure emotions in music across cultures are needed.

Overview of the Present Studies

In this paper, we examined the emotions individuals perceive in their favorite music, aiming to advance knowledge on how culture influences the character of these emotions. We situated this exploration within the meaning-making processes that individuals engage in while listening to their preferred music, moving beyond classical music genres to include more ecologically relevant musical styles. Preferred music was chosen because of its unique significance to individuals, reflecting both individual and cultural influences from collectivistic and individualistic contexts (Andrews et al., 2022; Boer et al., 2013; Brittin, 2014; Granot et al., 2021; Marshall & Naumann, 2018; Rentfrow et al., 2009; Rentfrow & Gosling, 2006).

We theorize that music engagement is culturally inflected (Becker, 2010; Clarke, 2011; Fram, 2023; Frith, 1996). In other words, music and listeners share a symbiotic relationship, wherein they continuously define and shape each other through ongoing, interactive exchanges of musical elements and listener perceptions. While we acknowledge that our studies did not control for specific musical features across participants' favorite music, which might influence emotion perception, we align with prior studies (e.g., Saarikallio et al., 2021; Schäfer et al., 2012) that similarly examined emotions in preferred music. We argue that such an approach provides a valuable foundation for exploring the diversity of emotions in music across cultures.

Drawing on the evidence from cultural psychology regarding cross-cultural differences in everyday emotional experiences and cross-cultural research in music psychology on music preferences and functions of preferred music, we hypothesized that interdependent and independent self-construals would be associated with more frequent and intense socially engaging and socially disengaging emotions perceived in favorite music respectively.

The central aim of this paper was to investigate the role of self-construal in the perception of emotions elicited by favorite music across cultures. We addressed the research question: is self-construal, both between and within cultures, associated with the frequency and intensity of emotions perceived in favorite music? In Study One, we adopted an exploratory approach comprising an online questionnaire where participants were asked to reflect on the emotions they perceived in their favorite music. Building on the findings from Study One, Study Two employed a listening experiment, in which participants listened to their favorite music and subsequently completed a questionnaire about the emotions they perceived. Both studies received ethical approval via the University's Ethics Review Procedure, as administered by the Department of Music and the Department of Psychology.

Positionality and Theoretical Framework

In these investigations, we adopted a post-positivist stance, striving for objective knowledge while recognizing the inherent constraints, situatedness, and socially constructed nature of theories (Matney, 2019). At this stage, we disclose our positionalities to clarify our motivations and theoretical orientations. All of us share an ethnic Chinese background, were raised in Southeast and East Asian countries, and have pursued advanced degrees in the English language. Thus, we are cognizant of the dynamics and tensions between dominant theories and ideologies from various cultural traditions. Recognizing the prevalence of WEIRD (western, educated, industrialized, rich, and democratic) frameworks in psychological research (Broesch et al., 2020; Henrich et al., 2010; Masuda et al., 2020), we sought to embrace conceptualizations of culture and emotion grounded in cultural psychological theories (Markus & Kitayama, 2010; Zhu & Han, 2008).

Our perspective aligns with the idea that culture and individuals are continually and mutually shaping one another (Markus & Kitayama, 2010). Within the music context, emotion perception of music is culturally embedded, such that emotional meaning emerges from the interactions between particular listeners and musical events (Becker, 2010). This perspective resonates with constructionist (Cespedes-Guevara & Eerola, 2018; Lennie & Eerola, 2022) and active sense-making approaches (Schiavio et al., 2017) to emotions in music. To capture the intricacies of cross-cultural similarities and differences, we integrated emotion models from non-Western cultural traditions.

Study One

For Study One, we adopted an exploratory approach using an online questionnaire to investigate the role of self-construal in emotion perception of favorite music across cultures.

Method

Participants

Participants were recruited in two ways. Firstly, participants were recruited via an online advertisement distributed by the researchers and the researchers' contacts at universities in Singapore, China, Hong Kong, the U.K., and the U.S. Participants were notified that they could be entered into a draw to win one of five £10 (~US$13) Amazon gift cards. Secondly, participants were recruited via Amazon Mechanical Turk (MTurk) administered by CloudResearch (Litman et al., 2017). They were paid US$1 after completing the online questionnaire. Participants who did not complete the questionnaire, failed the attention checks, or had missing responses were removed (n = 869). Four hundred and thirty-five participants were included in the final analysis, of which participants reported 33 nationalities and 20 ethnicities, living in 11 different countries (see Supplementary Materials Appendix E).

Materials

Emotion Checklist. We first compiled emotion terms found in previous music and emotion research, such as the Geneva Emotional Music Scale (Zentner et al., 2008), the Geneva Music-Induced Affect Checklist (Coutinho & Scherer, 2017), and adjective scales (Juslin & Laukka, 2004); the two-dimensional circumplex model of emotions comprising valence and arousal (Kallinen & Ravaja, 2006); and prior cross-cultural work on music and emotions (Juslin et al., 2016). We also included emotion terms found in cross-cultural psychology pertaining to socially engaging and disengaging emotions (Kitayama et al., 2000, 2006; P. Liu et al., 2022). The initial list consisted of 202 emotion words (or phrases). Subsequently, synonyms were grouped together, and duplicates and word derivatives (e.g., joy and joyful; relax and relaxation; sad and sadness) were removed. After some discussion with other music and emotion scholars, the terms were further distilled into the final emotion checklist comprising 32-word (or phrase) pairs measuring socially engaging emotions (7-items), socially disengaging emotions (6-items), aesthetic emotions (5-items), positive general emotions (7-items), and negative general emotions (7-items; see Supplementary Materials Appendix F). Intensity of these felt emotions was measured using a 7-point Likert Scale (from 1 = *not at all intense* to 7 = *very intense*).

This emotion checklist was first translated into Chinese by me (first author). Two bilingual translators (one native Mandarin-speaker and one native English-speaker), who were masked to the study's hypotheses, back-translated the emotion checklist – i.e., the native Mandarin-speaker translated the English version back into Chinese and the native English-speaker translated the Chinese version back into English. Discrepancies between versions were discussed and resolved by changing either the Chinese and/or English terminology. In cross-cultural research, it is imperative to establish not only linguistic semantic equivalence (i.e., similar meanings between cultures) but also conceptual equivalence (i.e., the construct 'makes sense' in other cultures; Boehnke, 2022; Broesch et al., 2020;

Cohen, 2019). This method of back-translation, involving individuals from East Asian and Western cultures, helps to ensure both semantic and conceptual equivalence.

Self-Construal. Self-construal was measured using Singelis' (1994) Self-Construal Scale (SCS). The SCS consists of 15-items to measure interdependent self-construal and 15-items to measure independent self-construal using a 7-point Likert Scale (from 1 = *strongly disagree* to 7 = *strongly agree*). The Chinese version of the SCS was obtained from T. Singelis (personal communication, November 17, 2022) and had been used in previous studies (Li et al., 2006; Yu et al., 2016). Cronbach's alpha for the present study (all participants combined) was .84 and .82 for the interdependent and independent scales respectively.

Procedure

Prospective participants were invited to participate in the study through a link on the online advertisement or through MTurk. Upon accessing the link, they completed the informed consent form before starting the online questionnaire. Participants were first instructed to report and think about their favorite music. Thereafter, they were asked to reflect on the emotions that they perceived their favorite music to be expressing and the emotions that they felt while listening to it. Previous research has validated the use of retrospective online questionnaires to assess music emotions across cultures (Juslin et al., 2016; Saarikallio et al., 2021). This method allows participants to carefully consider their experiences and contextualize them through reflective insight regarding the emotions they perceive their favorite music to convey. After selecting all relevant emotions using the emotion checklist, participants rated the intensity of their selected emotions. Subsequently, they completed the SCS and demographic questions (e.g., age, gender, education level, and musical expertise). Regarding musical expertise, Zhang and Schubert (2019) found that years of musical training and the musician rank item (i.e., "*Which titles best describes you?*") of the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) were the best single-item measures for estimating musicality. Thus, we used these items as proxies of musical expertise. The online questionnaire was hosted by Qualtrics^{XM} and took approximately 15-minutes to complete. Participation was voluntary and participants could skip any questions they did not want to answer.

Data Analysis

The frequency[1] of emotions was calculated by summing the number of emotions selected within each emotion type, while the intensity of emotions was calculated by averaging the intensity ratings of selected emotions within each type. To make meaningful comparisons, participants were grouped together using nationality because national differences in collectivism-individualism have been argued to give rise to interdependent-independent self-construals (Markus & Kitayama, 1991). Given the wide representation of nationalities (see Supplementary Materials Appendix E), participants

[1] Frequency here refers to the variety of emotions selected. For example, a frequency of three positive socially engaging emotions means that the participant selected three out of the four positive socially engaging emotions in that emotion category (refer to Supplementary Materials Appendix F).

were further grouped together based on the cultural distance hypothesis, which assumes that cultures are similar if they are geographically close to one another (Elfenbein & Ambady, 2003). Subsequently, we conducted a multilevel regression analysis with participants nested within regions. For this paper, we focused on the emotions that participants perceived their favorite music to express. The analysis of felt emotions will be presented in a separate forthcoming report. All analyzes were conducted using SPSS®28.

Results

Demographic Characteristics

Participants were divided into nine regions: the U.S. (n = 215), Canada (n = 38), Brazil (n = 2), the U.K. (n = 88), Europe (n = 15), East Asia (n = 26), Southeast Asia (n = 32), South Asia (n = 11), and dual nationality (n = 7). See Table 3.1 for more information regarding participant characteristics.

Table 3.1 Study One Participant Characteristics

	The U.S. (n = 215) *M (SD)*	Canada (n = 38) *M (SD)*	Brazil (n = 2) *M (SD)*	The U.K. (n = 88) *M (SD)*	Europe (n = 15) *M (SD)*	East Asia (n = 26) *M (SD)*	Southeast Asia (n = 32) *M (SD)*	South Asia (n = 11) *M (SD)*	Dual Nationality (n = 7) *M (SD)*
Age (Years)	38.66 (13.07)	40.74 (12.38)	26.50 (0.71)	31.65 (12.07)	32.08 (10.87)	28.00 (7.59)	29.15 (7.60)	38.70 (11.57)	28.67 (13.02)
Gender, *n* (%)									
Transgender	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)
Non-binary	4 (1.9)	0 (0.0)	0 (0.0)	4 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Female	105 (48.8)	18 (47.4)	1 (50.0)	32 (36.4)	7 (46.7)	22 (84.6)	17 (53.1)	7 (63.6)	2 (28.6)
Male	104 (48.4)	20 (52.6)	1 (50.0)	52 (59.1)	8 (53.3)	2 (7.7)	15 (46.9)	4 (36.4)	5 (71.4)
Prefer not to say	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Disability, *n* (%)									
Yes	35 (16.3)	11 (28.9)	0 (0.0)	4 (4.5)	1 (6.7)	2 (7.7)	1 (3.1)	0 (0.0)	6 (85.7)
No	173 (80.5)	26 (68.4)	2 (100)	78 (88.6)	14 (93.3)	24 (92.3)	30 (93.8)	11 (100.0)	0 (0.0)
Prefer not to say	3 (1.4)	0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Prefer to self-describe	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	0 (0.0)	1 (3.1)	0 (0.0)	1 (14.3)
Education Level	4.99 (0.71)	5.00 (0.82)	5.50 (0.71)	4.87 (0.65)	5.15 (0.90)	5.26 (0.56)	4.85 (0.82)	5.50 (0.53)	5.00 (0.89)
Musical Identity	2.55 (1.34)	2.21 (1.07)	2.50 (0.71)	2.64 (1.34)	2.23 (1.17)	3.42 (1.84)	2.44 (1.19)	1.90 (0.57)	4.17 (1.17)
Musical Training (Years)	4.01 (5.31)	3.76 (6.09)	1.00 (1.41)	4.29 (6.28)	2.85 (5.97)	7.11 (8.96)	3.11 (4.84)	0.70 (0.95)	11.5 (6.16)
Self-Construal									
Interdependent	4.99 (0.91)	4.64 (0.75)	4.84 (0.33)	4.53 (0.72)	4.37 (0.69)	4.77 (0.59)	4.96 (0.71)	5.28 (0.55)	4.58 (0.59)
Independent	5.25 (0.85)	5.06 (0.78)	5.87 (0.66)	5.01 (0.69)	5.02 (0.86)	4.72 (0.57)	4.96 (0.73)	5.15 (0.95)	4.83 (0.55)

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) musician rank item. Musical identity was used because it was reported to be the best single-item measure that represents musical sophistication and musicality (Zhang & Schubert, 2019).

Participants' chosen music spanned a broad range of styles, including folk, classical, rock (e.g., Japanese rock, funk rock, alternative rock, slow rock, hybrid rock), disco, country, pop (e.g., Spanish pop, Mando-pop, Canto-pop, K-pop), electronic dance music, rap, hip-hop, soul, Schlager, video game soundtracks, fusion, movie soundtracks, trance, show tunes, gospel, and contemporary Christian music. The distribution of musical styles was relatively consistent across regions, with a diverse representation in each. The U.S. displayed the greatest diversity of musical styles, while Brazil reported the fewest styles. Some regional variations were also noted. For instance, Mando-pop and Canto-pop were more commonly featured in East and Southeast Asia, while Anglophone pop music were reported across all regions. The full list of music titles and artists is available in the Supplementary Materials Appendix G.

Multilevel Regression Analysis

We conducted a multilevel regression analysis, using restricted maximum likelihood with Satterthwaite approximation for degrees of freedom, nesting participants within regions. We allowed the intercept by region to vary randomly. Regional-means of interdependent and independent self-construal were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Given the relatively small number of regions ($n = 9$) and that some regions had a small sample size (i.e., $n < 10$), interdependent and independent self-construals were analyzed separately to minimize the risk of overfitting and type II error (false negative). Specifically, regional-mean and regional-mean-centered interdependent self-construals were entered as predictors of the frequency and intensity of the emotion types in Model 1, and regional-mean and regional-mean-centered independent self-construals were entered as predictors in Model 2.

Frequency of Emotion. In Model 1, the results showed that interdependent self-construal was not significantly associated with the frequency of all emotion types. This suggests that interdependent self-construal was not associated with the frequency of various emotion types perceived in favorite music between participants across different regions.

In Model 2, the results showed that only the regional-mean of independent self-construal was significantly associated with the frequency of negative socially disengaging emotions ($b = 1.69$, $SE = 0.45$, $p = .004$) and negative general emotions ($b = 1.97$, $SE = 0.67$, $p = .017$). There were no significant associations between independent self-construal and the frequency of the other emotion types. This suggests that between-region variation of independence, not within-region variation of independent self-construal, was positively associated with the frequency of negatively socially disengaging and negative general emotions perceived in favorite music (see Table 3.2).

Intensity of Emotion. In Model 1, the results showed that only the regional-mean-centered interdependent self-construal was significantly associated with the intensity of positive socially engaging emotions ($b = 0.37$, $SE = 0.17$, $p = .030$). There were no significant associations between interdependent self-construal and the intensity of the other emotion types. This suggests that within-region variation of interdependent self-construal, not between-region variation of interdependence, was positively associated with the intensity of positive socially engaging emotions perceived in favorite music.

In Model 2, the results showed that only the regional-mean-centered independent self-construal was significantly associated with the intensity of positive general emotions ($b = 0.57$, $SE = 0.16$, $p < .001$). There were no significant associations between independent self-construal and the intensity of the other emotion types. This suggests that within-region variation of independent self-construal, not between-region variation of independence, was positively associated with the intensity of positive general emotions perceived in favorite music (see Table 3.3).

Table 3.2 Study One Multilevel Regression Analysis Results for Frequency of Emotion Types

Model 1: Interdependent Self-Construal				**Model 2: Independent Self-Construal**			
	Outcome Variable				Outcome Variable		
	b	*SE*	*p*		*b*	*SE*	*p*
Predictors	Positive Socially Engaging Emotions			**Predictors**	Positive Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	-0.04	0.21	.860	$Independent_{RegionalMean}$	-0.01	0.29	.959
$Interdependent_{RegionalMeanCentered}$	0.09	0.06	.128	$Independent_{RegionalMeanCentered}$	-0.00	0.06	.966
	Negative Socially Engaging Emotions				Negative Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	-0.02	0.11	.880	$Independent_{RegionalMean}$	-0.03	0.15	.837
$Interdependent_{RegionalMeanCentered}$	0.00	0.02	.903	$Independent_{RegionalMeanCentered}$	-0.03	0.02	.225
	Positive Socially Disengaging Emotions				Positive Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.14	0.11	.190	$Independent_{RegionalMean}$	-0.05	0.16	.760
$Interdependent_{RegionalMeanCentered}$	-0.01	0.03	.660	$Independent_{RegionalMeanCentered}$	0.05	0.03	.107
	Negative Socially Disengaging Emotions				Negative Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.18	0.87	.848	**$Independent_{RegionalMean}$**	**1.69**	**0.45**	**.004****
$Interdependent_{RegionalMeanCentered}$	-0.02	0.03	.599	$Independent_{RegionalMeanCentered}$	-0.04	0.03	.204
	Aesthetic Emotions				Aesthetic Emotions		
$Interdependent_{RegionalMean}$	0.26	0.23	.248	$Independent_{RegionalMean}$	0.13	0.36	.758
$Interdependent_{RegionalMeanCentered}$	0.09	0.06	.145	$Independent_{RegionalMeanCentered}$	-0.01	0.07	.925
	Positive General Emotions				Positive General Emotions		
$Interdependent_{RegionalMean}$	0.41	0.33	.205	$Independent_{RegionalMean}$	0.33	0.44	.455
$Interdependent_{RegionalMeanCentered}$	0.10	0.09	.269	$Independent_{RegionalMeanCentered}$	0.16	0.09	.091
	Negative General Emotions				Negative General Emotions		
$Interdependent_{RegionalMean}$	0.06	0.99	.954	**$Independent_{RegionalMean}$**	**1.97**	**0.67**	**.017***
$Interdependent_{RegionalMeanCentered}$	-0.06	0.05	.223	$Independent_{RegionalMeanCentered}$	-0.01	0.05	.806

Note. $N = 435$. Regional-means of interdependent and independent self-construals were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Bold values indicate statistical significance.
* $p < .05$, ** $p < .01$

Table 3.3 Study One Multilevel Regression Analysis Results for Intensity of Emotion Types

Model 1: Interdependent Self-Construal				**Model 2: Independent Self-Construal**			
	Outcome Variable				Outcome Variable		
	b	*SE*	*p*		*b*	*SE*	*p*
Predictors	Positive Socially Engaging Emotions				Positive Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	0.40	0.69	.705	$Independent_{RegionalMean}$	0.30	0.84	.722
$Interdependent_{RegionalMeanCentered}$	**0.37**	**0.17**	**.030***	$Independent_{RegionalMeanCentered}$	0.34	0.18	.052
	Negative Socially Engaging Emotions				Negative Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	0.09	0.55	.878	$Independent_{RegionalMean}$	0.13	0.71	.855
$Interdependent_{RegionalMeanCentered}$	-0.04	0.11	.685	$Independent_{RegionalMeanCentered}$	-0.07	0.11	.537
	Positive Socially Disengaging Emotions				Positive Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.54	0.51	.286	$Independent_{RegionalMean}$	-0.19	0.69	.782
$Interdependent_{RegionalMeanCentered}$	-0.04	0.14	.754	$Independent_{RegionalMeanCentered}$	0.25	0.14	.078
	Negative Socially Disengaging Emotions				Negative Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	-0.14	0.38	.703	$Independent_{RegionalMean}$	0.98	0.62	.219
$Interdependent_{RegionalMeanCentered}$	-0.07	0.10	.495	$Independent_{RegionalMeanCentered}$	-0.14	0.11	.179
	Aesthetic Emotions				Aesthetic Emotions		
$Interdependent_{RegionalMean}$	1.36	0.96	.230	$Independent_{RegionalMean}$	-1.10	1.28	.429
$Interdependent_{RegionalMeanCentered}$	0.31	0.18	.082	$Independent_{RegionalMeanCentered}$	0.10	0.18	.590
	Positive General Emotions				Positive General Emotions		
$Interdependent_{RegionalMean}$	0.48	0.58	.409	$Independent_{RegionalMean}$	0.47	0.78	.547
$Interdependent_{RegionalMeanCentered}$	0.24	0.16	.144	**$Independent_{RegionalMeanCentered}$**	**0.57**	**0.16**	**< .001*****
	Negative General Emotions				Negative General Emotions		
$Interdependent_{RegionalMean}$	-1.12	0.55	.240	$Independent_{RegionalMean}$	0.84	1.09	.460
$Interdependent_{RegionalMeanCentered}$	-0.16	0.14	.269	$Independent_{RegionalMeanCentered}$	-0.04	0.15	.768

Note. $N = 435$. Regional-means of interdependent and independent self-construals were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Bold values indicate statistical significance.
* $p < .05$, *** $p < .001$.

Discussion of Study One

Study One comprised an online questionnaire to investigate the role of self-construal in the perception of emotions expressed by favorite music across cultures. We found preliminary support for our hypotheses: independent self-construal was linked to the frequency of negative socially disengaging emotions, while interdependent self-construal was associated with the intensity of positive socially engaging emotions perceived in favorite music. These findings align with prior research showing that individuals from Western countries reported socially disengaging emotions more frequently in everyday contexts, whereas those from East Asian countries reported more intense socially engaging emotions (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). Importantly, Study One extends previous between-country studies by highlighting that between-region variation in independence was positively associated with negative socially disengaging emotions in the music domain. This finding aligns with prior evidence that American Top-50 music featured more angry lyrics (Liew, Uchida, et al., 2023). In other words, individuals in independent or individualistic cultural contexts perceive more negative socially disengaging emotions (e.g., angry, disappointment, resentment) in their favorite music.

Unlike previous between-country studies investigating emotions in everyday contexts, we found that within-region variation of interdependent self-construal was positively linked to the intensity of positive socially engaging emotions perceived in music. This suggests that although individuals across regions may perceive socially engaging emotions in their favorite music, variations in interdependent self-construal could explain differences in the perceived intensity of such emotions within regions. In other words, individuals within any given culture with a more salient interdependent self-construal may exhibit heightened sensitivity to socially engaging emotions in their favorite music, as these emotions are instrumental in fostering collectivity and strengthening interpersonal relationships. This may be because music is crucial for social bonding across all cultures (Savage et al., 2021; Tarr et al., 2014; Trehub et al., 2015).

We also found that independent self-construal was associated with both negative and positive general emotions. Specifically, between-region variation of independence was positively associated with the frequency of negative general emotions perceived in favorite music. This implies that individuals in regions with higher levels of independence reported more frequent negative general emotions in their favorite music compared to regions with lower independence. One explanation may lie in cultural differences in emotion display rules, where individualistic cultures tend to view the expression of negative emotions as more appropriate than collectivistic cultures (Matsumoto, 1990). Another possible explanation for this regional difference could be trends in popular music. For example, studies have shown that lyrics in popular songs from Canada and the U.S. have become emotionally darker (i.e., fewer positive emotions and more negative emotions) in recent years (Blais-Rochette et al., 2022).

This study also revealed that within-region variation of independent self-construal was associated with the intensity of positive general emotions perceived in favorite music. This finding aligns with previous research showing that individuals with an independent self-construal tend to prefer high arousal positive states, such as excitement, enthusiasm, and elation (Kim et al., 2014; Tsai, 2007). Consequently, they are more likely to prefer people and activities that reflect this ideal affect (Bencharit et al., 2019; Sims et al., 2014; Tsai, Louie, et al., 2007; Tsai et al., 2019). For example, Tsai, Miao, et al. (2007) demonstrated that European Americans were more likely than Hong Kong Chinese participants to choose the CD featuring high arousal positive emotions, as depicted by its cover of a man surfing on a large wave and fictitious reviews emphasizing high energy and invigoration. While such studies show between-country differences, our findings indicate that within-region variation in independent self-construal plays a significant role too. Specifically, individuals across regions might perceive positive general emotions in their favorite music, but the intensity of these emotions may vary depending on their independent self-construal. Taken together, our findings underscore the nuanced role of cultural dimensions in shaping emotion perception of music within and between regional contexts.

Although this online study included a wide range of nationalities, we acknowledge that the unequal distribution of participants across regions is a limitation. In addition, these findings are contingent upon the participants' ability to accurately recall their favorite music and the emotions it conveys, which introduces potential biases in memory and perception. Previous cross-cultural research in music psychology has utilized listening experiments to investigate emotion perception. Studies have shown that real-time music listening can influence the specificity and intensity of ratings across emotion categories (Fuentes-Sánchez et al., 2021, 2022; Kreutz et al., 2008). To address these limitations, we designed Study Two, incorporating a real-time listening task to better capture participants' perception of emotions in their favorite music.

Study Two

For Study Two, we recruited participants from three countries and conducted a listening experiment to investigate the role of self-construal in the perception of emotions expressed by favorite music across cultures. The selected countries represent different positions on the collectivism-individualism spectrum, based on Hofstede et al.'s (2010) individualism index. Specifically, we selected China (scoring 20 on the index) to represent a collectivist culture and the U.K. (scoring 89) to represent an individualist culture. Singapore (also scoring 20) was included to capture a hybrid sociocultural context, reflecting both collectivistic and individualistic values.

Although Singapore shares the same score as China on Hofstede et al.'s (2010) individualism index, its culture embodies a mix of Eastern and Western values (Chang et al., 2003). Traditional Asian values are deeply ingrained in familial and social interactions, while Western influences permeate through formal education, legislation, and mass media (Ang & Stratton, 1995; Brooks & Wee, 2014; D. G. E. Ho, 2006; Sheehy, 2004; Tamney, 1996). Singapore's Bilingual Education Policy

further reinforces this hybrid sociocultural identity by ensuring that Singaporeans are proficient in both their mother tongue language (of their ethnicity) and English, facilitating the coexistence of Eastern and Western cultural influences (Dixon, 2005; Pakir, 1993). As such, Singapore presents a unique sociocultural context for comparison against China and the U.K.

In this study, we examined whether self-construal mediated the relationship between country and the types of emotions perceived in favorite music, offering a nuanced perspective on how cultural contexts shape emotional experiences with music. Building on the results from Study One, we hypothesized that interdependent self-construal would mediate the relationship between country and the perception of socially engaging emotions, while independent self-construal would mediate the relationship between country and the perception of socially disengaging emotions perceived in favorite music.

Method

Participants

Participants were recruited from University of Sheffield in the U.K., Henan University in China, and Singapore Management University in Singapore. Participants in the U.K. and Singapore were recruited using the institutional psychology subject pool system. Additionally, publicity materials were distributed at the three universities through internal email communications, social media, and on campus bulletin boards. Participants either received course credit or cash vouchers (£5 in the U.K., CN¥30 in China, or SG$5 in Singapore) as compensation for participating in this study. A total of 309 participants (102 participants residing in the U.K., 107 in China, and 100 in Singapore) were included in the final analysis. Reported nationalities and ethnicities can be found in the Supplementary Materials Appendix H.

Materials

We used the same measures from Study One in Study Two. Cronbach's alpha for the present study (all participants combined) was .73 and .76 for the interdependent and independent self-construal scales respectively.

Procedure

Prospective participants first registered their interest and indicated their favorite piece of music. Upon arrival at the lab, participants completed the informed consent form. Thereafter, participants listened to "Twinkle Twinkle Little Star" to ensure that volume levels were appropriate and the headphones were positioned comfortably. Once ready, the researcher instructed participants to pay attention to the emotions that they perceived their favorite music to be expressing and the emotions that they felt while listening to it. Participants then proceeded to listen to their favorite music on the relevant music streaming service (e.g., Spotify or QQ Music). During this listening task, participants were presented a screen with a prompt reminding them to pay attention to the emotions that they perceive their favorite music to be expressing and the emotions that they felt while listening to it. After listening to the music, participants chose all relevant emotions using the emotion checklist

and rated the intensity of their selected emotions. Subsequently, they completed the SCS and demographic questions. The questionnaire was hosted by Qualtrics^{XM} and the entire listening experiment took approximately 30-minutes to complete.

Data Analysis

We conducted a mediation analysis using Hayes' (2017) PROCESS (v.4.2) Model 4 to determine whether self-construal mediated the relationship between country and perceived emotions. For this study, we focused on the emotions that participants perceived their favorite music to express. The analysis of felt emotions will be presented in a separate forthcoming report. All analyzes were conducted using SPSS®28.

Results

Demographic Characteristics

The one-way analysis of variance (ANOVA) showed that there was a statistically significant difference between countries regarding age, $F(2, 304) = 5.81$, $p = .003$, education level, $F(2, 306) = 7.06$, $p = .001$, musical identity, $F(2, 306) = 202.68$, $p < .001$, and musical training, $F(2, 306) = 34.91$, $p < .001$ (see Table 3.4). Post hoc analyzes with Tukey's HSD (using an α of .05) showed that, on average, participants in the China group were older than participants in the U.K. group, and that participants in the China group had higher education levels and musical expertise than both the U.K. and Singapore group. This was expected because participants from China were mostly recruited from the music department.

The one-way ANOVA also showed that there was a statistically significant difference between countries in interdependent self-construal, $F(2, 306) = 5.76$, $p = .003$ (see Table 3.4). Post hoc analyzes with Tukey's HSD (using an α of .05) showed that, on average, participants in the Singapore group had higher interdependent self-construals than participants in the U.K. group. There were no significant differences in independent self-construal between countries, $F(2, 306) = 2.61$, $p = .075$. This aligns with prior research showing that individualism is rising in numerous countries around the world (Santos et al., 2017).

Participants' chosen music encompassed a wide range of styles, including alternative, folk, indie, pop, classical, rap, hip-hop, R&B, and rock. A diverse array of musical styles was reported within each country. Consistent with Study One, some variations were observed between countries: Chinese-pop, Mando-pop, and K-pop were only reported in China and Singapore, while Anglophone pop music were reported across all countries. The full list of music titles and artists is available in the Supplementary Materials Appendix I.

Table 3.4 Study Two Participant Characteristics

	The U.K. (n = 102) *M (SD)*	China (n = 107) *M (SD)*	Singapore (n = 100) *M (SD)*	p-Value
Age (Years)	19.70 (4.50)	21.01 (1.41)	20.63 (1.45)	.003**
Gender, *n* (%)				
Transgender	0 (0.00)	0 (0.00)	0 (0.00)	
Non-binary	5 (4.90)	0 (0.00)	0 (0.00)	
Female	85 (83.33)	71 (66.36)	83 (83.00)	
Male	11 (10.78)	29 (27.10)	16 (16.00)	
Prefer not to say	1 (0.98)	0 (0.00)	1 (1.00)	
Prefer to self-describe	0 (0.00)	7 (6.54)	0 (0.00)	
Disability, *n* (%)				
Yes	5 (4.90)	0 (0.00)	1 (1.00)	
No	91 (89.22)	101 (94.39)	98 (98.00)	
Prefer not to say	2 (1.96)	2 (1.87)	0 (0.00)	
Prefer to self-describe	4 (3.92)	4 (3.74)	1 (1.00)	
Education Level	4.25 (0.60)	4.55 (0.78)	4.25 (0.63)	.001***
Musical Identity [a]	2.35 (0.93)	4.65 (1.08)	2.31 (0.86)	< .001***
Music Training (Years)	3.64 (4.00)	7.22 (4.05)	3.05 (3.65)	< .001***
Self-construal				
Interdependent	4.73 (0.60)	4.83 (0.60)	5.02 (0.69)	.003**
Independent	4.57 (0.71)	4.79 (0.64)	4.67 (0.76)	.075

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) musician rank item. Musical identity was used because it was reported to be the best single-item measure that represents musical sophistication and musicality (Zhang & Schubert, 2019).
** $p < .01$, *** $p < .001$.

Role of Self-Construal Between Country and Perceived Emotions

We conducted a mediation analysis using Hayes' (2017) PROCESS (v.4.2) Model 4 to assess whether self-construal mediated the relationship between country and perceived emotions. Country was entered as a multicategorical predictor using indicator coding (the U.K. was dummy coded as 0), interdependent and independent self-construals were entered as the mediators, and perceived emotions were entered as the outcome variable. Musical identity and musical training were transformed into a composite musical expertise score (i.e., musician rank item x years of musical training). Age, education level, and musical expertise, which significantly differed between countries, along with gender were included as covariates. All standard errors and confidence intervals were calculated on 5,000 bootstrapped iterations.

Frequency of Socially Engaging Emotions. Using an ordinary least squares (OLS) regression model, we first regressed positive socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.25, t(298) = 2.67, p = .008) and independent self-construal (b = 0.17, t(298) = 2.05, p = .041) were significantly associated with the frequency of positive socially engaging emotions.

Results from the subsequent mediation analysis revealed a significant indirect effect of China-UK on the frequency of positive socially engaging emotions through interdependent self-construal (b = 0.05, SE = 0.0, 95% CI [0.00, 0.12]) but not through independent self-construal (b = 0.02, SE = 0.02, 95% CI [-0.01, 0.07]). Furthermore, the direct effect of China-UK on positive socially engaging emotions, after controlling for both self-construals, remained significant (b = -0.52, SE = 0.17, p = .002). Thus, interdependent self-construal partially mediated the differences in the frequency of positive socially engaging emotions between the China and U.K. sample.

Similarly, the results indicated a significant indirect effect of Singapore-UK on positive socially engaging emotions through interdependent self-construal (b = 0.07, SE = 0.03, 95% CI [0.02, 0.15]) but not through independent self-construal (b = 0.01, SE = 0.02, 95% CI [-0.02, 0.06]). However, the direct effect of Singapore-UK on positive socially engaging emotions, after controlling for both self-construals, was not significant (b = 0.09, SE = 0.15, p = .554). Therefore, interdependent self-construal fully mediated the differences in the frequency of positive socially engaging emotions between the Singapore and U.K. sample.

We then regressed negative socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = -0.02, t(298) = -0.47, p = .639) and independent self-construal (b = 0.01, t(298) = 0.18, p = .858) were not significantly associated with the frequency of negative socially engaging emotions.

Frequency of Socially Disengaging Emotions. We regressed positive socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates.

After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.04, t(298) = 0.78, p = .439) and independent self-construal (b = 0.07, t(298) = 1.53, p = .127) were not significantly associated with the frequency of positive socially disengaging emotions.

We then regressed negative socially disengaging emotions onto both self-construals, along with the dummy coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = -0.08, t(298) = -1.79, p = .230) and independent self-construal (b = -0.05, t(298) = -1.20, p = .075) were not significantly associated with the frequency of negative socially disengaging emotions.

Frequency of Aesthetic Emotions. We regressed aesthetic emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.31, t(298) = 3.77, p < .001), but not interdependent self-construal (b = 0.13, t(298) = 1.37, p = .172), was significantly associated with the frequency of aesthetic emotions.

Results from the subsequent mediation analysis indicated a non-significant indirect effect of China-UK on the frequency of aesthetic emotions through interdependent self-construal (b = 0.02, SE = 0.02, 95% CI [-0.01, 0.08]) and independent self-construal (b = 0.04, SE = 0.03, 95% CI [-0.02, 0.12]). The direct effect of China-UK on aesthetic emotions remained significant after controlling for both self-construals (b = -0.58, SE = 0.17, p < .001). Thus, independent self-construal did not mediate the differences in the frequency of aesthetic emotions between the China and U.K. sample.

Similarly, the results showed a non-significant indirect effect of Singapore-UK on the frequency of aesthetic emotions through interdependent self-construal (b = 0.04, SE = 0.03, 95% CI [-0.01, 0.11]) and independent self-construal (b = 0.03, SE = 0.04, 95% CI [-0.04, 0.10]). The direct effect of Singapore-UK on aesthetic emotions, after controlling for both self-construals, was also not significant (b = -0.04, SE = 0.15, p = .801). Thus, independent self-construal did not mediate the differences in the frequency of aesthetic emotions between the Singapore and U.K. sample.

Frequency of General Emotions. We regressed positive general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.08, t(298) = 0.54, p = .593) and independent self-construal (b = 0.22, t(298) = 1.69, p = .092) were not significantly associated with the frequency of positive general emotions.

We then regressed negative general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = -0.13, t(298) = -1.51, p = .133) and independent self-construal (b = -0.04, t(298) = -0.50, p = .614) were not significantly associated with the frequency of negative general emotions. See Table 3.5 for the mediation analysis results for the frequency of perceived emotions.

Table 3.5 Study Two Mediation Analysis for Frequency of Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
	Positive Socially Engaging Emotions						
Country 1 (China-UK)	**-0.52**	**-0.50**	**0.17**	**-3.13**	**.002****	**-0.85**	**-0.19**
Country 2 (Singapore-UK)	0.09	0.08	0.15	0.59	.554	-0.20	0.37
Interdependent Self-Construal	**0.25**	**0.15**	**0.09**	**2.67**	**.008****	**0.06**	**0.43**
Independent Self-Construal	**0.17**	**0.11**	**0.08**	**2.05**	**.041***	**0.01**	**0.33**
	Negative Socially Engaging Emotions						
Country 1 (China-UK)	**-0.19**	**-0.37**	**0.08**	**-2.27**	**.024***	**-0.35**	**-0.02**
Country 2 (Singapore-UK)	0.04	0.09	0.07	0.61	.542	-0.10	0.19
Interdependent Self-Construal	-0.02	-0.03	0.05	-0.47	.639	-0.11	0.07
Independent Self-Construal	0.01	0.01	0.04	0.18	.858	-0.07	0.09
	Positive Socially Disengaging Emotions						
Country 1 (China-UK)	**-0.19**	**-0.37**	**0.09**	**-2.25**	**.025***	**-0.37**	**-0.02**
Country 2 (Singapore-UK)	-0.14	-0.28	0.08	-1.90	.058	-0.29	0.01
Interdependent Self-Construal	0.04	0.05	0.05	0.78	.439	-0.06	0.13
Independent Self-Construal	0.07	0.09	0.04	1.53	.127	-0.02	0.15
	Negative Socially Disengaging Emotions						
Country 1 (China-UK)	-0.10	-0.21	0.08	-1.27	.207	-0.26	0.06
Country 2 (Singapore-UK)	0.14	0.28	0.07	1.93	.054	-0.00	0.27
Interdependent Self-Construal	-0.08	-0.10	0.04	-1.79	.230	-0.17	0.01
Independent Self-Construal	-0.05	-0.07	0.04	-1.20	.075	-0.13	0.03
	Aesthetic Emotions						
Country 1 (China-UK)	**-0.58**	**-0.54**	**0.17**	**-3.44**	**< .001*****	**-0.91**	**-0.25**
Country 2 (Singapore-UK)	-0.04	-0.03	0.15	-0.25	.801	-0.33	0.25
Interdependent Self-Construal	0.13	0.08	0.09	1.37	.172	-0.06	0.48
Independent Self-Construal	**0.31**	**0.21**	**0.08**	**3.77**	**< .001*****	**0.15**	**0.31**
Musical Expertise	**0.02**	**0.30**	**0.00**	**4.53**	**< .001*****	**0.01**	**0.02**
	Positive General Emotions						
Country 1 (China-UK)	-0.45	-0.28	0.26	-1.72	.087	-0.96	0.07
Country 2 (Singapore-UK)	-0.16	-0.10	0.23	-0.69	.491	-0.61	0.29
Interdependent Self-Construal	0.08	0.03	0.14	0.54	.593	-0.21	0.36
Independent Self-Construal	0.22	0.10	0.13	1.69	.092	-0.04	0.47
Musical Expertise	**0.01**	**0.15**	**0.01**	**2.21**	**.028***	**0.00**	**0.02**
	Negative General Emotions						
Country 1 (China-UK)	-0.23	-0.24	0.16	-1.45	.148	-0.54	0.08
Country 2 (Singapore-UK)	**0.36**	**0.37**	**0.14**	**2.57**	**.011***	**0.08**	**0.63**
Interdependent Self-Construal	-0.13	-0.87	0.09	-1.51	.133	-0.30	0.04
Independent Self-Construal	-0.04	-0.03	0.08	-0.50	.614	-0.19	0.11

Note. CI = confidence interval; LL = lower limit; UL = upper limit. While covariates (age, gender, education, and musical expertise) are included in all models, only the statistically significant covariates are reported here. Full results can be found in Supplementary Materials Appendix J and K. Bold values indicate statistical significance.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Intensity of Socially Engaging Emotions. Using an OLS regression model, we first regressed positive socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.45, t(298) = 2.08, p = .039), but not interdependent self-construal (b = 0.41, t(298) = 1.70, p = .089), was significantly associated with the intensity of positive socially engaging emotions.

Results from the subsequent mediation analysis showed a non-significant indirect effect of China-UK on the intensity of positive socially engaging emotions through interdependent self-construal (b = 0.03, SE = 0.03, 95% CI [-0.01, 0.09]) and independent self-construal (b = 0.02, SE = 0.02, 95% CI [-0.01, 0.07]). The direct effect of China-UK on positive socially engaging emotions was also not significant after controlling for both self-construals (b = -0.23, SE = 0.43, p = .591). Thus, independent self-construal did not mediate the differences in the intensity of positive socially engaging emotions between the China and U.K. sample.

Similarly, the results revealed a non-significant indirect effect of Singapore-UK on the intensity of positive socially engaging emotions through interdependent self-construal (b = 0.05, SE = 0.03, 95% CI [-0.01, 0.12]) and independent self-construal (b = 0.01, SE = 0.02, 95% CI [-0.02, 0.06]). The direct effect of Singapore-UK on positive socially engaging emotions, after controlling for both self-construals, was also not significant (b = 0.65, SE = 0.38, p = .088). Therefore, independent self-construal did not mediate the differences in the intensity of positive socially engaging emotions between the Singapore and U.K. sample.

We then regressed negative socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country differences, the results showed that interdependent self-construal (b = 0.03, t(298) = 0.15, p = .881) and independent self-construal (b = 0.15, t(298) = 0.85, p = .396) were not significantly associated with the intensity of negative socially engaging emotions.

Intensity of Socially Disengaging Emotions. We regressed positive socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country differences, the results showed that interdependent self-construal (b = 0.11, t(298) = 0.54, p = .593) and independent self-construal (b = 0.25, t(298) = 1.31, p = .191) were not significantly associated with the intensity of positive socially disengaging emotions.

We then regressed negative socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country differences, the results showed that interdependent self-construal (b = -0.24, t(298) = -1.47, p = .142) and independent self-construal (b = -0.20, t(298) = -1.37, p = .170) were not significantly associated with the intensity of negative socially disengaging emotions.

Intensity of Aesthetic Emotions. We regressed aesthetic emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country

differences, the results showed that independent self-construal (b = 0.58, t(298) = 2.52, p = .012), but not interdependent self-construal (b = 0.22, t(298) = 0.85, p = .395), was significantly associated with the intensity of aesthetic emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the intensity of aesthetic emotions through interdependent self-construal (b = 0.01, SE = 0.02, 95% CI [-0.02, 0.07]) and independent self-construal (b = 0.03, SE = 0.02, 95% CI [-0.01, 0.08]). The direct effect of China-UK on aesthetic emotions was not significant after controlling for both self-construals (b = -0.67, SE = 0.46, p = .149). Thus, independent self-construal did not mediate the differences in the intensity of aesthetic emotions between the China and U.K. sample.

Similarly, the results showed a non-significant indirect effect of Singapore-UK on the intensity of aesthetic emotions through interdependent self-construal (b = 0.02, SE = 0.03, 95% CI [-0.03, 0.09]) and independent self-construal (b = 0.02, SE = 0.02, 95% CI [-0.03, 0.07]). The direct effect of Singapore-UK on aesthetic emotions, after controlling for both self-construals, was also not significant (b = 0.19, SE = 0.41, p = .641). Therefore, independent self-construal did not mediate the differences in the intensity of aesthetic emotions between the Singapore and U.K. sample.

Intensity of General Emotions. We regressed positive general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country differences, the results showed that interdependent self-construal (b = 0.25, t(298) = 0.99, p = .325) and independent self-construal (b = 0.29, t(298) = 1.31, p = .192) were not significantly associated with the intensity of positive general emotions.

We then regressed negative general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After controlling for between-country differences, the results showed that interdependent self-construal (b = -0.05, t(298) = -0.20, p = .843) and independent self-construal (b = -0.02, t(298) = -0.08, p = .935) were not significantly associated with the intensity of negative general emotions. See Table 3.6 for the mediation analysis results for the intensity of perceived emotions. The full mediation results can be found in Supplementary Materials Appendix J and K.

Table 3.6 Study Two Mediation Analysis for Intensity of Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
			Positive Socially Engaging Emotions				
Country 1 (China-UK)	-0.23	-0.09	0.43	-0.54	.591	-1.09	0.62
Country 2 (Singapore-UK)	0.65	0.24	0.38	1.71	.088	-0.10	1.41
Interdependent Self-Construal	0.41	0.10	0.24	1.70	.089	-0.06	0.88
Independent Self-Construal	**0.45**	**0.12**	**0.21**	**2.08**	**.039***	**0.02**	**0.87**
			Negative Socially Engaging Emotions				
Country 1 (China-UK)	-0.55	-0.26	0.34	-1.59	.114	-1.23	0.13
Country 2 (Singapore-UK)	0.31	0.15	0.30	1.02	.308	-0.29	0.91
Interdependent Self-Construal	0.03	0.01	0.19	0.15	.881	-0.19	0.40
Independent Self-Construal	0.15	0.05	0.17	0.85	.396	-0.35	0.48
			Positive Socially Disengaging Emotions				
Country 1 (China-UK)	-0.61	-0.26	0.38	-1.60	.111	-1.36	0.14
Country 2 (Singapore-UK)	-0.61	-0.26	0.34	-1.81	.072	-1.27	0.05
Interdependent Self-Construal	0.11	0.03	0.21	0.54	.593	-0.30	0.53
Independent Self-Construal	0.25	0.08	0.19	1.31	.191	-0.12	0.62
			Negative Socially Disengaging Emotions				
Country 1 (China-UK)	-0.31	-0.17	0.29	-1.06	.291	-0.89	0.27
Country 2 (Singapore-UK)	0.34	0.19	0.26	1.31	.190	-0.17	0.85
Interdependent Self-Construal	-0.24	-0.09	0.16	-1.47	.142	-0.56	0.08
Independent Self-Construal	-0.20	-0.08	0.15	-1.37	.170	-0.48	0.09
			Aesthetic Emotions				
Country 1 (China-UK)	-0.67	-0.24	0.46	-1.45	.149	-1.57	0.24
Country 2 (Singapore-UK)	0.19	0.07	0.41	0.47	.641	-0.61	0.99
Interdependent Self-Construal	0.22	0.05	0.26	0.85	.395	-0.28	0.72
Independent Self-Construal	**0.58**	**0.14**	**0.23**	**2.52**	**.012***	**0.13**	**1.02**
Musical Expertise	**0.03**	**0.21**	**0.01**	**3.03**	**.003****	**0.01**	**0.05**
			Positive General Emotions				
Country 1 (China-UK)	-0.28	-0.10	0.45	-0.62	.538	-1.16	0.61
Country 2 (Singapore-UK)	-0.21	-0.08	0.40	-0.52	.604	-0.98	0.57
Interdependent Self-Construal	0.25	0.06	0.25	0.99	.325	-0.24	0.74
Independent Self-Construal	0.29	0.08	0.22	1.31	.192	-0.15	0.73
			Negative General Emotions				
Country 1 (China-UK)	**-0.86**	**-0.32**	**0.43**	**-2.01**	**.045***	**-1.69**	**-0.02**
Country 2 (Singapore-UK)	**0.97**	**0.36**	**0.37**	**2.60**	**.009****	**0.24**	**1.71**
Interdependent Self-Construal	-0.05	-0.01	0.24	-0.20	.843	-0.51	0.42
Independent Self-Construal	-0.02	-0.00	0.21	-0.08	.935	-0.43	0.40
Age	**0.11**	**0.12**	**0.05**	**2.04**	**.042***	**0.00**	**0.22**
Gender	**0.63**	**0.14**	**0.26**	**2.46**	**.015***	**0.13**	**1.14**

Note. CI = confidence interval; LL = lower limit; UL = upper limit. While covariates (age, gender, education, and musical expertise) are included in all models, only the statistically significant covariates are reported here. Full results can be found in Supplementary Materials Appendix J and K. Bold values indicate statistical significance.

* $p < .05$, ** $p < .01$.

Discussion of Study Two

Study Two incorporated a listening experiment with participants from three countries to investigate the role of self-construal in the perception of emotions expressed by favorite music across cultures. We found partial support for our hypotheses: only interdependent self-construal mediated the relationship between country and the frequency of positive socially engaging emotions perceived in favorite music. This mediation effect supports the notion that cultural contexts shape self-construal, which in turn influences both the music individuals prefer and the types of emotions they perceive in it (Markus & Kitayama, 1991, 2010). Our findings align with previous research showing that individuals from collectivistic cultures report socially engaging emotions more frequently in everyday contexts compared to those from individualistic cultures (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). Unlike most studies, which operationalized collectivism and individualism by comparing East Asian and Western countries, this study highlights the positive relationship between interdependent self-construal and socially engaging emotions in the music domain.

Furthermore, the results revealed a significant positive correlation between interdependent self-construal and the frequency of positive socially engaging emotions, underscoring its impact on the emotion perception of favorite music across and within cultural contexts. Although cultural contexts may affect the types of music individuals have access to, the prevailing self-construal plays a crucial role in influencing the meaning-making processes individuals engage in as they listen to their preferred music. These processes ultimately shape the emotions they perceive. Specifically, interdependent self-construal, with its emphasis on intersubjectivity, likely enhances sensitivity to socially engaging emotions, affective states that promote social bonding.

Contrary to our hypothesis, independent self-construal did not mediate the relationship between country and socially disengaging emotions perceived in favorite music. Instead, our findings revealed that independent self-construal was significantly positively associated with the frequency and intensity of positive socially engaging emotions. These results diverge from previous research, which demonstrated that individuals from individualistic cultures reported more frequent and intense socially disengaging emotions than those from collectivistic cultures (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). This discrepancy may stem from differences in the contexts in which emotions were examined. While prior studies focused on emotions in everyday social contexts, our research explored emotions within the music domain. It is plausible that participants in our study did not prefer music that conveys socially disengaging emotions.

A cursory review of participants' reported favorite music titles and artists (see Supplementary Materials Appendix I) indicated that many songs featured themes of love and social connection. Examples include *Lovers Forever* by Benjamin Kheng, *Always With Me* (亲爱的旅人啊) by Zhou

Shen (周深), and *Miss Missing You* by Fall Out Boy. These selections reflect broader trends in popular music, which showed that social connectedness words were more prevalent than self-focus or group-focus words in the lyrics of famous songs from Canada and the U.S. (Blais-Rochette et al., 2022). Furthermore, music is a complex stimulus, where lyrics may reflect both interdependent and independent self-construal. For instance, songs like *When I Was Your Man* by Bruno Mars, *What I Miss* (我怀念的) by Stefanie Sun (孙燕姿), and *I Won't Give Up* by Jason Mraz explore themes of love while simultaneously emphasizing individual agency. These cursory findings suggest that participants' preferred music choices, steeped in interdependent themes yet tinged with independent elements, may explain the observed association between independent self-construal and socially engaging emotions. This also implies that, while music preferences are often highly personal, individuals across cultural contexts may gravitate toward music that conveys socially engaging emotions (Boer et al., 2012; Boer & Fischer, 2012; Granot et al., 2021). Collectively, these findings support the idea that music is universally important for social cohesion (Savage et al., 2021; Tarr et al., 2014; Trehub et al., 2015). Future research could conduct a more thorough analysis of the participants' reported favorite music, examining the relationship between musical elements (including lyrics) and self-construal.

Our study also showed that independent self-construal was significantly positively correlated with the frequency and intensity of aesthetic emotions perceived in favorite music. Aesthetic emotions are defined as discrete emotions that invariably entail an appreciation of the object being evaluated, such as music (Menninghaus et al., 2019). This conceptualization contrasts markedly with Asian aesthetics. For example, Japanese aesthetics eschew the concept of the subject and the need for transcendence, focusing instead on the experience *hic et nunc* (Sasaki, 2011). Similarly, Chinese aesthetics prioritize the moral and educational functions of music, emphasizing its role in fostering social harmony rather than valuing beauty as an isolated construct (J. Liu, 2013).

These differences suggest that current theorizing and understanding of aesthetic emotions in music are predominantly rooted in Western philosophical traditions and, by extension, Western models of emotions. Consequently, these emotions may align more closely with individualistic or independent models of self. Individuals with a stronger independent self-construal might focus more on their personal experiences with their favorite music, making them more sensitive to aesthetic experiences. They may also be more inclined to critically evaluate the music or express personal judgments about it. Conversely, individuals with a stronger interdependent self-construal may exhibit greater humility and be less inclined to pass personal judgment on another person's work. Alternatively, they might base their aesthetic judgments on the reactions of others rather than relying solely on their perceptions. Since participants in this study listened to their favorite music alone, they lacked the social cues from others that might typically inform their aesthetic judgments. This may explain the positive relationship between independent self-construal and the perception of aesthetic

emotions in favorite music. Future research could explore this hypothesis further by comparing participants from other Western countries or independent cultures and conducting group listening experiments.

General Discussion

The central aim of this paper was to investigate the role of self-construal in the perception of emotions expressed in favorite music across cultures. Through two studies, we examined whether self-construal, both within and between cultures, was associated with the frequency and intensity of emotions perceived in favorite music.

Our studies provided converging evidence of the association between interdependent self-construal and socially engaging emotions perceived in favorite music. In Study One, within-region variation in interdependent self-construal was positively associated with the intensity of positive socially engaging emotions. Study Two further demonstrated that interdependent self-construal not only directly influenced the frequency of positive socially engaging emotions but also mediated between-country differences in these emotions perceived when participants listened to their favorite music. Collectively, these findings extend previous cross-cultural research on emotions in two significant ways. First, they expand research from everyday emotional contexts to the music domain. Second, they move beyond cross-cultural comparisons between countries to emphasize the role of interdependent self-construal in shaping socially engaging emotions perceived in music. These results illustrate that positive socially engaging emotions – such as love, affection, and connectedness – are conveyed through individuals' favorite music both within and across cultures, supporting music's universal capacity to foster social bonds and bring people together (I. Cross, 2001; Savage et al., 2021; Tarr et al., 2014; Trehub et al., 2015).

Our studies provided limited evidence of an association between independent self-construal and socially disengaging emotions perceived in favorite music. In Study One, between-region variation in independent self-construal was linked to the frequency of negative socially disengaging emotions. However, this association was not observed in Study Two. We propose that this discrepancy may be attributed to differences in methodologies. Study One asked participants to recall their favorite music and its associated emotions, likely encouraging them to reflect on general impressions. In contrast, Study Two required participants to listen to their favorite music, which may have heightened their awareness of specific emotions conveyed in the music. Another possible explanation lies in the introspective nature of recalling memories and emotions, which inherently focuses on the individuals' experience. This process might have unintentionally primed independent self-construals during Study One, emphasizing personal affective responses to music. In Study Two, the real-time listening component may have shifted participants' focus toward the music instead. These methodological differences may account for the inconsistent findings between the two studies.

We initially assumed that individuals with a more dominant independent self-construal would prefer music that emphasizes their personal subjective experience and individuality. However, across

both studies, participants appeared to prefer music that highlighted their intersubjectivity and social connections. A cursory review of participants' favorite music titles and artists from Study One (see Supplementary Materials Appendix G) revealed that their favorite music often reflected interdependent themes, similar to those observed in Study Two. Examples include *Codinome Beija-Flor* by Cazuza, *Euphoria* by BTS, and *Can't Help Falling in Love* by Elvis Presley. That said, some participants' musical selections potentially conveyed socially disengaging emotions, such as *Dynamite* by BTS, *Speechless* by Naomi Scott, *I Am What I Am* (我) by Leslie Cheung (张国荣), and *My Way* by Frank Sinatra. These choices indicate that socially disengaging emotions may be present but are not dominant in participants' music preferences. Future research could conduct a more thorough analysis of participants' favorite music, examining the prevalence of these emotions expressed in music. Future research could also directly investigate the relationship between independent self-construal and socially disengaging emotions by employing music stimuli that explicitly conveys (or are intended to convey) such emotions.

Our studies also revealed other significant associations. In Study One, between-region variation in independence was linked to the frequency of negative general emotions, while within-region variation in independent self-construal was associated with the intensity of positive general emotions perceived in favorite music. Study Two, however, found a significant direct effect of independent self-construal on the frequency and intensity of aesthetic emotions. Similarly, we argue that this inconsistency may be explained by the different methods used in each study.

Previous research has shown that although melodies tend to be better remembered than lyrics, lyrics serve as more effective cues for recalling specific music (Peynircioğlu et al., 2008). Consequently, it is possible that participants in Study One relied on lyrics to recall semantic knowledge about their favorite music. Furthermore, cultural differences in auditory processing may have influenced these results. For instance, Asians (Japanese and Filipinos) have been found to focus more on auditory context, whereas North Americans prioritize word meanings (Ishii et al., 2003, 2010; Kitayama & Ishii, 2002). Taken together, these findings suggest that participants with a more dominant independent self-construal, alongside the memory recall method that could have primed independent self-construal, might have used lyrics to recall and decode the emotions expressed by their favorite music, leading to the observed associations with positive and negative general emotions in Study One. In contrast, participants in Study Two listened to their favorite music, engaging with it as a holistic stimulus. This listening experience likely shifted their focus toward the music as a gestalt, potentially facilitating the perception of aesthetic emotions. This methodological difference might account for the observed association between independent self-construal and aesthetic emotions in Study Two. Future research could investigate this further by examining how self-construal influences the use of musical and lyrical cues in decoding musically expressed emotions. Such research could clarify whether these mechanisms vary across cultures and musical contexts.

Our findings raise several questions for future research. For instance, since music comprises a gestalt of multiple components (i.e., lyrics, melody, timbre, harmony, rhythm, tempo, etc.), how does self-construal, both between and within cultures, influence the use of these elements to decode musically expressed emotion? Additionally, how might self-construal shape musicians' use of these components to convey emotions through music across diverse cultural contexts?

One strength of our approach is that it extends previous cross-cultural research in music psychology regarding music preferences, functions of music, and perception of emotion in music, which has mostly compared individuals from different countries. By articulating specific psychological mechanisms, such as self-construal, our study goes beyond the influence of enculturation and familiarity with specific music cultures. This allows us to explore why and how people from different cultures perceive emotions in music. Furthermore, our inclusion of participants' culturally relevant music, namely their favorite music which spans a wide array of styles, broadens the scope beyond classical music genres typically studied in cross-cultural music emotion research.

Another critical contribution is the inclusion of culturally informed models of emotions. Previous cross-cultural research in music psychology has predominantly adopted discrete (or basic) emotion models grounded in Western paradigms that conceptualize emotions as intrapsychic experiences. The preponderance of Western emotion models in cross-cultural research limits the exploration of cultural diversity in affective experiences with music. By employing culturally informed emotion models (i.e., interpersonal vs. intrapersonal), alongside culturally relevant music (i.e., favorite music) and specific cultural factors (i.e., self-construal), we were able to account for emotions recognized across both non-Western and Western cultures, such as socially engaging and socially disengaging emotions. This approach also allowed us to address both individual- and group-level cultural variations. For cross-cultural research in music psychology to thrive, we advocate that as researchers, we should make explicit our epistemological and ontological assumptions, and embrace both etic and emic theoretical perspectives. This balanced approach ensures a deeper understanding of the diversity and complexity of emotional experiences with music across cultures.

Since this paper examined cross-cultural differences in emotion perception through the lens of preferred music, our findings may also contribute to understanding why certain music becomes a favorite. Two theories underpin the relationship between music preference and cultural identity (Boer et al., 2013). The identity expression theory posits that identity drives music preferences; specifically, self-construal influences the music individuals prefer. Our findings indicate that regardless of whether individuals have a dominant interdependent or independent self-construal, they tend to prefer music that conveys socially engaging emotions. This may reflect music's universal role in social bonding (Savage et al., 2021; Tarr et al., 2014; Trehub et al., 2015), making music that expresses socially engaging emotions particularly appealing across cultures.

The identity construction theory, on the other hand, claims that music preferences shape identity, meaning that individuals use music to construct specific self-construals. However, our

findings challenge this idea. If identity were shaped by music preference, individuals with a dominant independent self-construal would be expected to prefer music that conveys socially disengaging emotions, aligning with prior cross-cultural research. Yet, our results do not support this expectation. An important caveat is that this paper focused on emotion perception rather than felt emotion. Research has shown that perceived and felt emotions do not always align (Evans & Schubert, 2008; Kawakami et al., 2013). Thus, it is possible that for individuals with dominant independent self-construals, listening to music that conveys socially engaging emotions may paradoxically evoke socially disengaging emotions. This poses an intriguing hypothesis for future research.

Even as we consider the strengths of our studies, we also acknowledge its limitations. First, the unequal distribution of participants across regions (Study One) and the differences in age, education levels, and musical expertise between groups (Study Two), poses a limitation. Studies have shown that these factors may influence emotional responses to music to varying degrees (Di Mauro et al., 2018; Kawakami et al., 2013; Ladinig & Schellenberg, 2012; Pearce & Halpern, 2015; Vieillard et al., 2012). We included these demographic variables as covariates in Study Two, which minimized the impact of these limitations. Nevertheless, future research should aim to replicate our findings with more comparable samples across cultures to enhance the generalizability of the results. Second, our research examined cross-cultural differences in the perception of emotions using only a single favorite music selection. This choice was made due to practical constraints (i.e., questionnaire length) but may have limited our ability to detect differences. Also, the decision to use favorite music was grounded in prior evidence showing that personality and cultural identity were associated with music preferences (Dys et al., 2017; Huang et al., 2020; Marshall & Naumann, 2018; Rentfrow & Gosling, 2006). Consequently, an individual's prevailing self-construal may be reflected in their favorite music and its expressed emotions. We acknowledge that certain musical features may inherently afford specific kinds of emotions, and so future research could standardize and utilize multiple music stimuli to systematically examine cross-cultural differences and similarities when perceiving different types of emotions in music. Additionally, this paper focused on the emotions that participants perceived in their favorite music. We acknowledge that distinguishing between perceived emotions (those recognized in the music) and felt emotions (those experienced while engaging with music) can be challenging. To address this issue, our studies explicitly emphasized this distinction to participants by using separate questions to assess perceived and felt emotions. This approach aimed to minimize ambiguity and ensure clarity in participants' responses. Third, our study utilized a cross-sectional survey design, precluding causal inferences between self-construal and the perception of emotions in music. One plausible theoretical explanation for our findings is that individuals' emotional experiences while recalling or listening to their favorite music might activate a particular self-construal. While we are unable to address this limitation within our current design, it would be prudent to suggest that self-construal and music experience influence each other, based on the notion that the self and cultural factors mutually constitute one another (Markus & Kitayama, 2010). This

dynamic interaction more likely influences the emotions perceived when listening to music. Fourth, the categorization of emotions was determined a priori. While this approach provides a structured framework for analysis, we acknowledge that emotions are inherently nuanced within and between cultures, and may not neatly fit into discrete categories. Also, the granularity of emotions selected across participants may have influenced our results (Barrett, 2004; Kashdan et al., 2015). Nonetheless, our findings underscore the value of incorporating culturally sensitive models of emotions in cross-cultural research, enabling a more nuanced understanding of how culture shapes emotional experiences.

In conclusion, our research highlights the importance of integrating specific cultural dimensions (i.e., self-construal) and embracing culturally informed emotion frameworks in cross-cultural explorations of emotion perception in music. Our findings suggest that different ways of engaging with music (i.e., recalling music in Study One and listening to music in Study Two) can influence the types of emotions perceived. These studies provide novel evidence of the role of self-construal in shaping emotion perception in music across and within cultures. Specifically, interdependent self-construal was consistently linked to positive socially engaging emotions in favorite music, while independent self-construal was associated with negative socially disengaging emotions. Independent self-construal was also associated with positive and negative general emotions, as well as aesthetic emotions. These results demonstrate that the cultural shaping of emotions in everyday contexts also extends to the music domain. In essence, our research reveals that our sense of self, specifically the degree to which we perceive ourselves as interconnected or distinct, influences both the frequency and intensity of emotions perceived in personally meaningful music. This research introduces a novel approach to cross-cultural investigations of emotion perception in music. By examining the role of self-construal, incorporating culturally relevant forms of music, and adopting culturally informed models of emotions, we contribute a more nuanced understanding of cultural diversity in music psychology.

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CHAPTER FOUR

"I haven't understood a bar of music in my life, but I have felt it."

– Igor Stravinsky

Overview

Scholars within music psychology have differentiated perceived and felt emotion in music. This chapter focuses on felt emotion, which refers to the emotional responses that music elicits in the listener. It addresses the research question: how does self-construal, both between and within cultures, affect the emotions elicited by favourite music?

Abstract

Cross-cultural research on music and emotion has expanded in recent years, yet our understanding of how culture shapes music-evoked emotions remains limited. This is partly due to narrow conceptualizations and operationalizations of culture. This paper presents two studies that address these gaps by incorporating cultural factors (self-construal, referring to how people view themselves with respect to others) and utilizing culturally informed emotion models (socially engaging vs. socially disengaging). Study One employed an online questionnaire, where participants from diverse cultural backgrounds reflected on the emotions elicited by their favorite music. Results revealed that independent self-construal was positively associated with the frequency of negative socially disengaging emotions and the intensity of positive general emotions. Study Two involved a listening experiment with participants from Singapore, China, and the U.K., who reported their emotional responses after listening to their favorite music. This study showed that interdependent self-construal directly influenced the frequency and intensity of socially engaging emotions and mediated cross-country differences in these emotions. Independent self-construal was positively linked to the frequency and intensity of positive socially disengaging emotions and aesthetic emotions, as well as the frequency of positive general emotions. These findings highlight the importance of specifying cultural variables and integrating culturally informed emotion models in cross-cultural research. Additionally, the studies suggest that different methodologies – listening to music versus reflecting on it – significantly affect results when examining music-evoked emotions between cultures. Overall, this research demonstrates the critical role of self-construal in shaping affective responses to music within and across cultures.

Keywords: culture, self, self-construal, preferred music, felt emotion

Feeling Socially (Dis)Engaging Emotions with Favorite Music: The Role of Self-Construal Across Cultures

Music's ability to evoke emotions is undeniable. There is empirical evidence showing that people from cultures all around the world experience a wide array of emotions when listening to music (Swaminathan & Schellenberg, 2015). Some researchers emphasized similarities in the emotions felt during music listening, while others highlighted cross-cultural differences in felt emotions (e.g., Juslin et al., 2016). Although cross-cultural research in music and emotion has flourished in the last decade (Sauvé et al., 2023), our understanding of how culture influences music-evoked emotions remains limited. This is because previous research utilized narrow conceptualizations and operationalizations of culture (Tang, 2024). For example, cross-cultural research in music psychology mostly examined how familiarity with certain musical genres influences emotion perception, leaving open the question of the exact mechanism by which culture impacts the types of emotions experienced. Furthermore, previous studies adopted Western models of emotion which assumes that emotions are intrapsychic experiences that belong to the individual (Becker, 2010; Tsai & Clobert, 2019). Since music reflects cultural meanings and individuals embody diverse cultural values (Andrews et al., 2022; Stalinski & Schellenberg, 2012), an individual's affective response to music is culturally inflected. In other words, music and listeners share a symbiotic relationship, wherein they continuously define and shape each other through ongoing, interactive exchanges of musical elements and listener perceptions (Becker, 2010; Clarke, 2011; Frith, 1996; Tang, 2024). The purpose of this paper is to advance our understanding of how culture influences felt emotions with music by directly investigating specific cultural factors and adopting culturally informed models of emotions.

Cross-Cultural Research on Music-Evoked Emotions

Music psychologists have differentiated perceived and felt emotions in music (Juslin, 2016). Perceived emotion refers to how individuals recognize emotions expressed in music, without necessarily feeling an emotion. Felt emotion, on the other hand, refers to individuals' affective response to music. In this paper, we focus on the latter, the emotions evoked in the listener through music.

Cross-cultural studies have examined the influence of cultural background on felt emotions in music. Several studies compared the affective response of individuals of different nationalities and ethnicities (Egermann et al., 2015; Gregory & Varney, 1996; Midya et al., 2019; Taruffi & Koelsch, 2014). For example, Ornoy (2022) examined whether Israeli Arabs and Israeli Jews report similar types and intensity of emotions while listening to European art music. Other studies investigated the affective response of individuals while listening to various musical genres (Beier et al., 2020; Cowen et al., 2020; Egermann et al., 2015) and specific musical elements (Fang et al., 2017; Hoshino, 1996; Midya et al., 2019). For instance, Gregory and Varney (1996) compared the emotional responses of

participants from European and Asian cultural backgrounds when listening to Western classical, classical Indian, and New Age music. Taken together, these studies shed light on (cross-cultural) similarities and differences in the music-evoked emotions experienced by people from different cultural contexts and while listening to music from different cultures, including their own. Apart from recruiting culturally diverse participants and using cultural products, these studies did not investigate the exact psychological mechanism by which culture influences felt emotions with music. Instead, these studies merely examined how familiarity with and exposure to certain genres of music influences felt emotions.

A few studies adopted approaches found in the field of cross-cultural psychology, namely by comparing collectivistic and individualistic cultures (Juslin et al., 2016; Saarikallio et al., 2021). The researchers chose the dimension of collectivism-individualism because there is empirical evidence demonstrating its impact on emotions in a variety of everyday contexts (Hofstede, 2001; Triandis, 1994) and is considered promising within a music-emotion context (Boer & Fischer, 2012). In collectivistic cultures, the centrality of the collective (e.g., family, social group, etc.) takes precedence such that individuals tend to prioritize group goals over individual goals. In individualistic cultures, it is the centrality of the autonomous individual which guides behaviors. Using an online survey, both Juslin et al. (2016) and Saarikallio et al. (2021) compared music-evoked emotions between individuals from collectivistic cultures (i.e., Brazil, Kenya, Portugal, and India) and individualistic cultures (i.e., Australia, Sweden, the U.S., and Finland). They found that emotions such as peaceful-transcendence, nostalgia-longing, and joy-happiness were more prevalent in collectivistic cultures, whereas sadness-melancholy and power-empowerment were more common in individualistic cultures. Consequently, the researchers attributed these cross-cultural differences in music-evoked emotions to the norms and values that characterize collectivistic and individualistic societies.

Two key limitations of the abovementioned studies should be considered. Firstly, participants in both studies (Juslin et al., 2016; Saarikallio et al., 2021) were recruited from collectivistic countries on the basis of their low scores on Hofstede's (2001) index of individualism. Ostensibly, the researchers used nationality as a proxy of these cultural dimensions. However, scholars have argued that collectivism-individualism are orthogonal dimensions such that individuals may possess both values simultaneously (Gelfand et al., 1996; Lee et al., 2019). Additionally, the increasing prevalence of individualism in numerous societies worldwide casts doubt on the appropriateness of relying on country and nationality as a means of operationalizing these cultural values (Santos et al., 2017). Therefore, comparison across nation-states ignores the heterogeneity found within national cultures and the permeability of the boundaries by which a cultural construct such as collectivism-individualism might operate. Culture is not an unchanging set of beliefs and values held by people (Markus & Kitayama, 2010). Rather, it comprises patterns of ideas, practices, institutions, or artifacts generated by people, who are also influenced by culture. By this definition, drawing inferences based

solely on differences between groups of people (e.g., Asians vs. Westerners) is insufficient for elucidating cultural distinctions.

Secondly, the abovementioned studies mostly utilized self-report measures based on discrete (or basic) emotion models (e.g., happiness, anger, sadness, and tenderness; Ekman, 1992; Izard, 1992), dimensional emotion models (e.g., two-dimensional circumplex model comprising valence and arousal; Russell, 1980), miscellaneous emotion models (e.g., preference, similarity; Eerola & Vuoskoski, 2013), and aesthetic emotions (i.e., emotions that are uniquely relevant to music; Coutinho & Scherer, 2017; Zentner et al., 2008). Implicitly, these models are grounded in Western theorizing of emotions which assumes that emotions are inner psychological phenomena that pertain to the individual, separate from the situation or relationships (Becker, 2010; Tsai & Clobert, 2019). Such emotions may not be reflective of the affective experience of people from non-Western cultures. In comparing Javanese music to Western music, Benamou (2003) found cross-cultural differences between the internal structure and connotations of Javanese and Western emotion categories. In comparing Chinese and Western music, Cowen et al. (2020) found 13 distinct types of music-evoked emotions in both cultures. Furthermore, they found that specific feelings such as amusement and triumph were better preserved across cultures than valence and arousal dimensions, which goes against theoretical claims that valence and arousal are the building blocks of affective experience.

To overcome this limitation, some researchers employed different methodologies. For example, Hoshino (1996) used the Color Symbolism Test and Fang et al. (2017) used the Self-Assessment Manikin to measure emotions induced by music. Whilst insightful, using alternative emotion measures makes it difficult to compare with research that used other emotion scales. Other researchers utilized physiological measures (e.g., respiration, blood volume pulse, electrodermal activity, etc.; Egermann et al., 2015) or examined purported universal music-evoked affective responses such as chills (Beier et al., 2020). Such approaches provide empirical evidence that music may indeed elicit emotions in listeners from different cultures. Nevertheless, it leaves unanswered the question of whether there is diversity in the spectrum of music-evoked emotional experiences across cultures. To address these challenges, better conceptualizations and operationalizations of culture, as well as better tools to measure music-evoked emotions across cultures are needed.

Culture, Self-Construal, and Emotions

We define culture as an expansive set of material and symbolic concepts that guide individuals' thoughts, feelings, and actions (Adams & Markus, 2004; Markus & Hamedani, 2019). Based on this definition, culture may reside "outside the head" in cultural products and practices (e.g., music) as well as pervasive ideas (e.g., collectivistic and individualistic values; Morling, 2016). Culture may also reside "inside the head" in individuals through psychological constructs such as motivation, cognition, and emotion (Morling, 2016). Fundamental to this conceptualization is the notion that culture and individuals are continually and mutually constituting one another; as cultural content changes, the mediating self and psychological functioning changes as well (Markus &

Kitayama, 2010; Tang, 2024). Reflecting on this theoretical framework, the abovementioned studies have mostly investigated how "outside the head" cultural elements influence emotional responses to music. Specifically, previous studies employed music stimuli from different countries (i.e., cultural products and practices) and recruited participants from various cultural contexts including collectivistic and individualistic cultures (i.e., pervasive ideas). What is missing is the role played by specific psychological processes elicited within individuals ("inside the head" cultural elements) when music evokes emotions.

Markus and Kitayama (1991) posited that national differences in collectivism and individualism give rise to interdependent and independent self-construals respectively. Self-construals refer to how people view themselves with respect to others. There is empirical evidence from research in cultural psychology that people of non-Western, primarily East Asian cultures, have a more dominant interdependent self-construal: the self is viewed as embedded within the social context and minimally differentiated from close others (Cross et al., 2011; Markus & Kitayama, 1991, 2010). In contrast, the evidence suggests that people of Western cultures have a more dominant independent self-construal: the self is viewed as a relatively integrated entity, separate from others against a social and natural backdrop. Although collectivism-individualism and interdependent-independent self-construals are conceptually similar, these constructs represent different levels of analysis, with the former describing large-scale entities such as nation-states and the latter representing individual-level components.

Self-construal theory acknowledges that individuals are not passive agents of the cultures that they belong to, but are consciously or unconsciously reflecting, reinforcing, and changing the cultures that they are part of (Hong & Mallorie, 2004; Markus & Kitayama, 2010; Oyserman, 2011). Returning to the idea that people may possess collectivistic and individualistic values at the same time (Gelfand et al., 1996; Lee et al., 2019), individuals may hold both interdependent and independent self-construals and these selves can vary between and within cultural contexts (Oyserman et al., 2002). In other words, different self-construals may be accessed depending on the prevailing social-cultural situation or environment. Returning to the notion that music engagement is culturally inflected (Becker, 2010; Clarke, 2011; Frith, 1996; Tang, 2024), this suggests that music, as a cultural product reflecting cultural meanings, may provide a means of activating a particular self-construal. Consequently, we need to consider the implications of these self-construals on our music listening experience, such as our affective response to music.

Considerable research has demonstrated that collectivism-individualism or interdependent-independent models of self influence emotional experiences outside of musical contexts (Markus & Kitayama, 1991; Mesquita et al., 2016; Triandis, 1994; Tsai & Clobert, 2019). In collectivistic cultures, emotions are understood to belong to and arise from the relationships between individuals. In individualistic cultures, emotions are understood to reside within and emerge from the individual. In a series of studies, Uchida et al. (2009) found that Japanese participants produced more emotion words

in social contexts, while American participants produced more emotion words when focusing on themselves. For example, Japanese athletes used more emotion words than American athletes when talking about their relationships. Additionally, Japanese students inferred more emotions when athletes mentioned relationships or are pictured with teammates, whereas American students inferred more emotions when athletes focused on themselves or are pictured alone. This suggests that emotions are interpersonal phenomena in interdependent cultures, while emotions are intrapsychic experiences in independent cultures.

Further evidence regarding whether emotions are interpersonal or intrapsychic experiences can be found in Levenson et al.'s (1992) study comparing the emotional responses of participants from the Minangkabau culture of West Sumatra and the U.S. Using physiological and self-report measures of emotions, participants were instructed to pose certain facial expressions individually (i.e., the Directed Facial Action task). The researchers hypothesized that these facial expressions would elicit similar autonomic nervous system (ANS) responses and subjective emotional experiences. Although they found similar patterns of emotion-specific ANS activity between participants from West Sumatra and the U.S., indicating equivalent activation of the physiological component of emotion, the West Sumatran participants did not report experiencing an emotion. For them, emotions necessitated meaningful involvement of another person, and so they did not subjectively report an emotion when they were by themselves.

An important corollary of this conceptualization is that felt emotions are more interpersonally focused in collectivistic cultures whereas emotions are more intrapersonally focused in individualistic cultures (Markus & Kitayama, 1991; Mesquita et al., 2016; Tsai & Clobert, 2019). In collectivistic cultures, the intersubjectivity resulting from interdependence with others takes priority in the affective process. Consequently, individuals with an interdependent self-construal might experience emotions that connect themselves with others (i.e., socially engaging emotions). On the other hand, the personal subjective experience takes priority in the affective process in individualistic cultures, meaning that individuals with an independent self-construal might experience emotions that distinguish themselves from others (i.e., socially disengaging emotions).

Several studies have provided empirical support for these hypotheses (Eid & Diener, 2001; Jakubanecs et al., 2019; Leu et al., 2010). For example, Kitayama et al. (2000, 2006) found that Japanese participants experience socially engaging emotions (e.g., feeling connected, friendly, guilty, ashamed) more frequently and intensely, whereas people from Western cultures (i.e., Germany, the U.K., and the U.S.) experience socially disengaging emotions (e.g., feeling superior to, proud, angry, frustrated) more frequently and intensely. Similar findings have been replicated among children where Japanese children were more prone to feeling shame, Korean children were more prone to feeling guilt, and U.S. children were more prone to feeling pride (Furukawa et al., 2012). Furthermore, Japanese participants perceived shameful situations to be more likely to occur than Americans who perceived angering situations to be more likely to occur (Boiger et al., 2013). Based on these findings,

it is likely that certain culturally relevant music might evoke socially engaging emotions in individuals with interdependent self-construals and socially disengaging emotions in individuals with independent self-construals.

Preferred Music, Self, and Culture

Preferred music, which refers to an individual's preference for one piece of music over another (Hargreaves et al., 2015), is a salient example of culturally relevant music. Numerous studies have linked music preferences to factors such as personality, cultural identity, and cultural values (Boer et al., 2013; Brittin, 2014; Dys et al., 2017; Rentfrow & Gosling, 2006). For example, Huang et al. (2020) found that Chinese college students predominantly preferred Chinese pop music, reflecting their shared cultural background. Similarly, music preferences can signal aspects of racial identity. Preferences for rap, hip-hop, and soul are often associated with Black individuals, while rock, alternative, pop, country, and folk tend to be associated with White individuals (Marshall & Naumann, 2018; Rentfrow et al., 2009). Furthermore, Andrews et al. (2022) demonstrated that personal and cultural values are stronger predictors of music preferences than personality traits alone. These findings suggest that an individual's dominant self-construal may shape their music preferences, which in turn influence the emotions evoked by the music. Building on this, the present study explores the emotions individuals experience when listening to their favorite music. Specifically, we hypothesized that interdependent and independent self-construals would be associated with more frequent and intense socially engaging and socially disengaging emotions, respectively.

Previous research comparing music-evoked emotions between collectivistic and individualistic societies supports this hypothesis to some extent. For instance, Juslin et al. (2016) found that nostalgia-longing and love-tenderness were more frequently reported in collectivistic cultures when participants recalled semantic and episodic knowledge of emotional responses to music. Similarly, Saarikallio et al. (2021) observed that power-empowerment was the highest-scoring emotion factor for the Finns (representing an individualistic culture) when reflecting on meaningful and emotionally evocative music in their daily lives. These findings align with the socially engaging and socially disengaging emotion categories. However, given the limitations of using nationality to operationalize culture and employing emotion measures based on Western models of emotions, we cannot convincingly infer the influence of collectivism-individualism on the types of music-evoked emotions between cultures.

Overview of the Present Studies

This research investigates the emotions individuals experience when engaging with their favorite music, with the goal of advancing knowledge of how culture shapes the nature of these emotions. We situated our exploration on the meaning-making processes individuals undertake while listening to their preferred music because of its unique relevance to individuals, reflecting both individual and cultural influences stemming from collectivistic and individualistic contexts. We

propose that music engagement is intrinsically shaped by culture (Becker, 2010; Clarke, 2011; Fram, 2023; Frith, 1996; Tang, 2024). This perspective highlights the dynamic, reciprocal relationship between music and its listeners, where musical elements and listener interpretations continuously influence one another. Although we acknowledge that our studies did not control for specific musical features across participants' favorite music, which might affect emotional responses, our approach aligns with previous research examining emotions in the context of preferred music (e.g., Saarikallio et al., 2021; Schäfer et al., 2012). We argue that such an approach offers valuable insights into the diverse emotional experiences associated with music across cultures.

The primary aim of this research was to investigate the role of self-construal in music-evoked emotions across cultures, incorporating culturally informed models of emotion. Specifically, we sought to answer the following research question: is self-construal, both between and within cultures, associated with the frequency and intensity of emotions elicited by music? To address this question, we conducted two studies. Study One utilized an exploratory approach, employing an online questionnaire where participants reflected on the emotions they experienced while listening to their favorite music. Building on the findings from Study One, Study Two adopted a listening experiment, where participants listened to their favorite piece of music and subsequently completed a questionnaire assessing their emotional responses. Both studies were approved by the University's Ethics Review Procedure, as administered by the Department of Music and the Department of Psychology.

Positionality and Theoretical Framework

For these studies, we embraced a post-positivist perspective, seeking to attain objective knowledge while acknowledging the inherent constraints, situatedness, and socially constructed nature of theories (Matney, 2019). At this juncture, we disclose our positionality to elucidate our motivations and theoretical perspectives. All of us are ethnically Chinese, grew up in Southeast and East Asian countries, and have pursued higher degrees in the English language. Therefore, we are cognizant of the dynamics and tensions between dominant theories and ideologies from different cultural traditions. Recognizing that majority of psychological research involves WERID (western, educated, industrialized, rich, and democratic) frameworks (Broesch et al., 2020; Henrich et al., 2010; Masuda et al., 2020), we sought to adopt conceptualizations of culture and emotion that are grounded in cultural psychological theories (Markus & Kitayama, 2010; Zhu & Han, 2008).

We adopt the perspective that culture and individuals are continually and mutually constituting one another (Markus & Kitayama, 2010). Within the musical context, the affective response to music is culturally inflected such that emotional meaning emerges from the interactions between particular listeners and musical events (Becker, 2010; Tang, 2024). This perspective resembles constructionist (Cespedes-Guevara & Eerola, 2018; Lennie & Eerola, 2022) and active sense-making approaches (Schiavio et al., 2017) to emotions in music. To capture the nuances of

cross-cultural similarities and differences, we incorporated emotion models from non-Western cultural traditions.

Study One

In Study One, we adopted an exploratory approach to investigate the role of self-construal in music-evoked emotions across cultures. Previous research has demonstrated the feasibility of using retrospective, reflective online questionnaires to evaluate music-evoked emotions in cross-cultural contexts (Juslin et al., 2016; Saarikallio et al., 2021). In these studies, participants were asked to reflect on their past affective experiences with music and complete a survey about the emotions elicited. This method enables participants to thoughtfully contextualize and articulate their experiences, offering deeper insight into the emotions induced by their favorite music. Accordingly, Study One comprised an online questionnaire in which participants reflected on the emotions they experienced while listening to their favorite piece of music.

Method

Participants

Participants were recruited in two ways. Firstly, participants were recruited via an online advertisement distributed by the researchers and the researchers' contacts at universities in Singapore, China, Hong Kong, the U.K., and the U.S. Participants were notified that they could be entered into a draw to win one of five £10 (~US$13) Amazon gift cards. Secondly, participants were recruited via Amazon Mechanical Turk (MTurk) administered by CloudResearch (Litman et al., 2017). They were paid US$1 after completing the online questionnaire. Participants who did not complete the questionnaire, failed the attention checks, or had missing responses were removed (n = 869). Four hundred and thirty-five participants were included in the final analysis, of which participants reported 32 nationalities and 20 ethnicities, living in 11 different countries (see Supplementary Materials Appendix E).

Materials

Emotion Checklist. We first compiled emotion terms found in previous music and emotion research, such as the Geneva Emotional Music Scale (Zentner et al., 2008), the Geneva Music-Induced Affect Checklist (Coutinho & Scherer, 2017), and adjective scales (Juslin & Laukka, 2004); the two-dimensional circumplex model of emotions comprising valence and arousal (Kallinen & Ravaja, 2006); and prior cross-cultural work on music and emotions (Juslin et al., 2016). We also included emotion terms found in cross-cultural psychology pertaining to socially engaging and disengaging emotions (Kitayama et al., 2000, 2006; P. Liu et al., 2022). The initial list consisted of 202 emotion words (or phrases). Subsequently, duplicates and word derivatives (e.g., joy and joyful; relax and relaxation; sad and sadness) were removed, and synonyms were grouped together to form a list of 40 emotion terms (or phrases). After some discussion with other music and emotion scholars, the terms were further distilled into the final emotion checklist comprising 32-word (or phrase) pairs measuring socially engaging emotions (7-items), socially disengaging emotions (6-items), aesthetic

emotions (5-items), positive general emotions (7-items), and negative general emotions (7-items; see Supplementary Materials Appendix F). Intensity of these emotions was measured using a 7-point Likert Scale (from 1 = *not at all intense* to 7 = *very intense*).

This emotion checklist was first translated into Chinese by me (first author). Two bilingual translators (one native Mandarin-speaker and one native English-speaker), who were masked to the study's hypotheses, back-translated the emotion checklist – i.e., the native Mandarin-speaker translated the English version back into Chinese and the native English-speaker translated the Chinese version back into English. Discrepancies between versions were discussed and resolved by changing either (or both) the Chinese and/or English terminology. In cross-cultural research, it is imperative to establish not only linguistic semantic equivalence (i.e., similar meanings between cultures) but also conceptual equivalence (i.e., the construct 'makes sense' in other cultures; Boehnke, 2022; Broesch et al., 2020; Cohen, 2019). This method of back-translation, involving individuals from East Asian and Western cultures, helps to ensure both semantic and conceptual equivalence.

Self-Construal. Self-construal was measured using Singelis' (1994) Self-Construal Scale (SCS). The SCS consists of 15-items to measure interdependent self-construal and 15-items to measure independent self-construal using a 7-point Likert Scale (from 1 = *strongly disagree* to 7 = *strongly agree*). The Chinese version of the SCS was obtained from T. Singelis (personal communication, November 17, 2022) and had been used in previous studies (Li et al., 2006; Yu et al., 2016). Cronbach's alpha for the present study (all participants combined) was .84 and .82 for the interdependent and independent scales respectively.

Procedure

Prospective participants were invited to participate in the study through a link on the online advertisement or through MTurk. After participants clicked on the link, they completed the informed consent form before starting the online questionnaire. Participants were first instructed to report and think about their favorite piece of music. Thereafter, they were asked to reflect on the emotions that they perceived their favorite music to be expressing and the emotions that they felt while listening to it. After choosing all relevant emotions for perceived and felt emotions separately using the emotion checklist, participants rated the intensity of their selected emotions. Subsequently, they completed the SCS and demographic questions (e.g., age, gender, education level, and musical expertise). Regarding musical expertise, Zhang and Schubert (2019) found that years of musical training and the musician rank item (i.e., "*Which title best describes you?*") of the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) were the best single-item measures for estimating musicality. Thus, we used these items as proxies of musical expertise. The online questionnaire was hosted by Qualtrics^{XM} and took approximately 15-minutes to complete. Participation was voluntary and participants could skip any questions they did not want to answer.

Data Analysis

Frequency[2] of emotions was calculated by summing up the number of emotions selected in each emotion type. Intensity of emotions was calculated by averaging the intensity of emotions selected in each emotion type. To make meaningful comparisons, participants were grouped together using nationality because national differences in collectivism-individualism have been argued to give rise to interdependent-independent self-construals (Markus & Kitayama, 1991). Given the wide representation of nationalities (see Supplementary Materials Appendix E), participants were grouped together based on the cultural distance hypothesis, which assumes that cultures are similar if they are geographically close to one another (Elfenbein & Ambady, 2003). Subsequently, we conducted a multilevel regression analysis with participants nested within regions. For this paper, we focused on the emotions that participants felt while listening to their favorite music. The analysis of perceived emotions will be presented in a separate forthcoming report. All analyzes were conducted using SPSS®28.

Results

Demographic Characteristics

Participants were divided into 9 regions: American (n = 215), Canadian (n = 38), Brazilian (n = 2), British (n = 88), European (n = 15), East Asian (n = 26), Southeast Asian (n = 32), South Asian (n = 11), and dual nationality (n = 7). See Table 4.1 for a description of participant characteristics.

Participants selected a wide variety of musical genres, including folk, classical, multiple rock subgenres (e.g., Japanese rock, funk rock, alternative rock, slow rock, hybrid rock), disco, country, pop (e.g., Spanish pop, Mando-pop, Canto-pop, K-pop), electronic dance music, rap, hip-hop, soul, Schlager, video game soundtracks, fusion, movie soundtracks, trance, show tunes, gospel, and contemporary Christian music. The distribution of these genres was largely consistent across regions, showcasing substantial diversity within each. The U.S. sample exhibited the highest diversity of musical styles, whereas the Brazil sample reported the fewest. Some regional patterns emerged. For example, Mando-pop and Canto-pop were more prevalent in East and Southeast Asia, while Anglophone pop music appeared across all regions. A complete list of music titles and artists can be found in Supplementary Materials Appendix G.

[2] Frequency here refers to the variety of emotions selected. For example, a frequency of three positive socially engaging emotions means that the participant selected three out of the four positive socially engaging emotions in that emotion category (refer to Supplementary Materials Appendix F).

Table 4.1 Study One Participant Characteristics

	American (n = 215) *M (SD)*	Canadian (n = 38) *M (SD)*	Brazilian (n = 2) *M (SD)*	British (n = 88) *M (SD)*	European (n = 15) *M (SD)*	East Asian (n = 26) *M (SD)*	Southeast Asian (n = 32) *M (SD)*	South Asian (n = 11) *M (SD)*	Dual Nationality (n = 7) *M (SD)*
Age (Years)	38.66 (13.07)	40.74 (12.38)	26.50 (0.71)	31.65 (12.07)	32.08 (10.87)	28.00 (7.59)	29.15 (7.60)	38.70 (11.57)	28.67 (13.02)
Gender, *n* (%)									
Transgender	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)
Non-binary	4 (1.9)	0 (0.0)	0 (0.0)	4 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Female	105 (48.8)	18 (47.4)	1 (50.0)	32 (36.4)	7 (46.7)	22 (84.6)	17 (53.1)	7 (63.6)	2 (28.6)
Male	104 (48.4)	20 (52.6)	1 (50.0)	52 (59.1)	8 (53.3)	2 (7.7)	15 (46.9)	4 (36.4)	5 (71.4)
Prefer not to say	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Disability, *n* (%)									
Yes	35 (16.3)	11 (28.9)	0 (0.0)	4 (4.5)	1 (6.7)	2 (7.7)	1 (3.1)	0 (0.0)	6 (85.7)
No	173 (80.5)	26 (68.4)	2 (100)	78 (88.6)	14 (93.3)	24 (92.3)	30 (93.8)	11 (100.0)	0 (0.0)
Prefer not to say	3 (1.4)	0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Prefer to self-describe	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.3)	0 (0.0)	0 (0.0)	1 (3.1)	0 (0.0)	1 (14.3)
Education Level	4.99 (0.71)	5.00 (0.82)	5.50 (0.71)	4.87 (0.65)	5.15 (0.90)	5.26 (0.56)	4.85 (0.82)	5.50 (0.53)	5.00 (0.89)
Musical Identity	2.55 (1.34)	2.21 (1.07)	2.50 (0.71)	2.64 (1.34)	2.23 (1.17)	3.42 (1.84)	2.44 (1.19)	1.90 (0.57)	4.17 (1.17)
Musical Training (Years)	4.01 (5.31)	3.76 (6.09)	1.00 (1.41)	4.29 (6.28)	2.85 (5.97)	7.11 (8.96)	3.11 (4.84)	0.70 (0.95)	11.5 (6.16)
Self-Construal									
Interdependent	4.99 (0.91)	4.64 (0.75)	4.84 (0.33)	4.53 (0.72)	4.37 (0.69)	4.77 (0.59)	4.96 (0.71)	5.28 (0.55)	4.58 (0.59)
Independent	5.25 (0.85)	5.06 (0.78)	5.87 (0.66)	5.01 (0.69)	5.02 (0.86)	4.72 (0.57)	4.96 (0.73)	5.15 (0.95)	4.83 (0.55)

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) musician rank item. Musical identity was used because it was reported to be the best single-item measure that represents musical sophistication and musicality (Zhang & Schubert, 2019).

Multilevel Regression Analysis

We conducted a multilevel regression analysis, using restricted maximum likelihood with Satterthwaite approximation for degrees of freedom, nesting participants within regions. We allowed the intercept by region to vary randomly. Regional-means of interdependent and independent self-construal were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Given the relatively small number of regions ($n = 9$) and that some regions had a small sample size (i.e., $n < 10$), interdependent and independent self-construals were analyzed separately to minimize the risk of overfitting and type II error (false negative). Specifically, regional-mean and regional-mean-centered interdependent self-construals were entered as predictors of the frequency and intensity of the emotion types in Model 1, and regional-mean and regional-mean-centered independent self-construals were entered as predictors in Model 2.

Frequency of Emotion. In Model 1, the results showed that interdependent self-construal was not significantly associated with the frequency of all emotion types. This suggests that interdependent self-construal was not associated with the frequency of various emotion types felt with favorite music between participants across different regions.

In Model 2, the results showed that only the regional-mean of independent self-construal was significantly associated with the frequency of negative socially disengaging emotions ($b = 0.17$, $SE = 0.07$, $p = .019$). There were no significant associations between independent self-construal and the frequency of the other emotion types. This suggests that between-region variation of independence, not within-region variation of independent self-construal, was positively associated with the frequency of negative socially disengaging emotions felt when listening to favorite music (see Table 4.2).

Intensity of Emotion. In Model 1, the results showed that interdependent self-construal was not significantly associated with the intensity of all emotion types. This suggests that interdependent self-construal was not associated with the intensity of various emotion types felt with favorite music between participants across different regions.

In Model 2, the results showed that only the regional-mean-centered independent self-construal was significantly associated with the intensity of positive general emotions ($b = 0.38$, $SE = 0.16$, $p = .016$). This suggests that within-region variation of independent self-construal, not between-region variation of independence, was associated with the intensity of positive general emotions felt with favorite music (see Table 4.3).

Table 4.2 Study One Multilevel Regression Analysis Results for Frequency of Emotion Types

Model 1: Interdependent Self-Construal				**Model 2: Independent Self-Construal**			
	Outcome Variable				Outcome Variable		
	b	*SE*	*p*		*b*	*SE*	*p*
Predictors	Positive Socially Engaging Emotions			**Predictors**	Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	-0.13	0.21	.531	$Independent_{RegionalMean}$	0.02	0.29	.950
$Interdependent_{RegionalMeanCentered}$	0.06	0.06	.274	$Independent_{RegionalMeanCentered}$	-0.07	0.06	.263
	Negative Socially Engaging Emotions				Negative Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	0.03	0.07	.711	$Independent_{RegionalMean}$	-0.01	0.10	.934
$Interdependent_{RegionalMeanCentered}$	-0.01	0.02	.723	$Independent_{RegionalMeanCentered}$	-0.01	0.02	.518
	Positive Socially Disengaging Emotions				Positive Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.00	0.12	.979	$Independent_{RegionalMean}$	0.05	0.15	.731
$Interdependent_{RegionalMeanCentered}$	0.02	0.03	.464	$Independent_{RegionalMeanCentered}$	0.04	0.03	.205
	Negative Socially Disengaging Emotions				Negative Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.09	0.05	.099	**$Independent_{RegionalMean}$**	**0.17**	**0.07**	**.019***
$Interdependent_{RegionalMeanCentered}$	0.02	0.02	.238	$Independent_{RegionalMeanCentered}$	0.00	0.02	.949
	Aesthetic Emotions				Aesthetic Emotions		
$Interdependent_{RegionalMean}$	0.32	0.31	.379	$Independent_{RegionalMean}$	0.07	0.34	.843
$Interdependent_{RegionalMeanCentered}$	0.01	0.07	.909	$Independent_{RegionalMeanCentered}$	-0.06	0.07	.403
	Positive General Emotions				Positive General Emotions		
$Interdependent_{RegionalMean}$	0.55	0.60	.390	$Independent_{RegionalMean}$	0.56	0.70	.443
$Interdependent_{RegionalMeanCentered}$	0.07	0.09	.417	$Independent_{RegionalMeanCentered}$	0.01	0.09	.926
	Negative General Emotions				Negative General Emotions		
$Interdependent_{RegionalMean}$	-0.29	0.21	.208	$Independent_{RegionalMean}$	-0.04	0.30	.903
$Interdependent_{RegionalMeanCentered}$	0.04	0.04	.891	$Independent_{RegionalMeanCentered}$	-0.01	0.04	.819

Note. $N = 435$. Regional-means of interdependent and independent self-construals were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Bold values indicate statistical significance.
*$p < .05$.

Table 4.3 Study One Multilevel Regression Analysis Results for Intensity of Emotions

Model 1: Interdependent Self-Construal				**Model 2: Independent Self-Construal**			
	Outcome Variable				Outcome Variable		
	b	*SE*	*p*		*b*	*SE*	*p*
Predictors	Positive Socially Engaging Emotions			**Predictors**	Positive Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	-0.20	0.64	.758	$Independent_{RegionalMean}$	0.58	1.04	.623
$Interdependent_{RegionalMeanCentered}$	0.09	0.18	.627	$Independent_{RegionalMeanCentered}$	-0.04	0.18	.811
	Negative Socially Engaging Emotions				Negative Socially Engaging Emotions		
$Interdependent_{RegionalMean}$	0.19	0.39	.624	$Independent_{RegionalMean}$	0.07	0.53	.895
$Interdependent_{RegionalMeanCentered}$	-0.03	0.11	.812	$Independent_{RegionalMeanCentered}$	-0.05	0.11	.668
	Positive Socially Disengaging Emotions				Positive Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	-0.23	0.55	.729	$Independent_{RegionalMean}$	0.06	0.75	.947
$Interdependent_{RegionalMeanCentered}$	0.14	0.15	.328	$Independent_{RegionalMeanCentered}$	0.20	0.15	.190
	Negative Socially Disengaging Emotions				Negative Socially Disengaging Emotions		
$Interdependent_{RegionalMean}$	0.35	0.24	.138	$Independent_{RegionalMean}$	0.73	0.34	.269
$Interdependent_{RegionalMeanCentered}$	0.07	0.07	.280	$Independent_{RegionalMeanCentered}$	0.01	0.07	.869
	Aesthetic Emotions				Aesthetic Emotions		
$Interdependent_{RegionalMean}$	1.42	1.05	.217	$Independent_{RegionalMean}$	-1.05	0.99	.454
$Interdependent_{RegionalMeanCentered}$	0.04	0.17	.809	$Independent_{RegionalMeanCentered}$	0.17	0.18	.344
	Positive General Emotions				Positive General Emotions		
$Interdependent_{RegionalMean}$	-0.42	0.80	.630	$Independent_{RegionalMean}$	-0.06	1.13	.959
$Interdependent_{RegionalMeanCentered}$	0.07	0.15	.674	**$Independent_{RegionalMeanCentered}$**	**0.38**	**0.16**	**.016***
	Negative General Emotions				Negative General Emotions		
$Interdependent_{RegionalMean}$	-0.32	0.59	.616	$Independent_{RegionalMean}$	0.04	0.77	.959
$Interdependent_{RegionalMeanCentered}$	0.02	0.13	.856	$Independent_{RegionalMeanCentered}$	-0.05	0.13	.720

Note. $N = 435$. Regional-means of interdependent and independent self-construals were calculated by averaging the respective self-construals of participants within each region. We did this to reflect between-region differences in self-construal (Level 2). Regional-mean-centered self-construals were calculated by subtracting the regional-means of interdependent and independent self-construals from each participant's interdependent and independent self-construals respectively. We did this to reflect each participant's within-region variance in self-construal (Level 1). Bold values indicate statistical significance.
*$p < .05$.

Discussion of Study One

Study One comprised an online questionnaire to investigate the role of self-construal in music-evoked emotions across cultures. We found partial preliminary support for our hypotheses: only independent self-construal was associated with the frequency of negative socially disengaging emotions felt with favorite music. This result is consistent with previous research indicating that individuals from Western countries tend to experience socially disengaging emotions more frequently in everyday social contexts (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). Notably, Study One contributes to the literature by showing that regional differences in independence were positively associated with negative socially disengaging emotions in the music domain. One possible explanation is rooted in cultural variation in emotion display rules, with individualistic cultures generally perceiving the expression of negative emotions as more acceptable compared to collectivistic cultures (Matsumoto, 1990). This finding also aligns with previous studies demonstrating that American Top-50 music often contains more lyrics expressing anger (Liew et al., 2023), potentially leading to more experiences of negative socially disengaging emotions (e.g., anger, disappointment, resentment) when listeners engage with their favorite music.

This study also revealed that within-region variation in independent self-construal was positively linked to the intensity of positive general emotions experienced with favorite music. This result aligns with earlier research showing that individuals with an independent self-construal are more inclined to prefer high-arousal positive emotions, such as excitement, enthusiasm, and elation (Kim et al., 2014; Tsai, 2007). As a result, they are drawn to people and activities that embody this ideal affect (Bencharit et al., 2019; Sims et al., 2014; Tsai, Louie, et al., 2007; Tsai et al., 2019). For example, Tsai, Miao, et al. (2007) demonstrated that European Americans were more likely than Hong Kong Chinese participants to select the CD with a cover depicting a man surfing on a large wave and fictitious reviews emphasizing high energy and invigoration, reflecting high-arousal positive emotions. While such studies highlight differences between countries, our findings suggest that variations in independent self-construal within regions also play a critical role. Specifically, it is possible that individuals across different regions may share a preference for music that evokes positive emotions, but the intensity of these emotions felt can differ depending on their prevailing independent self-construal.

Unfortunately, we found no evidence supporting our hypothesis that interdependent self-construal would be associated with socially engaging emotions. This finding contrasts with previous research showing that individuals from collectivistic cultures tend to experience socially engaging emotions more frequently and intensely (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). This result was unexpected, particularly given that a cursory review of participants' reported favorite music titles and artists (see Supplementary Materials Appendix G) revealed songs with themes of love and social connection, such as *Kiss*

Goodbye (吻别) by Jacky Cheung (张学友), *Codinome Beija-Flor* by Cazuza, and *You'll Be in My Heart* by Phil Collins.

We propose two possibilities for this lack of evidence. First, the wide range of nationalities included in this online study may have diluted the findings because prior research indicates that cultural groups emphasize different ways of being interdependent and independent (Boiger et al., 2013; Vignoles et al., 2016). Individuals from different cultural backgrounds engage with music for distinct purposes, which could influence the emotions experienced with their favorite music (Boer et al., 2012; Boer & Fischer, 2012; Granot et al., 2021; Saarikallio et al., 2021). For instance, Schäfer et al. (2012) found that Indian participants associated their favorite music with background listening, emotion regulation, and self-regulation functions, while German participants linked their favorite music to prompting memories and social bonding. Thus, the diversity of the sample in this study may have added complexity, potentially obscuring a clear association between interdependent self-construal and socially engaging emotions.

Second, the retrospective reflective online questionnaire method may have influenced the results. This approach relies on participants accurately recalling their favorite music and the emotions it evoked, which could introduce biases in memory and perception. Previous studies utilizing real-time listening experiments have shown that preference significantly affects the specificity and intensity of ratings across emotion categories (Fuentes-Sánchez et al., 2022; Kreutz et al., 2008). Similar to Levenson et al.'s (1992) study, meaningful, in-the-moment engagement with music may be necessary to elicit socially engaging emotions. In light of these considerations, we designed Study Two to address these limitations and build on our findings.

Study Two

For Study Two, we recruited participants residing in three different countries and conducted a listening experiment to investigate the role of self-construal in music-evoked emotions across cultures. The selected countries represent distinct points along the collectivism-individualism spectrum, as defined by Hofstede et al.'s (2010) individualism index. Specifically, China, with a score of 20, was chosen to represent a collectivist culture, while the U.K., with a score of 89, exemplifies an individualist culture. Although Singapore shares the same score as China, its culture reflects a blend of Eastern and Western influences (Chang et al., 2003). Traditional Asian values are prevalent in familial and social interactions, while Western ideals are evident in education, governance, and media (Ang & Stratton, 1995; Brooks & Wee, 2014; Ho, 2006; Sheehy, 2004; Tamney, 1996). Singapore's Bilingual Education Policy further reinforces this hybrid sociocultural identity, promoting proficiency in both mother tongue languages and English, which enables the coexistence of Eastern and Western cultural elements (Dixon, 2005; Pakir, 1993). Thus, Singapore was included to capture a unique sociocultural context that integrates both collectivistic and individualistic values.

In this study, we investigated whether self-construal mediated the relationship between country and the types of emotions felt with favorite music. Through a real-time listening experiment, Study Two builds on the findings from Study One to offer deeper insight into how cultural contexts shape emotional experiences with music. We hypothesized that interdependent self-construal would mediate the relationship between country and socially engaging emotions, while independent self-construal would mediate the relationship between country and socially disengaging emotions felt when listening to favorite music.

Method

Participants

Participants were recruited from University of Sheffield in the U.K., Henan University in China, and Singapore Management University in Singapore. Participants in the U.K. and Singapore were recruited using the psychology subject pool system. Additionally, publicity materials were distributed at the three universities through internal email communications, social media, and on campus bulletin boards. Participants either received course credit or cash vouchers (£5 in the U.K., CN¥30 in China, or SG$5 in Singapore) as compensation for participating in this study. A total of 309 participants (102 participants residing in the U.K., 107 in China, and 100 in Singapore) were included in the final analysis. Reported nationalities and ethnicities can be found in the Supplementary Materials Appendix H.

Materials

We used the same measures from Study One in Study Two. Cronbach's alpha for the present study (all participants combined) was .73 and .76 for the interdependent and independent self-construal scales respectively.

Procedure

Prospective participants first registered their interest and indicated their favorite piece of music. Upon arrival at the lab, participants completed the informed consent form. Thereafter, participants listened to "Twinkle Twinkle Little Star" to ensure that volume levels were appropriate and the headphones were positioned comfortably. Once ready, the researcher instructed participants to pay attention to the emotions that they perceived their favorite music to be expressing and the emotions that they felt while listening to it. Participants then proceeded to listen to their favorite music on the relevant music streaming service (e.g., Spotify or QQ Music). During this listening task, participants were presented a screen with a prompt reminding them to pay attention to the emotions that they perceive their favorite music to be expressing and the emotions that they felt while listening to it. After listening to the music, participants chose all relevant emotions for perceived and felt emotions separately using the emotion checklist and rated the intensity of their selected emotions. Subsequently, they completed the SCS and demographic questions. The questionnaire was hosted by Qualtrics^{XM} and the entire listening experiment took approximately 30-minutes to complete.

Data Analysis

We conducted a mediation analysis using Hayes' (2017) PROCESS (v.4.2) Model 4 to determine whether self-construal mediated the relationship between country and felt emotions. For this study, we focused on the emotions that participants felt while listening to their favorite music. The analysis of perceived emotions will be presented in a separate forthcoming report. All analyzes were conducted using SPSS®28.

Results

Demographic Characteristics

The one-way ANOVA showed that there was a statistically significant difference between countries regarding age, $F(2, 304) = 5.81$, $p = .003$, education level, $F(2, 306) = 7.06$, $p = .001$, musical identity, $F(2, 306) = 202.68$, $p < .001$, and musical training, $F(2, 306) = 34.91$, $p < .001$ (see Table 4.4). Post hoc analyzes with Tukey's HSD (using an α of .05) showed that, on average, participants in the China group were older than participants in the U.K. group, and that participants in the China group had higher education levels and musical expertise that both the U.K. and Singapore group. This was expected because participants from China were mostly recruited from the music department.

The one-way ANOVA also showed that there was a statistically significant difference between cultural groups in interdependent self-construal, $F(2, 306) = 5.76$, $p = .003$ (see Table 4.4). Post hoc analyzes with Tukey's HSD (using an α of .05) showed that, on average, participants in the Singapore group had higher interdependent self-construals than participants in the U.K. group. There were no significant differences in independent self-construal between cultural groups, $F(2, 306) = 2.61$, $p = .075$. In a way, this aligns with prior research showing that individualism is rising in numerous countries around the world (Santos et al., 2017) and highlights the inadequacy of using nation-state to operationalize collectivism-individualism.

Participants selected a broad spectrum of musical styles, including alternative, folk, indie, pop, classical, rap, hip-hop, R&B, and rock. Each country exhibited diversity in the range of musical styles reported. As in Study One, some cross-country differences emerged: Chinese-pop, Mando-pop, and K-pop were mentioned exclusively in China and Singapore, whereas Anglophone pop music was cited across all countries. A complete list of music titles and artists can be found in Supplementary Materials Appendix I.

Table 4.4 Study Two Participant Characteristics

	The U.K. (n = 102) *M (SD)*	China (n = 107) *M (SD)*	Singapore (n = 100) *M (SD)*	p-Value
Age (Years)	19.70 (4.50)	21.01 (1.41)	20.63 (1.45)	.003**
Gender, *n* (%)				
Transgender	0 (0.00)	0 (0.00)	0 (0.00)	
Non-binary	5 (4.90)	0 (0.00)	0 (0.00)	
Female	85 (83.33)	71 (66.36)	83 (83.00)	
Male	11 (10.78)	29 (27.10)	16 (16.00)	
Prefer not to say	1 (0.98)	0 (0.00)	1 (1.00)	
Prefer to self-describe	0 (0.00)	7 (6.54)	0 (0.00)	
Disability, *n* (%)				
Yes	5 (4.90)	0 (0.00)	1 (1.00)	
No	91 (89.22)	101 (94.39)	98 (98.00)	
Prefer not to say	2 (1.96)	2 (1.87)	0 (0.00)	
Prefer to self-describe	4 (3.92)	4 (3.74)	1 (1.00)	
Education Level	4.25 (0.60)	4.55 (0.78)	4.25 (0.63)	.001***
Musical Identity [a]	2.35 (0.93)	4.65 (1.08)	2.31 (0.86)	< .001***
Music Training (Years)	3.64 (4.00)	7.22 (4.05)	3.05 (3.65)	< .001***
Self-construal				
Interdependent	4.73 (0.60)	4.83 (0.60)	5.02 (0.69)	.003**
Independent	4.57 (0.71)	4.79 (0.64)	4.67 (0.76)	.075

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) musician rank item. Musical identity was used because it was reported to be the best single-item measure that represents musical sophistication and musicality (Zhang & Schubert, 2019).
** $p < .01$, *** $p < .001$.

Role of Self-Construal Between Country and Felt Emotions

We conducted a mediation analysis using Hayes' (2017) PROCESS (v.4.2) Model 4 to assess whether self-construal mediated the relationship between country and felt emotions. Country was entered as a multicategorical predictor using indicator coding (the U.K. was dummy coded as 0), interdependent and independent self-construals were entered as the mediators, and felt emotions were entered as the outcome variable. Musical identity and musical training were transformed into a composite musical expertise score (i.e., musician rank item x years of musical training). Age, education level, and musical expertise, which significantly differed between countries, along with gender were included as covariates. All standard errors and confidence intervals were calculated on 5,000 bootstrapped iterations.

Frequency of Socially Engaging Emotions. Using an ordinary least squares (OLS) regression model, we first regressed positive socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that interdependent self-construal (b = 0.25, t(298) = 2.78, p = .006), but not independent self-construal (b = 0.11, t(298) = 1.41, p = .159), was significantly associated with the frequency of positive socially engaging emotions.

Results from the subsequent mediation analysis revealed a significant indirect effect of China-UK on the frequency of positive socially engaging emotions through interdependent self-construal (b = 0.05, SE = 0.03, 95% CI [0.00, 0.12]). Furthermore, the direct effect of China-UK on positive socially engaging emotions, after controlling for both self-construals, remained significant (b = -0.69, SE = 0.16, p < .001). Thus, interdependent self-construal partially mediated the differences in the frequency of positive socially engaging emotions between the China and U.K. sample.

Similarly, the results indicated a significant indirect effect of Singapore-UK on the frequency of positive socially engaging emotions through interdependent self-construal (b = 0.07, SE = 0.04, 95% CI [0.02, 0.15]). Furthermore, the direct effect of Singapore-UK on positive socially engaging emotions, after controlling for both self-construals, remained significant (b = -0.29, SE = 0.14, p = .047). Thus, interdependent self-construal partially mediated the differences in the frequency of positive socially engaging emotions between the Singapore and U.K. sample.

We then regressed negative socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.07, t(298) = 1.83, p = .068) and independent self-construal (b = 0.01, t(298) = 0.28, p = .780) were not significantly associated with the frequency of negative socially engaging emotions. Given that interdependent self-construal showed a marginal significant effect, we proceeded with the mediation analysis.

Results from the mediation analysis revealed a significant indirect effect of China-UK on the frequency of negative socially engaging emotions through interdependent self-construal (b = 0.01, SE = 0.01, 95% CI [0.00, 0.03]). However, the direct effect of China-UK on negative socially engaging

emotions, after controlling for both self-construals, was not significant (b = -0.05, SE = 0.07, p = .481). Thus, interdependent self-construal fully mediated the differences in the frequency of negative socially engaging emotions between the China and U.K. sample.

The mediation analysis also revealed a significant indirect effect of Singapore-UK on the frequency of negative socially engaging emotions through interdependent self-construal (b = 0.02, SE = 0.01, 95% CI [0.00, 0.04]). However, the direct effect of Singapore-UK on negative socially engaging emotions, after controlling for both self-construals, was not significant (b = 0.03, SE = 0.06, p = .662). Thus, interdependent self-construal fully mediated the differences in the frequency of negative socially engaging emotions between the Singapore and U.K. sample.

Frequency of Socially Disengaging Emotions. We regressed positive socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.11, t(298) = 2.49, p = .014), but not interdependent self-construal (b = -0.05, t(298) = -1.07, p = .287), was significantly associated with the frequency of positive socially disengaging emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the frequency of positive socially disengaging emotions through independent self-construal (b = 0.01, SE = 0.01, 95% CI [-0.01, 0.04]). However, the direct effect of China-UK on positive socially disengaging emotions, after controlling for both self-construals, remained significant (b = -0.32, SE = 0.09, p < .001). Thus, independent self-construal did not mediate the differences in the frequency of positive socially disengaging emotions between the China and U.K. sample.

The mediation analysis also indicated a non-significant indirect effect of Singapore-UK on the frequency of positive socially disengaging emotions through independent self-construal (b = 0.01, SE = 0.01, 95% CI [-0.02, 0.03]). The direct effect of Singapore-UK on positive socially disengaging emotions, after controlling for both self-construals, remained significant (b = -0.19, SE = 0.08, p = .018). Thus, independent self-construal did not mediate the differences in the frequency of positive socially disengaging emotions between the Singapore and U.K. sample.

We then regressed negative socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.01, t(298) = 0.52, p = .606) and independent self-construal (b = 0.01, t(298) = 0.58, p = .561) were not significantly associated with the frequency of negative socially disengaging emotions.

Frequency of Aesthetic Emotions. We regressed aesthetic emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.31, t(298) = 3.79, p < .001), but not interdependent self-construal (b = -0.06, t(298) = -0.61, p = .545), was significantly associated with the frequency of aesthetic emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the frequency of aesthetic emotions through independent self-construal (b = 0.04, SE = 0.03, 95% CI [-0.02, 0.11]). However, the direct effect of China-UK on aesthetic emotions, after controlling for both self-construals, remained significant (b = -0.92, SE = 0.16, p < .001). Thus, independent self-construal did not mediate the differences in the frequency of aesthetic emotions between the China and U.K. sample.

The mediation analysis also indicated a non-significant indirect effect of Singapore-UK on the frequency of aesthetic emotions through independent self-construal (b = 0.03, SE = 0.03, 95% CI [-0.04, 0.09]). The direct effect of Singapore-UK on aesthetic emotions, after controlling for both self-construals, remained significant (b = -0.45, SE = 0.14, p = .002). Thus, independent self-construal did not mediate the differences in the frequency of aesthetic emotions between the Singapore and U.K. sample.

Frequency of General Emotions. We regressed positive general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.27, t(298) = 2.09, p = .037), but not interdependent self-construal (b = -0.08, t(298) = -0.57, p = .566), was significantly associated with the frequency of positive general emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the frequency of positive general emotions through independent self-construal (b = 0.04, SE = 0.04, 95% CI [-0.02, 0.12]). However, the direct effect of China-UK on positive general emotions, after controlling for both self-construals, remained significant (b = -1.04, SE = 0.26, p < .001). Thus, independent self-construal did not mediate the differences in the frequency of positive general emotions between the China and U.K. sample.

The mediation analysis also indicated a non-significant indirect effect of Singapore-UK on the frequency of positive general emotions through independent self-construal (b = 0.02, SE = 0.03, 95% CI [-0.04, 0.10]). The direct effect of Singapore-UK on positive general emotions, after controlling for both self-construals, remained significant (b = -0.49, SE = 0.30, p = .036). Thus, independent self-construal did not mediate the differences in the frequency of positive general emotions between the Singapore and U.K. sample.

We then regressed negative general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.02, t(298) = 0.23, p = .821) and independent self-construal (b = -0.09, t(298) = -1.41, p = .161) were not significantly associated with the frequency of negative general emotions. See Table 4.5 for the mediation analysis results for the frequency of perceived emotions.

Table 4.5 Study Two Mediation Analysis for Frequency of Felt Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
	Positive Socially Engaging Emotions						
Country 1 (China-UK)	**-0.69**	**-0.68**	**0.16**	**-4.25**	**< .001*** **	**-1.02**	**-0.37**
Country 2 (Singapore-UK)	**-0.29**	**-0.28**	**0.14**	**-1.99**	**.047***	**-0.57**	**-0.00**
Interdependent Self-Construal	**0.25**	**0.16**	**0.09**	**2.78**	**.006****	**0.07**	**0.43**
Independent Self-Construal	0.11	0.08	0.08	1.41	.159	-0.05	0.27
	Negative Socially Engaging Emotions						
Country 1 (China-UK)	-0.05	-0.11	0.07	-0.71	.481	-0.18	0.08
Country 2 (Singapore-UK)	0.03	0.06	0.06	0.44	.662	-0.09	0.14
Interdependent Self-Construal	0.07	0.11	0.04	1.83	.068	-0.01	0.14
Independent Self-Construal	0.01	0.02	0.03	0.28	.780	-0.06	0.07
Age	**0.03**	**0.24**	**0.01**	**4.09**	**< .001*** **	**0.02**	**0.05**
	Positive Socially Disengaging Emotions						
Country 1 (China-UK)	**-0.32**	**-0.58**	**0.09**	**-3.56**	**< .001*** **	**-0.50**	**-0.14**
Country 2 (Singapore-UK)	**-0.19**	**-0.34**	**0.08**	**-2.38**	**.018***	**-0.34**	**-0.03**
Interdependent Self-Construal	-0.05	-0.06	0.05	-1.07	.287	-0.15	0.05
Independent Self-Construal	**0.11**	**0.14**	**0.04**	**2.49**	**.014***	**0.02**	**0.20**
	Negative Socially Disengaging Emotions						
Country 1 (China-UK)	0.01	0.06	0.04	0.34	.738	-0.06	0.09
Country 2 (Singapore-UK)	0.06	0.27	0.03	1.88	.062	-0.00	0.13
Interdependent Self-Construal	0.01	0.03	0.02	0.52	.606	-0.03	0.05
Independent Self-Construal	0.01	0.03	0.02	0.58	.561	-0.03	0.05
	Aesthetic Emotions						
Country 1 (China-UK)	**-0.92**	**-0.86**	**0.16**	**-5.59**	**< .001*** **	**-1.24**	**-0.59**
Country 2 (Singapore-UK)	**-0.45**	**-0.43**	**0.14**	**-3.15**	**.002****	**-0.74**	**-0.17**
Interdependent Self-Construal	-0.06	-0.03	0.09	-0.61	.5454	-0.23	0.12
Independent Self-Construal	**0.31**	**0.20**	**0.08**	**3.79**	**< .001*** **	**0.15**	**0.47**
Musical Expertise	**0.01**	**0.28**	**0.00**	**4.32**	**< .001*** **	**0.01**	**0.02**
	Positive General Emotions						
Country 1 (China-UK)	**-1.04**	**-0.64**	**0.26**	**-3.93**	**< .001*** **	**-1.56**	**-0.52**
Country 2 (Singapore-UK)	**-0.49**	**-0.30**	**0.23**	**-2.11**	**.036***	**-0.95**	**-0.03**
Interdependent Self-Construal	-0.08	-0.03	0.15	-0.57	.566	-0.37	0.20
Independent Self-Construal	**0.27**	**0.12**	**0.13**	**2.09**	**.037***	**0.02**	**0.53**
Musical Expertise	**0.01**	**0.16**	**0.01**	**2.37**	**.019***	**0.00**	**0.02**
	Negative General Emotions						
Country 1 (China-UK)	0.04	0.05	0.13	0.33	.740	-0.21	0.29
Country 2 (Singapore-UK)	0.15	0.20	0.11	1.38	.169	-0.07	0.37
Interdependent Self-Construal	0.02	0.01	0.07	0.23	.821	-0.12	0.15
Independent Self-Construal	-0.09	-0.08	0.06	-1.41	.161	-0.21	0.03
Gender	**0.15**	**0.12**	**0.08**	**2.02**	**.044***	**0.00**	**0.30**

Note. CI = confidence interval; LL = lower limit; UL = upper limit. While covariates (age, gender, education, and musical expertise) are included in all models, only the statistically significant covariates are reported here. Full results can be found in Supplementary Materials Appendix L and M. Bold values indicate statistical significance.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Intensity of Socially Engaging Emotion. Using an OLS regression model, we first regressed positive socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that interdependent self-construal (b = 0.51, t(298) = 2.31, p = .022), but not independent self-construal (b = 0.30, t(298) = 1.53, p = .128), was significantly associated with the intensity of positive socially engaging emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the intensity of positive socially engaging emotions through interdependent self-construal (b = 0.10, SE = 0.07, 95% CI [-0.00, 0.26]). However, the direct effect of China-UK on positive socially engaging emotions, after controlling for both self-construals, remained significant (b = -2.56, SE = 0.40, p < .001). Thus, interdependent self-construal did not mediate the differences in the intensity of positive socially engaging emotions between the China and U.K. sample.

The mediation analysis indicated a significant indirect effect of Singapore-UK on the intensity of positive socially engaging emotions through interdependent self-construal (b = 0.15, SE = 0.09, 95% CI [0.02, 0.35]). However, the direct effect of Singapore-UK on positive socially engaging emotions, after controlling for both self-construals, was not significant (b = 0.05, SE = 0.35, p = .887). Thus, interdependent self-construal fully mediated the differences in the intensity of positive socially engaging emotions between the Singapore and U.K. sample.

We then regressed negative socially engaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.35, t(298) = 1.92, p = .056) and independent self-construal (b = -0.12, t(298) = -0.75, p = .454) were not significantly associated with the intensity of negative socially engaging emotions. Given that interdependent self-construal showed a marginal significant effect, we proceeded with the mediation analysis.

Results from the mediation analysis revealed a non-significant indirect effect of China-UK on the intensity of negative socially engaging emotions through interdependent self-construal (b = 0.07, SE = 0.04, 95% CI [-0.00, 0.17]). The direct effect of China-UK on negative socially engaging emotions, after controlling for both self-construals, was also not significant (b = -0.13, SE = 0.33, p = .683). Thus, interdependent self-construal did not mediate the differences in the intensity of negative socially engaging emotions between the China and U.K. sample.

The mediation analysis revealed a significant indirect effect of Singapore-UK on the intensity of negative socially engaging emotions through interdependent self-construal (b = 0.10, SE = 0.05, 95% CI [0.02, 0.22]). However, the direct effect of Singapore-UK on negative socially engaging emotions, after controlling for both self-construals, was not significant (b = 0.38, SE = 0.29, p = .188). Thus, interdependent self-construal fully mediated the differences in the intensity of negative socially engaging emotions between the Singapore and U.K. sample.

Intensity of Socially Disengaging Emotions. We regressed positive socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.37, t(298) = 1.99, p = .048), but not interdependent self-construal (b = -0.20, t(298) = -0.99, p = .321), was significantly associated with the intensity of positive socially disengaging emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the intensity of positive socially disengaging emotions through independent self-construal (b = 0.05, SE = 0.05, 95% CI [-0.03, 0.16]). However, the direct effect of China-UK on positive socially disengaging emotions, after controlling for both self-construals, remained significant (b = -1.54, SE = 0.37, p < .001). Thus, independent self-construal did not mediate the differences in the intensity of positive socially disengaging emotions between the China and U.K. sample.

The mediation analysis also indicated a non-significant indirect effect of Singapore-UK on the intensity of positive socially disengaging emotions through independent self-construal (b = 0.03, SE = 0.04, 95% CI [-0.06, 0.13]). The direct effect of Singapore-UK on positive socially disengaging emotions, after controlling for both self-construals, remained significant (b = -0.67, SE = 0.33, p = .042). Thus, independent self-construal did not mediate the differences in the frequency of positive socially disengaging emotions between the Singapore and U.K. sample.

We then regressed negative socially disengaging emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.08, t(298) = 0.88, p = .382) and independent self-construal (b = -0.03, t(298) = -0.40, p = .688) were not significantly associated with the frequency of negative socially disengaging emotions.

Intensity of Aesthetic Emotions. We regressed aesthetic emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that independent self-construal (b = 0.50, t(298) = 2.60, p = .009), but not interdependent self-construal (b = -0.19, t(298) = -0.88, p = .381), was significantly associated with the intensity of aesthetic emotions.

Results from the subsequent mediation analysis revealed a non-significant indirect effect of China-UK on the intensity of aesthetic emotions through independent self-construal (b = -0.00, SE = 0.01, 95% CI [-0.04, 0.02]). However, the direct effect of China-UK on aesthetic emotions, after controlling for both self-construals, remained significant (b = -2.66, SE = 0.39, p < .001). Thus, independent self-construal did not mediate the differences in the intensity of aesthetic emotions between the China and U.K. sample.

The mediation analysis also indicated a non-significant indirect effect of Singapore-UK on the intensity of aesthetic emotions through independent self-construal (b = 0.00, SE = 0.01, 95% CI [-0.03, 0.02]). The direct effect of Singapore-UK on aesthetic emotions, after controlling for both self-construals, remained significant (b = -1.17, SE = 0.35, p < .001). Thus, independent self-construal did

not mediate the differences in the intensity of aesthetic emotions between the Singapore and U.K. sample.

Intensity of General Emotions. We regressed positive general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = -0.03, $t(298)$ = -0.14, p = .887) and independent self-construal (b = 0.06, $t(298)$ = 0.34, p = .734) were not significantly associated with the intensity of positive general emotions.

We then regressed negative general emotions onto both self-construals, along with the dummy-coded country variables and covariates. After accounting for between-country differences, the results showed that both interdependent self-construal (b = 0.36, $t(298)$ = 1.78, p = .076) and independent self-construal (b = -0.27, $t(298)$ = -1.49, p = .136) were not significantly associated with the intensity of negative general emotions. See Table 4.6 for the mediation analysis results for the intensity of perceived emotions.

Table 4.6 Study Two Mediation Analysis for Intensity of Felt Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
	Positive Socially Engaging Emotions						
Country 1 (China-UK)	**-2.56**	**-0.96**	**0.40**	**-6.46**	**< .001*** **	**-3.34**	**-1.78**
Country 2 (Singapore-UK)	0.05	0.02	0.35	0.14	.887	-0.64	0.74
Interdependent Self-Construal	**0.51**	**0.12**	**0.22**	**2.31**	**.022***	**0.07**	**0.94**
Independent Self-Construal	0.30	0.08	0.20	1.53	.128	-0.09	0.69
	Negative Socially Engaging Emotions						
Country 1 (China-UK)	-0.13	-0.07	0.33	-0.41	.683	-0.77	0.51
Country 2 (Singapore-UK)	0.38	0.19	0.29	1.32	.188	-0.19	0.94
Interdependent Self-Construal	0.35	0.11	0.18	1.92	.056	-0.01	0.70
Independent Self-Construal	-0.12	-0.04	0.16	-0.75	.454	-0.44	0.20
	Positive Socially Disengaging Emotions						
Country 1 (China-UK)	**-1.54**	**-0.67**	**0.37**	**-4.14**	**< .001*** **	**-2.27**	**-0.81**
Country 2 (Singapore-UK)	**-0.67**	**-0.29**	**0.33**	**-2.05**	**.042***	**-1.31**	**-0.03**
Interdependent Self-Construal	-0.20	-0.06	0.21	-0.99	.321	-0.61	0.20
Independent Self-Construal	**0.37**	**0.11**	**0.18**	**1.99**	**.048***	**0.00**	**0.73**
	Negative Socially Disengaging Emotions						
Country 1 (China-UK)	0.07	0.07	0.17	0.42	.675	-0.26	0.41
Country 2 (Singapore-UK)	0.22	0.22	0.15	1.48	.139	-0.07	0.52
Interdependent Self-Construal	0.08	0.05	0.09	0.88	.382	-0.10	0.27
Independent Self-Construal	-0.03	-0.02	0.08	-0.40	.688	-0.20	0.13
	Aesthetic Emotions						
Country 1 (China-UK)	**-2.66**	**-1.02**	**0.39**	**-6.79**	**< .001*** **	**-3.44**	**-1.89**
Country 2 (Singapore-UK)	**-1.17**	**-0.45**	**0.35**	**-3.39**	**< .001*** **	**-1.85**	**-0.49**
Interdependent Self-Construal	-0.19	-0.05	0.22	-0.88	.381	-0.62	0.24
Independent Self-Construal	**0.50**	**0.14**	**0.19**	**2.60**	**.009****	**0.12**	**0.89**
	Positive General Emotions						
Country 1 (China-UK)	**-2.76**	**-1.13**	**0.36**	**-7.59**	**< .001*** **	**-3.47**	**-2.04**
Country 2 (Singapore-UK)	-0.10	-0.04	0.32	-0.31	.756	-0.73	0.53
Interdependent Self-Construal	-0.03	-0.01	0.20	-0.14	.887	-0.43	0.37
Independent Self-Construal	0.06	0.02	0.18	0.34	.734	-0.29	0.42
Musical Expertise	**0.02**	**0.13**	**0.01**	**2.09**	**.038***	**0.00**	**0.03**
	Negative General Emotions						
Country 1 (China-UK)	-0.45	-0.20	0.37	-1.23	.218	-1.17	.027
Country 2 (Singapore-UK)	**0.76**	**0.33**	**0.32**	**2.37**	**.019***	**0.13**	**1.39**
Interdependent Self-Construal	0.36	0.10	0.20	1.78	.076	-0.04	0.76
Independent Self-Construal	-0.27	-0.08	0.18	-1.49	.136	-0.63	0.09
Age	**0.12**	**0.16**	**0.05**	**2.68**	**.008****	**0.03**	**0.22**

Note. CI = confidence interval; LL = lower limit; UL = upper limit. While covariates (age, gender, education, and musical expertise) are included in all models, only the statistically significant covariates are reported here. Full results can be found in Supplementary Materials Appendix L and M. Bold values indicate statistical significance.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion of Study Two

Study Two utilized a listening experiment and recruited participants residing in three different countries to investigate the role of self-construal in the emotions evoked by favorite music across cultures. We found partial support for our hypotheses: only interdependent self-construal emerged as a mediator in the relationship between country and the frequency and intensity of socially engaging emotions felt through favorite music. This mediation effect underscores the idea that cultural contexts influence self-construal, which in turn shapes both music preferences and the emotional responses elicited by favorite music (Markus & Kitayama, 1991, 2010; Tang, 2024). These results align with prior research indicating that individuals from collectivistic cultures experience socially engaging emotions more frequently and intensely in everyday interactions compared to individuals from individualistic cultures (Boiger et al., 2013; Furukawa et al., 2012; Jakubanecs et al., 2019; Kitayama et al., 2000, 2006; Leu et al., 2010). Unlike most previous studies, which typically compare East Asian and Western countries to operationalize collectivism and individualism, this study emphasizes the specific role of interdependent self-construal in evoking socially engaging emotions within the context of music.

Additionally, our findings demonstrated a significant positive relationship between interdependent self-construal and the frequency and intensity of socially engaging emotions, highlighting its influence on music-evoked emotions both across and within cultural contexts. While cultural environments may shape the range of music individuals are exposed to, self-construal plays a pivotal role in guiding the meaning-making processes that listeners engage in while listening to their favorite music. These cognitive and affective processes ultimately determine the emotions elicited. Specifically, interdependent self-construal, with its focus on intersubjective connections, likely enhances receptivity to socially engaging emotions, affective states that facilitate social cohesion and interpersonal bonding.

Contrary to our hypothesis, independent self-construal did not mediate the relationship between country and socially disengaging emotions evoked by favorite music. Our findings showed no significant differences in independent self-construal across cultural groups, which may explain the absence of a mediation effect. This lack of variation aligns with prior research indicating that individualism is increasing globally (Santos et al., 2017), suggesting that relying solely on country as a proxy for individualism may be insufficient for capturing meaningful cross-cultural distinctions.

Nonetheless, our results demonstrated a significant positive association between independent self-construal and the frequency and intensity of positive socially disengaging emotions evoked by favorite music. These findings are consistent with prior studies showing that individuals from Western countries experience socially disengaging emotions more frequently and intensely than Japanese participants in everyday contexts (Kitayama et al., 2000, 2006). Importantly, this study advances previous cross-national research by emphasizing the specific role of independent self-construal in shaping socially disengaging emotions within the music domain, even within a given cultural context.

In other words, although people from different countries may experience positive socially disengaging emotions, variations in independent self-construal may elucidate differences in the frequency and intensity of these emotions within cultural contexts.

Our results also showed that independent self-construal was significantly positively associated with the frequency of positive general emotions evoked by favorite music. These findings align with prior research, which found that participants from both individualistic and collectivistic countries reported similar prevalence of positive general emotions such as happiness, joy, enjoyment, and pleasure (Juslin et al., 2016; Saarikallio et al., 2021). Thus, our findings are consistent with the broader observation that favorite music universally elicits positive emotions across cultures. Notably, this study extends previous cross-country research by highlighting the role of independent self-construal in shaping the frequency of positive general emotions experienced within cultural contexts. While individuals across diverse countries may prefer music that evokes positive emotions, the degree to which these emotions are felt appears to be influenced by their independent self-construal. This suggests that within-culture variations in self-construal may provide a more nuanced understanding of individual differences in emotional responses to music beyond cross-national comparisons.

Additionally, this study revealed that independent self-construal was also significantly positively linked to the frequency and intensity of aesthetic emotions. These results suggest that aesthetic emotions may be rooted in Western philosophical traditions and, by extension, Western models of emotions. Aesthetic emotions are defined as discrete emotional responses that inherently involve an appreciation of the object being evaluated, such as music (Menninghaus et al., 2019). These emotions – such as awe, wonder, being moved, or feeling inspired – arise from an individual's engagement with and appreciation of the qualities of music, rather than from concerns related to survival or well-being (e.g., fear or happiness). This conceptualization contrasts sharply with Asian aesthetics. For example, Japanese aesthetics avoid focusing on the subject or striving for transcendence, emphasizing instead the immediacy or in-the-moment experience (Sasaki, 2011). Similarly, Chinese aesthetics prioritize the moral and educational functions of music, underscoring its role in promoting social harmony rather than valuing beauty as a standalone attribute (J. Liu, 2013). Given these philosophical differences, aesthetic emotions may resonate more strongly with independent self-construal.

Another explanation is that individuals with a stronger independent self-construal may place greater emphasis on their personal engagement with their favorite music, heightening their sensitivity to aesthetic experiences. They may also be more likely to critically evaluate the music or express personal judgements about its qualities. In contrast, individuals with a stronger interdependent self-construal might demonstrate greater humility, making them less inclined to pass personal judgments on another's work. Alternatively, their aesthetic judgments may be more influenced by the reactions and opinions of others rather than being based solely on their own perceptions. Since participants in this study listened to their favorite music in isolation, they lacked the social cues that might typically

inform their aesthetic judgements. This may have contributed to the observed positive association between independent self-construal and aesthetic emotions. Future research could further investigate this hypothesis by including participants from additional Western or highly individualistic cultural contexts and conducting group listening experiments.

General Discussion

The central aim of this paper was to investigate the role of self-construal in shaping the emotions evoked by favorite music across cultures. Across two studies, we examined whether self-construal, both within and between cultures, influenced the frequency and intensity of emotions experienced with favorite music.

Our studies offered consistent evidence linking independent self-construal to socially disengaging emotions evoked by favorite music. In Study One, between-region differences in independent self-construal were positively associated with the frequency of negative socially disengaging emotions. Study Two expanded on this by showing that independent self-construal directly influenced the frequency and intensity of positive socially disengaging emotions. Together, these findings advance cross-cultural emotion research in two key ways: first, by extending insights from everyday emotional experiences to the music domain; and second, by moving beyond cross-country comparisons to highlight the role of independent self-construal in shaping socially disengaging emotions experienced with music. These results underscore that listeners feel emotions such as pride and feelings of superiority when they listen to their favorite music across and within cultures.

Our studies provided limited evidence of an association between interdependent self-construal and socially engaging emotions evoked by favorite music. No such associations were found in Study One. However, Study Two revealed that interdependent self-construal not only directly influenced the frequency and intensity of socially engaging emotions but also mediated between-country differences in these emotions felt when listening to favorite music. We propose that this discrepancy stems from differences in methodology. In Study One, participants were asked to recall and reflect on the emotions experienced with their favorite music, a process inherently introspective and centered on individual experience. This introspection parallels self-construal manipulations commonly used in cross-cultural studies (cf. Cross et al., 2011). Prior research has shown that different self-construals can be activated in people from various cultures, resulting in behaviors congruent with interdependent or independent self-construals (Ikeda, 2021; Kafetsios & Hess, 2013; Liddell et al., 2017; Neumann, 2020; Pusaksrikit & Kang, 2016). By inviting participants to focus on their individual subjective experience, Study One may have inadvertently primed independent self-construal, which could account for the observed associations with independent self-construal and the absence of correlations with interdependent self-construal.

In contrast, the real-time listening task employed in Study Two shifted participants' attention from oneself to their engagement with music, a process that is culturally inflected. Music and listeners

influence one another through dynamic exchanges of musical elements and listener perceptions (Becker, 2010; Clarke, 2011; Frith, 1996; Tang, 2024). This interaction likely prompted participants to report their 'real' emotional responses, highlighting the relationship between interdependent self-construal and the frequency and intensity of socially engaging emotions. Moreover, this methodological shift may also explain the observed associations between independent self-construal and aesthetic emotions in Study Two. The listening experience may have encouraged participants to perceive music as a gestalt, facilitating the perception of aesthetic emotions.

Taken together, these findings have important implications for future cross-cultural music emotion research. They suggest that using retrospective, reflective online questionnaires to evaluate music-evoked emotions across cultures may introduce methodological biases. Additionally, the laboratory-based design of Study Two, removed from ecologically valid contexts where music engagement typically occurs, may have attenuated the observed associations and limits the generalizability of the findings. As demonstrated by Levenson et al. (1992) in their study of emotions in everyday contexts with individuals from the Minangkabau culture of West Sumatra, examining music engagement in naturalistic settings may reveal nuanced cross-cultural differences in music-evoked emotions. Given that music often involves people and multiple artistic mediums in other cultures (Mehr et al., 2019; Nzewi, 1997), future research should aim to study music-induced emotions outside of the laboratory setting in ecologically valid environments to enhance the reliability and applicability of findings across cultures.

Research has shown that felt and perceived emotions are distinct (Gabrielsson, 2001; Kallinen & Ravaja, 2006; Schubert, 2007, 2013), and that they do not always converge (Evans & Schubert, 2008; Kawakami et al., 2013). As this study focused specifically on felt emotions in response to favorite music, future research could investigate how self-construal influences the perception of emotion in music.

These findings also carry significant implications for music therapists and arts and health practitioners who use music to enhance well-being, particularly when working with individuals from diverse cultural backgrounds. By adopting a cultural approach to optimal functioning (Miyamoto et al., 2019), practitioners should acknowledge that individuals from various cultural contexts may possess different self-construals, which influence the affective states they prioritize for emotional well-being (Chow & Berenbaum, 2012; Rothman & Magee, 2016; Tsai et al., 2006). For instance, individuals with an interdependent self-construal often define happiness in terms of interpersonal connectedness, whereas those with an independent self-construal are more likely to associate happiness with personal achievement (Uchida et al., 2004). Understanding that people with interdependent and independent self-construals may experience socially engaging and socially disengaging emotions through their favorite music respectively, equips music therapists and practitioners to design culturally sensitive and tailored music interventions that meet the unique needs of their clients.

Another strength of our studies lies in the incorporation of culturally informed models of emotions. As discussed, much of the cross-cultural research in music psychology has relied on emotion models rooted in Western conceptualizations, which often frame emotions as intrapsychic experiences. This dominance of Western emotion models has constrained our ability to fully explore the diversity of affective experiences with music across cultures. By integrating culturally informed models of emotions (interpersonal vs. intrapersonal) alongside specific cultural factors (self-construal), we provided a more nuanced understanding of how culture shapes emotional responses to music. This approach acknowledges a broader range of emotions, including those prevalent in both non-Western and Western contexts (socially engaging and socially disengaging emotions), while also being sensitive to individual- and group-level cultural variations. For cross-cultural research in music psychology to thrive, we advocate that as researchers, we should make explicit our epistemological and ontological assumptions, and embrace both etic and emic theoretical perspectives.

Limitations

While our studies offer valuable insights, we also acknowledge several limitations. First, the unequal distribution of participants across regions (Study One) and the differences in age, education levels, and musical expertise between groups (Study Two) present challenges. Prior research indicates that these factors can influence emotional responses to music to varying degrees (Di Mauro et al., 2018; Kawakami et al., 2013; Ladinig & Schellenberg, 2012; Pearce & Halpern, 2015; Vieillard et al., 2012). Although we accounted for these demographic variables as covariates in Study Two to mitigate their impact, future studies should aim to replicate our findings with more comparable samples across cultures to enhance the generalizability of our results.

Second, we investigated music-evoked emotions using only a single favorite music selection. This choice was made due to practical constraints (i.e., questionnaire length) but may have limited our ability to detect differences. Also, the decision to use favorite music was based on prior research suggesting that music preferences are linked to personality and cultural identity (Dys et al., 2017; Huang et al., 2020; Marshall & Naumann, 2018; Rentfrow & Gosling, 2006), potentially reflecting an individual's prevailing self-construal and the emotions their preferred music induces. However, we recognize that specific types of music may inherently elicit particular emotions. Future research could standardize and employ multiple music stimuli to better explore cross-cultural differences and similarities in affective responses, while controlling for variables such as familiarity and liking.

Third, our study utilized a cross-sectional survey design, which limits our ability to draw causal inferences between self-construal and felt emotions with music. One plausible theoretical explanation for our findings is that individuals' emotional experiences during music engagement may activate specific self-construals. While our design does not allow us to confirm this, it is reasonable to suggest that self-construal and music experience influence each other, consistent with the notion that the self and cultural factors mutually shape one another (Markus & Kitayama, 2010; Tang, 2024).

This dynamic interaction likely plays a role in shaping the emotions experienced during music engagement.

Fourth, our categorization of emotions was determined a priori. While this structured approach facilitated analysis, we acknowledge that emotions are inherently complex and may not neatly fit into predefined categories, especially across cultures. Also, the granularity of emotions selected across participants may have influenced our results (Barrett, 2004; Kashdan et al., 2015). Nonetheless, our findings highlight the importance of incorporating culturally sensitive models of emotions into cross-cultural research, enabling a richer understanding of how culture shapes emotional experiences.

Conclusion

In conclusion, our studies highlight the importance of incorporating specific cultural factors and adopting culturally informed emotion models in cross-cultural investigations of music-evoked emotions. Furthermore, our findings suggest that methodological variations – such as listening to music versus reflecting on it – can significantly influence outcomes when examining music-evoked emotional experiences across cultures. For the first time, this research underscores the role of self-construal in shaping affective responses to music across and within cultures. Specifically, interdependent self-construal was linked to socially engaging emotions, while independent self-construal was associated with socially disengaging emotions, as well as aesthetic and positive general emotions experienced with favorite music. In other words, our study reveals that our sense of self, whether perceived as interconnected or independent, affects the frequency and intensity of various emotion types felt during music engagement. This research presents a novel approach to cross-cultural studies of affective experiences with music. By investigating the role of self-construal and adopting culturally informed emotion models, we contribute to a deeper and more nuanced understanding of cultural diversity in music psychology. These insights pave the way for future research exploring the intricate interplay between culture, self-construal, and emotional experiences in the music domain.

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Addendum to Chapters Three and Four

Overview

This chapter serves as an addendum to Chapters Three and Four. It presents the descriptive findings for both perceived and felt emotions in Study One and Study Two.

Results for Study One

Perceived Emotions

The one-way ANOVA showed statistically significant differences in the frequency of perceived emotions between regions. Specifically, differences were found in the frequency of positive socially engaging emotions, $F(8, 433) = 2.15$, $p = .031$; negative socially disengaging emotions, $F(8, 433) = 4.72$, $p < .001$; and negative general emotions, $F(8, 433) = 4.46$, $p = .000$. However, no statistically significant differences were observed in the intensity of perceived emotions between regions. See Table 4.7 for more information.

Felt Emotions

The one-way ANOVA indicated no statistically significant differences in the frequency and intensity of felt emotions between regions. See Table 4.8 for further details.

Table 4.7 Study One Perceived Emotion Descriptives

	American (n = 215) *M (SD)*	Canadian (n = 38) *M (SD)*	Brazilian (n = 2) *M (SD)*	British (n = 88) *M (SD)*	European (n = 15) *M (SD)*	East Asian (n = 26) *M (SD)*	Southeast Asian (n = 32) *M (SD)*	South Asian (n = 11) *M (SD)*	Dual Nationality (n = 7) *M (SD)*
Frequency									
Socially Engaging									
Positive*	**1.02 (0.95)**	**1.05 (0.96)**	**3.00 (1.41)**	**1.10 (0.94)**	**0.73 (0.80)**	**1.19 (1.23)**	**0.91 (1.03)**	**1.36 (0.93)**	**1.86 (1.07)**
Negative	0.12 (.035)	0.08 (0.27)	0.00 (0.00)	0.23 (0.52)	0.07 (0.26)	0.12 (0.43)	0.16 (0.45)	0.18 (0.41)	0.00 (0.00)
Socially Disengaging									
Positive	0.24 (0.52)	0.24 (0.54)	0.00 (0.00)	0.16 (0.40)	0.07 (0.26)	0.31 (0.62)	0.25 (0.51)	0.18 (0.41)	0.29 (0.49)
Negative***	**0.14 (0.52)**	**0.21 (0.58)**	**2.50 (2.12)**	**0.19 (0.62)**	**0.13 (0.35)**	**0.12 (0.43)**	**0.19 (0.64)**	**0.09 (0.30)**	**0.00 (0.00)**
Aesthetic	1.08 (1.11)	0.79 (1.02)	2.00 (2.83)	0.94 (1.00)	0.73 (0.96)	1.23 (0.99)	0.81 (0.90)	1.09 (0.83)	1.71 (1.11)
Positive General	1.63 (1.50)	1.76 (1.53)	2.50 (3.54)	1.51 (1.45)	1.27 (1.34)	1.65 (1.92)	1.47 (1.32)	2.55 (1.64)	1.43 (0.78)
Negative General***	**0.39 (0.88)**	**0.26 (0.55)**	**3.50 (2.12)**	**0.65 (1.00)**	**0.33 (0.62)**	**0.31 (0.68)**	**0.31 (0.74)**	**0.45 (0.82)**	**0.86 (1.22)**
Intensity									
Socially Engaging									
Positive	3.88 (2.90)	4.20 (2.81)	5.75 (0.35)	4.02 (2.87)	2.93 (2.92)	3.82 (2.92)	3.41 (3.11)	5.73 (2.05)	5.00 (2.29)
Negative	0.59 (1.76)	0.32 (1.16)	0.00 (0.00)	1.03 (2.23)	0.27 (1.03)	0.37 (1.31)	0.69 (1.93)	0.91 (2.02)	0.00 (0.00)
Socially Disengaging									
Positive	1.16 (2.40)	1.05 (2.32)	0.00 (0.00)	0.93 (2.27)	0.33 (1.29)	1.48 (2.78)	1.22 (2.39)	1.09 (2.47)	1.29 (2.21)
Negative	0.54 (1.73)	0.72 (1.89)	4.38 (0.88)	0.57 (1.66)	0.87 (2.29)	0.37 (1.29)	0.56 (1.79)	0.55 (1.81)	0.00 (0.00)
Aesthetic	3.55 (2.94)	2.67 (2.90)	3.38 (4.77)	3.33 (3.01)	2.94 (3.30)	4.69 (2.75)	3.42 (3.12)	5.15 (2.63)	4.41 (2.47)
Positive General	4.30 (2.69)	4.65 (2.53)	2.80 (3.96)	4.13 (2.73)	4.23 (2.94)	3.77 (3.11)	4.05 (2.75)	5.98 (0.94)	4.57 (2.21)
Negative General	1.16 (2.31)	1.20 (2.37)	4.55 (0.07)	2.04 (2.66)	1.47 (2.59)	1.13 (2.41)	1.07 (2.31)	1.64 (2.86)	1.88 (2.44)

Note. Bold values indicate statistical significance.
* $p < .05$, *** $p < .001$.

Table 4.8 Study One Felt Emotion Descriptives

	American (n = 215) *M (SD)*	Canadian (n = 38) *M (SD)*	Brazilian (n = 2) *M (SD)*	British (n = 88) *M (SD)*	European (n = 15) *M (SD)*	East Asian (n = 26) *M (SD)*	Southeast Asian (n = 32) *M (SD)*	South Asian (n = 11) *M (SD)*	Dual Nationality (n = 7) *M (SD)*
Frequency									
Socially Engaging									
Positive	0.93 (0.96)	0.97 (0.94)	1.50 (0.71)	1.06 (1.01)	0.67 (0.72)	0.81 (0.98)	0.81 (0.97)	1.09 (0.70)	1.86 (1.07)
Negative	0.11 (0.33)	0.08 (0.27)	0.00 (0.00)	0.14 (0.38)	0.07 (0.26)	0.08 (0.27)	0.13 (0.42)	0.27 (0.47)	0.14 (0.38)
Socially Disengaging									
Positive	0.27 (0.55)	0.16 (0.44)	0.00 (0.00)	0.31 (0.58)	0.13 (0.35)	0.23 (0.59)	0.19 (0.40)	0.18 (0.60)	0.14 (0.38)
Negative	0.07 (0.31)	0.00 (0.00)	0.50 (0.71)	0.05 (0.21)	0.00 (0.00)	0.00 (0.00)	0.06 (0.25)	0.09 (0.30)	0.00 (0.00)
Aesthetic	1.28 (1.22)	1.08 (1.08)	2.00 (2.83)	1.40 (1.14)	0.73 (0.88)	1.27 (0.96)	1.38 (1.31)	1.64 (0.81)	1.43 (1.27)
Positive General	1.75 (1.55)	1.61 (1.08)	1.00 (1.41)	2.11 (1.60)	1.40 (0.99)	1.19 (1.36)	1.63 (1.52)	2.73 (1.95)	1.57 (1.13)
Negative General	0.25 (0.62)	0.16 (0.55)	0.00 (0.00)	0.47 (0.95)	0.27 (0.80)	0.12 (0.33)	0.19 (0.47)	0.09 (0.30)	0.43 (0.54)
Intensity									
Socially Engaging									
Positive	3.49 (2.98)	3.69 (2.97)	5.75 (0.35)	3.82 (2.87)	3.23 (3.22)	3.22 (3.15)	2.91 (2.88)	5.32 (2.69)	5.29 (2.45)
Negative	0.59 (1.80)	0.45 (1.59)	0.00 (0.00)	0.69 (1.87)	0.69 (1.87)	0.42 (1.55)	0.47 (1.50)	1.64 (2.65)	1.00 (2.65)
Socially Disengaging									
Positive	1.24 (2.49)	0.82 (2.14)	0.00 (0.00)	1.56 (2.73)	0.87 (2.29)	1.02 (2.45)	1.16 (2.45)	0.59 (1.96)	0.57 (1.51)
Negative	0.28 (1.17)	0.00 (0.00)	2.50 (3.54)	0.23 (1.11)	0.00 (0.00)	0.00 (0.00)	0.38 (1.48)	0.45 (1.51)	0.00 (0.00)
Aesthetic	4.10 (2.95)	3.73 (2.85)	3.38 (4.77)	4.64 (2.62)	3.27 (3.24)	5.00 (2.63)	4.26 (2.98)	6.26 (0.78)	4.02 (2.91)
Positive General	4.37 (2.76)	5.44 (1.86)	3.00 (4.24)	5.06 (2.17)	4.88 (2.64)	4.10 (3.33)	4.62 (2.33)	5.87 (2.01)	4.21 (2.91)
Negative General	1.06 (2.28)	0.52 (1.54)	0.00 (0.00)	1.32 (2.36)	0.80 (2.14)	0.69 (1.98)	0.72 (1.78)	0.64 (2.11)	1.86 (2.41)

Note. Bold values indicate statistical significance.

* $p < .05$, *** $p < .001$.

Results for Study Two

Perceived Emotions

The one-way ANOVA showed statistically significant differences in the frequency of perceived emotions between countries. Specifically, differences were observed in the frequency of positive socially engaging emotions, $F(2, 308) = 7.99$, $p = .000$; negative socially engaging emotions, $F(2, 308) = 5.15$, $p = .006$; negative socially disengaging emotions, $F(2, 308) = 3.50$, $p = .032$; and negative general emotions, $F(2, 308) = 9.69$, $p = .000$.

The results also revealed statistically significant differences in the intensity of perceived emotions between countries. Specifically, differences were found in the intensity of perceived positive socially engaging emotions, $F(2, 308) = 4.47$, $p = .012$; negative socially engaging emotions, $F(2, 308) = 4.19$, $p = .016$; and negative general emotions, $F(2, 308) = 10.49$, $p = .000$. See Table xx for more information. See Table 4.9 for more information.

Table 4.9 Study Two Perceived Emotion Descriptives

	The U.K. (n = 102) *M (SD)*	China (n = 107) *M (SD)*	Singapore (n = 100) *M (SD)*	p-Value
Frequency				
Socially Engaging				
Positive	1.36 (1.08)	0.99 (0.86)	1.55 (1.13)	.000***
Negative	0.26 (0.56)	0.09 (0.32)	0.30 (0.58)	.006**
Socially Disengaging				
Positive	0.32 (0.62)	0.21 (0.46)	0.19 (0.49)	.155
Negative	0.17 (0.42)	0.09 (0.35)	0.27 (0.63)	.032*
Aesthetic	1.15 (1.13)	0.94 (0.96)	1.11 (1.10)	.339
Positive General	1.80 (1.53)	1.61 (1.53)	1.64 (1.66)	.631
Negative General	0.63 (1.00)	0.63 (0.70)	0.96 (1.10)	.000***
Intensity				
Socially Engaging				
Positive	4.11 (2.53)	3.81 (2.82)	4.90 (2.27)	.012*
Negative	1.00 (2.00)	0.50 (1.70)	1.33 (2.45)	.016*
Socially Disengaging				
Positive	1.38 (2.50)	1.13 (2.34)	0.82 (2.03)	.228
Negative	0.67 (1.70)	0.45 (1.61)	0.91 (1.98)	.176
Aesthetic	3.68 (2.63)	3.87 (3.01)	3.95 (2.82)	.792
Positive General	4.20 (2.52)	4.23 (2.88)	3.99 (2.76)	.793
Negative General	1.85 (2.47)	1.36 (2.39)	2.98 (2.91)	.000***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Felt Emotions

The one-way ANOVA indicated statistically significant differences in the frequency of felt emotions between countries. Specifically, differences were observed in the frequency of positive socially engaging emotions, $F(2, 308) = 10.43$, $p < .001$; positive socially disengaging emotions, $F(2, 308) = 6.50$, $p = .002$; negative socially disengaging emotions, $F(2, 308) = 3.034$, $p = .049$; aesthetic emotions, $F(2, 308) = 9.85$, $p < .000$; and positive general emotions, $F(2, 308) = 5.70$, $p = .004$.

The results also showed statistically significant differences in the intensity of felt emotions between countries. Specifically, differences were found in the intensity of positive socially engaging emotions, $F(2, 308) = 36.15$, $p < .001$; negative socially engaging emotions, $F(2, 308) = 3.21$, $p = .042$; positive socially disengaging emotions, $F(2, 308) = 8.71$, $p < .001$; aesthetic emotions, $F(2, 308) = 31.30$, $p < .001$; positive general emotions, $F(2, 308) = 39.21$, $p < .001$; and negative general emotions, $F(2, 308) = 10.02$, $p < .001$. See Table 4.10 for further details.

Table 4.10 Study Two Felt Emotion Descriptives

	The U.K. (n = 102) *M (SD)*	China (n = 107) *M (SD)*	Singapore (n = 100) *M (SD)*	p-Value
Frequency				
Socially Engaging				
Positive	1.61 (1.01)	0.99 (0.92)	1.40 (1.06)	< .001***
Negative	0.14 (0.42)	0.13 (0.34)	0.22 (0.46)	.226
Socially Disengaging				
Positive	0.43 (0.67)	0.17 (0.42)	0.24 (0.52)	.002**
Negative	0.02 (0.14)	0.03 (0.17)	0.09 (0.32)	.049*
Aesthetic	1.74 (0.97)	1.13 (0.96)	1.25 (1.17)	< .001***
Positive General	2.63 (1.66)	1.90 (1.61)	2.10 (1.55)	.004**
Negative General	0.33 (0.59)	0.40 (0.93)	0.53 (0.72)	.178
Intensity				
Socially Engaging				
Positive	4.85 (2.22)	2.48 (2.64)	5.01 (2.34)	< .001***
Negative	0.59 (1.78)	0.52 (1.68)	1.16 (2.39)	.042*
Socially Disengaging				
Positive	1.84 (2.65)	0.54 (1.60)	1.17 (2.38)	< .001***
Negative	0.10 (0.71)	0.14 (0.96)	0.37 (1.32)	.138
Aesthetic	5.48 (1.60)	2.87 (2.67)	4.24 (2.71)	< .001***
Positive General	5.35 (1.79)	2.95 (2.62)	5.19 (2.06)	< .001***
Negative General	1.21 (2.07)	0.87 (1.79)	2.21 (2.76)	< .001***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

Research has shown that felt and perceived emotions are distinct (Gabrielsson, 2001; Kallinen & Ravaja, 2006; Schubert, 2007, 2013), and that they do not always align (Evans & Schubert, 2008; Kawakami et al., 2013). Accordingly, separate analyses were conducted to compare perceived and felt emotions across cultural contexts.

The results from Study One suggest minimal differences in both perceived and felt emotions with favourite music between cultural groups. I argue that this lack of observed variation may stem, in part, from the use of an online questionnaire, which could have introduced biases related to memory and perception. Furthermore, the broad range of nationalities included in the sample may have diluted potential cross-national differences, limiting the ability to detect meaningful differences.

In contrast, Study Two revealed more pronounced cross-cultural differences. This suggests that more intentional and targeted sampling of participants from specific cultural contexts is necessary to uncover such differences. Notably, greater cross-cultural variation was observed in felt emotions compared to perceived emotions, indicating that culturally shaped affective experiences with music may be more evidence in felt responses.

A key limitation of simply comparing responses between cultural groups is that it obscures the underlying cultural mechanisms through which culture shapes emotional experiences with music. For example, in Study Two, participants from China reported lower frequency and intensity of perceived and felt socially engaging emotions compared to participants from Singapore and the U.K. If one were to interpret these findings solely through a nationality-based lens, such as categorising China as collectivistic and the U.K. as individualistic, one might erroneously conclude that collectivism was not relevant in this context.

However, as demonstrated in Chapters Three and Four, socially engaging emotions were positively associated with interdependent self-construal, which provides a more precise explanation of the cultural mechanism as play. This underscores the importance of moving beyond nationality as a proxy for culture. In other words, comparisons between cultural contexts are insufficient for understanding why emotional differences emerge across groups. Greater specificity is needed to identify the mechanisms, such as self-construal, that influence the emotions perceived and felt in response to music.

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CHAPTER FIVE

"Music produces a kind of pleasure which human nature cannot do without."

– Confucius

Overview

Neuroimaging studies have shown that both the dopaminergic reward system and emotional brain circuitry are activated when listening to highly pleasurable music, suggesting that the rewarding experience of music may involve an affective component. This chapter addresses the research question: how does self-construal shape the experience of musical reward associated with favourite music between cultural contexts?

Abstract

Listening to music can be a rewarding experience for many. Research has shown that multiple factors influence musical reward including personality, age, and musical expertise. However, the role of culture in shaping musical reward remains underexplored. Most cross-cultural studies in music psychology have compared individuals from different countries. This study adopted a novel approach by examining self-construal, an individual-level explanation for cultural differences, in relation to musical rewards associated with favourite music across cultures. A cross-sectional online questionnaire was administered to 435 participants, categorised into collectivist and individualist cultural groups based on nationality. The one-way MANCOVA revealed no significant differences in musical rewards experienced between the two cultural groups. However, separate multiple linear regression analyses highlighted cross-cultural similarities and differences. For the collectivist group, results indicated that interdependent self-construal predicted social reward while independent self-construal predicted musical seeking reward. For the individualist group, both self-construals predicted social reward and sensory-motor, interdependent self-construal predicted emotion evocation, and independent self-construal predicted musical seeking and mood regulation rewards. These findings provide preliminary evidence that self-construal influences the types of rewards experienced across cultures. In particular, one's sense of self, whether construed as interdependent or independent, shapes the types of rewards experienced with favourite music. This study underscores the importance of incorporating specific cultural factors in cross-cultural research on musical reward. By examining self-construal, this work contributes to a more nuanced understanding of cultural diversity in music psychology.

Keywords: self-construal, cross-cultural, music, music listening

"I feel good… I knew that I would…": The Role of Self in Musical Reward Across Cultures

As James Brown belts out, feeling good is one of the primary pleasures of music. Indeed, listening to music can be a pleasurable experience for many (Holm et al., 2020), but do people from all cultures experience the same pleasure? Neuroimaging studies have found that both the dopaminergic reward system and emotional brain circuitry are activated when listening to highly pleasurable music (Zatorre, 2018). These psychophysiological mechanisms could suggest that rewards derived from music listening are universal. Neuroimaging studies, however, tend to treat reward as a unitary phenomenon driven by biological substrates and disregard the multifaceted nature of musical experience involving the interaction of biological, psychological, and cultural factors (Reybrouck & Eerola, 2022). Although music is universal (Mehr et al., 2019), it is also an activity laden with cultural meanings, practices, and values (Cross, 2001; Trehub et al., 2015). It is therefore important to acknowledge cultural diversity in music cognition by examining how cultural factors influence musical reward.

In research on the psychology of music, factors such as nationality, country of residence, and ethnicity have been commonly used as proxies for underlying cultural differences (Jacoby et al., 2020; Sauvé et al., 2023). However, the world today is increasingly interconnected and cultural contexts are melded together as individuals move from country to country (Taras et al., 2016). Furthermore, culture does not solely exist in the countries where people live, but also in the ways they perceive, comprehend, and interpret their self (i.e., self-construal; Hong & Mallorie, 2004; Markus & Kitayama, 2010; Oyserman, 2011). Empirical evidence supports the theory that self-construal affects many aspects of behaviour including cognition and emotion (see Cohen & Kitayama, 2019, for an overview). Specifically, research in cultural neuroscience has shown that the same brain regions process both self-construal and reward (Han & Humphreys, 2016; Kitayama & Huff, 2015). Thus, cultural differences can be explained at the individual level through self-construal, potentially shedding light on the ways in which culture influences the pleasure to be gained from listening to music. Consequently, the aim of this study was to investigate the role of self in musical reward across cultures.

Cultural Determinants of Musical Reward

Scholars have different perspectives on reward depending on their cultural outlook (Reybrouck & Eerola, 2022). Broadly speaking, musical reward can be defined as the pleasurable experience associated with music (hedonia) and the sense of fulfillment it brings to one's life (eudaimonia). For this paper, I adopt the hedonic perspective on musical reward and understand it to be a hierarchical concept in which different subtypes are subsumed under a higher-level unitary form of reward (Dubé & Le Bel, 2003). Mas-Herrero et al. (2013) delineated five subtypes of musical reward: *musical seeking*, pleasure gained from seeking information about music; *emotion evocation*,

pleasure obtained from the feelings evoked by music; *mood regulation*, pleasure gained from using music to regulate affect; *sensory-motor*, pleasure derived from dancing or moving to music; and *social reward*, pleasure when bonding with others through music. Cardona et al. (2022) added to this framework *absorption in music*, a pleasurable state of transcendence or complete immersion in music.

Research has shown that multiple factors influence musical reward and its subtypes, such as personality, age, gender, musical expertise, and music-cognitive traits (Kreutz & Cui, 2022). Regarding personality, Wang et al. (2021) found that conscientiousness, agreeableness, neuroticism, and openness were significant independent factors that predicted musical reward as a whole. Examining subtypes of musical reward, Gupta (2018) found that extraversion was positively associated with social reward and neuroticism was positively associated with mood regulation. Other studies have shown that age was negatively associated with various musical rewards, including the musical seeking, mood regulation, and sensory-motor subtypes (Cardona et al., 2022; Mas-Herrero et al., 2013). Musical expertise has also been found to be positively associated with musical seeking and emotion evocation subtypes of musical reward. Taken together, the evidence suggests that musical reward is a differentiated phenomenon such that multiple intersecting factors influence the type of reward that is experienced when listening to music.

To my knowledge, no research to date has explicitly examined the influence of cultural factors on musical reward. Participants from different countries were recruited in the studies cited above: Spain and North America (Mas-Herrero et al., 2013), India (Gupta, 2018), China (Wang et al., 2021), and Germany (Kreutz & Cui, 2022). Nevertheless, it would be premature to conclude that the determinants of musical reward and its subtypes are pancultural for two reasons. First, no cross-cultural comparisons were made even though participants came from different countries, so there is no evidence for or against the theory that musical rewards differ according to cultural context. Second, culture goes beyond country and nation state (Taras et al., 2016). To propose valid hypotheses, it is imperative to articulate theoretical frameworks specifying the aspects of culture that are likely to influence musical reward (Rohner, 1984).

Culture, Self, and Reward

Culture is often associated with nation states. As such, researchers frequently operationalise culture using sociodemographic categories such as nationality, race, and ethnicity. Nationality refers to citizenship or permanent residency in a particular country, while race and ethnicity pertains to classification based on physical attributes and shared cultural heritage. I acknowledge that culture is not neatly bounded within these sociodemographic categories. Instead, culture is an untidy construct that includes an expansive set of material and symbolic concepts that give form and direction to behaviour (Markus & Kitayama, 2010). Examples include cultural values, such as self-direction, benevolence, hedonism, and conformity (Schwartz, 1994); cultural syndromes, such as tightness, active-passive, and honour (Triandis, 1996); and cultural mental programming, such as power distance, uncertainty avoidance, and long-term versus short-term orientation (Hofstede et al., 2010).

Several studies in music psychology have attributed cross-cultural differences in affective experiences of music to the norms and values inherent in collectivistic and individualistic societies (Barradas & Sakka, 2021; Granot et al., 2021; Juslin et al., 2016; Saarikallio et al., 2021). For example, research on the uses and functions of music has shown that members of collectivistic societies (i.e., Kenya, Mexico, Philippines, Turkey, India, Hong Kong, Brazil, and Singapore) tend to use music for social purposes (e.g., diversion and social bonding) whereas members of individualistic societies (i.e., New Zealand, Germany, and the US) use music for self-centric purposes (e.g., emotion regulation and self-reflection; Boer et al., 2012; Boer & Fischer, 2012; Schäfer et al., 2012). By using nationality and geographical boundaries to operationalise collectivism-individualism, these studies examined cross-cultural differences between cultural contexts in the form of nation states.

Other theories of culture encourage us to go beyond the cultural context and consider the role of self (or self-construal) in cross-cultural investigations. Markus and Kitayama (2010) note that "culture is not separate from the individual; it is a product of human activity" (p. 423). Instead of comparing differences between groups according to the collectivist or individualist dichotomy, they explain cultural differences between individuals' perception, emotion, and behaviour according to their self-construal (Markus & Kitayama, 1991). Cultural psychologists have theorised that there are two types of self-construal, and that these vary both within and between cultural contexts (Markus & Kitayama, 2010). Individuals with an interdependent self-construal view themselves as socially embedded, such that their behaviour is contingent on their relationships with others. Individuals with an independent self-construal view themselves as unique and separate from others, meaning their behaviour is strongly driven by their own thoughts, feelings, and motivations. In other words, social harmony and interpersonal priorities are more important to individuals with interdependent selves, whereas personal preferences and intrapersonal priorities are more important for people with independent selves.

From this perspective, individuals are not seen as passive members of the cultures that they belong to, but as active agents consciously or unconsciously reflecting, reinforcing, and changing the cultures that they are part of (Hong & Mallorie, 2004; Markus & Kitayama, 2010; Oyserman, 2011). In other words, people may possess self-construals that align with their cultural environment (e.g., an interdependent self-construal in a collectivistic context) as well as self-construals that contrast with it (e.g., an independent self-construal in a collectivistic context). Previous studies in music psychology have investigated cross-cultural differences by comparing groups from various countries, which often assumes that individuals automatically adopt or adhere to the collectivistic or individualistic values of their broader cultural context. Measuring cultural differences at the individual level, by examining the self, offers a more nuanced approach to understanding how culture influences musical reward because it is sensitive to variations between both individuals and groups, and specifies the exact psychological mechanisms through which culture shapes musical reward experiences.

Studies in cultural neuroscience have provided evidence that self-construal modulates brain activity during cognitive and affective processes (Han & Humphreys, 2016; Kitayama & Huff, 2015). For example, substantial overlap exists between the neural networks involved in processing self-construal and that of reward, suggesting that the perception of reward can be influenced by different types of self-construal (Zhu et al., 2017). Using a forced-choice gambling task, researchers have found that individuals with a dominant interdependent self-construal exhibit similar neural activation in the reward network in response to rewards for themselves and for friends and close others (Varnum et al., 2014; Zhu et al., 2018, 2020). Conversely, individuals with a dominant independent self-construal show greater reward network activation in response to rewards for themselves than for others. These findings demonstrate that self-construal can influence whether rewards are experienced in response to pleasurable activities directed toward oneself or close others. However, because previous studies predominantly employed gambling tasks to examine reward experiences, it remains unclear whether self-construal similarly influences rewards derived from other pleasurable activities, such as listening to music.

Aims of the Study

The primary aim of the present study was to investigate the role of self in musical reward across cultures. Although researchers have identified several factors influencing musical reward, the significant role of culture remains underexplored. This study seeks to address this gap by examining how cultural factors influence musical reward in different cultural contexts. Furthermore, previous research has examined musical reward broadly without considering specific pieces of music. Yet individuals often report using particular pieces of music for specific activities (DeNora, 2000; Greasley & Lamont, 2011), which may affect the type of musical reward they experience.

In this study, participants were asked to reflect on the types of rewards that they experience when listening to their all-time favourite piece of music. I acknowledge that favourite music is highly context-dependent and can change from one moment to the next (Lamont & Webb, 2010). Nonetheless, favourite music was chosen because of its unique significance to individuals, reflecting both individual and cultural influences from collectivistic and individualistic contexts. Studies have shown that music preferences are closely linked to personality, cultural identity, and cultural values (Boer et al., 2013; Brittin, 2014; Dys et al., 2017; Rentfrow & Gosling, 2006). For example, music preferences can signal meaningful information about racial identity; preferences for rap, hip-hop, and soul genres tend to be associated with Black individuals, whereas preferences for rock, alternative, pop, country, and folk genres are more commonly associated with White individuals (Marshall & Naumann, 2018; Rentfrow et al., 2009). Furthermore, Andrews et al. (2022) found that personal and cultural values explained differences in music preferences more effectively than personality traits alone. These findings suggest that an individual's prevailing self-construal may be reflected in their favourite music, which in turn shapes the musical rewards they gain from listening to it.

This study addressed two research questions: 1) Do people from collectivistic and individualistic cultures experience different musical rewards when listening to their favourite music? 2) To what extent is self-construal associated with musical reward, both within and between cultures, alongside other factors such as age, education, musical expertise, and personality?

Theoretical Framework and Hypotheses

I situated this exploration within the meaning-making processes individuals engage in while listening to their favourite music. I theorise that music engagement is culturally inflected (Becker, 2010; Clarke, 2011; Fram, 2023; Frith, 1996), as music and listeners exist in a symbiotic relationship within a particular context. Through ongoing, interactive exchanges between musical elements and listener perceptions, they continuously define and influence each other.

In this study, I adopted a post-positivist approach which strives towards objective knowledge while recognising that theories are limited, situated, and socially constructed (Matney, 2019): musical reward (Mas-Herrero et al., 2013) and self-construal (Markus & Kitayama, 2010). Given the evidence that self-construal impacts reward experiences (Varnum et al., 2014; Zhu et al., 2017, 2018, 2020), I hypothesised that interdependent self-construal would be positively associated with social reward, and independent self-construal would be associated with musical seeking, emotion evocation, mood regulation, and sensory-motor rewards.

Method

Participants

Participants were recruited in two ways. First, they were recruited through an online advertisement disseminated by the researcher and the researcher's contacts at universities in Singapore, China, Hong Kong, the UK, and the US, in which participants were informed that they could be entered into a draw to win one of five £10 (~US$13) Amazon gift cards. Second, they were recruited through Amazon Mechanical Turk (MTurk) administered by CloudResearch (Litman et al., 2017), and paid US$1 after completing the online questionnaire. Participants who did not complete the questionnaire or had missing responses were removed. Four hundred and thirty-five participants were included in the final analysis, of which participants reported 32 nationalities and 20 ethnicities, living in 11 different countries (see Table 5.1 and Supplementary Materials Appendix E).

Table 5.1 Participants: Demographic information

	n	%
Age (Years)		
Mean (SD)	35.76 (12.63)	
Gender		
Transgender	1	0.2
Non-binary	8	1.8
Female	212	48.7
Male	211	48.5
Prefer not to say	3	0.7
Disability		
Yes	54	12.4
No	365	83.9
Prefer not to say	12	2.8
Prefer to self-describe	4	0.9
Education Level		
Primary or elementary school	1	0.2
Secondary or middle school	8	1.8
Higher secondary or high school	89	20.5
College or university	223	51.3
Postgraduate degree	114	26.2
Musical identity [a]		
Non-musician	87	20.0
Music-loving non-musician	159	36.6
Amateur musician	86	19.8
Serious amateur musician	43	9.9
Semi-professional musician	36	8.3
Professional musician	24	5.5
Music Lessons (Years)		
Mean (SD)	4.26 (6.00)	

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (Ollen, 2006) musician rank item. Musical identity was used because it is the single-item measure that best represents musical sophistication and musicality (Zhang & Schubert, 2019).

Materials

The survey was administered in both English and Chinese (simplified and traditional) and all the measures used had been translated in previous studies. Musical reward was measured using the Barcelona Music Reward Questionnaire (BMRQ; Mas-Herrero et al., 2013). The BMRQ consists of 20 items using a 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to measure five subtypes of musical reward: musical seeking, emotion evocation, mood regulation, sensory-motor, and social reward. Each subtype was measured using four items and a composite musical reward score was calculated by summing the five subtypes. The Chinese version of the BMRQ was taken from Wang et al. (2021). Cronbach's alpha for the present study (all participants combined) was .86.

Self-construal was measured using Singelis' (1994) Self-Construal Scale (S-SCS). The S-SCS consists of 15 items to measure interdependent self-construal and 15 items to measure independent self-construal using a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The Chinese version of the S-SCS was obtained from T. Singelis (personal communication, November 17, 2022) and had been used in previous studies (Li et al., 2006; Yu et al., 2016). Cronbach's alpha for the present study (all participants combined) was .84 and .82 for the interdependent and independent scales respectively.

Personality was measured using the Big Five Inventory 10-item version (BFI-10; Rammstedt et al., 2013; Rammstedt & John, 2007). The BFI-10 comprises 10 items using a 5-point Likert scale from 1 (*disagree strongly*) to 5 (*agree strongly*) to measure five factors of personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness. Each factor was measured using two items and the additional item for agreeableness was included. The Chinese version of the BFI-10 was taken from Carciofo et al. (2016). This short scale was used instead of the full-length measure because the BMRQ and S-SCS were already lengthy, and the primary aim of this study was to investigate the role of self in musical reward across cultures. Cronbach's alpha for the present study (all participants combined) was .35 for the BFI-10, with .63 for extraversion, .48 for agreeableness, .51 for conscientiousness, .67 for neuroticism, and .26 for openness. The overall low internal consistency might be due to its short length and few items per factor. Nevertheless, previous research showed that the BFI-10 possesses acceptable psychometric properties as an adequate assessment of personality (Carciofo et al., 2016; Rammstedt et al., 2013; Rammstedt & John, 2007).

Musical expertise was measured using self-reported years of musical training and the musician rank item (i.e., *"Which title best describes you?"*) of the Ollen Musical Sophistication Index (OMSI; Ollen, 2006). I used these as proxies of musical expertise because Zhang and Schubert (2019) found that they were the best single-item measures for estimating musical sophistication and musicality.

Procedure

Prospective participants were invited to participate in the study through a link on the online advertisement or through MTurk. After participants clicked on the link, they read the participant information sheet and completed the informed consent form before starting the online questionnaire. Participants were instructed to think about their all-time favourite piece of music first. They then completed the BMRQ with respect to that piece of music, the S-SCS, the BFI-10, and demographic questions (e.g., age, gender, education level, and musical expertise). Participants also completed questionnaires for a different research project. The online questionnaire was hosted by Qualtrics^{XM}. Participation was voluntary and participants could skip any questions they did not want to answer. This study received ethical approval via the University's Ethics Review Procedure, as administered by the Department of Music.

Data Analysis

To answer Research Question 1 (Do people from collectivistic and individualistic cultures experience different musical rewards when listening to their favourite music?), I used Hofstede et al.'s (2010) individualism index to categorise participants into collectivist and individualist groups. Subsequently, I used one-way multivariate analysis of covariance (MANCOVA) to compare BMRQ scores between the two groups.

To answer Research Question 2 (To what extent is self-construal associated with musical reward, both within and between cultures, alongside other factors such as age, education, musical expertise, and personality?), I conducted separate multiple linear regression analyses for the collectivist and individualist groups. All analyses were conducted using SPSS®28.

Results

Musical Rewards Between Collectivist and Individualist Cultures

Using Hofstede et al.'s (2010) individualism index, participants were divided into two groups based on their reported nationality: collectivist (< 50 on the index, $n = 73$) and individualist (> 50 on the index, $n = 361$). A one-way analysis of variance (ANOVA) revealed a statistically significant difference between groups in terms of age, $F(1, 406) = 12.01$, $p < .001$, but not education, $F(1, 432) = 3.55$, $p = .060$, musical identity, $F(1, 432) = 0.24$, $p = .624$, or years of musical training $F(1, 426) = 1.57$, $p = .211$. See Table 5.2 for a summary of the groups' demographic composition.

Table 5.2 Participant characteristics in collectivist and individualist cultures

	Collectivist (n = 73) *M (SD)*	Individualist (n = 361) *M (SD)*	p-value
Age (Years)	31.06 (9.57)	36.76 (12.97)	< .001***
Gender, *n* (%)			
Transgender	1 (1.37)	0 (0.00)	
Non-binary	0 (0.00)	8 (2.22)	
Female	49 (67.12)	162 (44.88)	
Male	22 (30.14)	189 (52.35)	
Prefer not to say	0 (0.00)	2 (0.55)	
Disability, *n* (%)			
Yes	4 (5.48)	50 (13.85)	
No	68 (93.15)	296 (81.99)	
Prefer not to say	0 (0.00)	5 (1.39)	
Prefer to self-describe	1 (1.37)	3 (0.83)	
Education level	5.16 (0.71)	4.98 (0.76)	.060
Musical identity	2.74 (1.45)	2.65 (1.40)	.624
Musical training (years)	5.14 (7.36)	4.17 (5.63)	.211
Personality			
Extraversion	2.76 (1.02)	2.79 (1.06)	.829
Agreeableness	3.92 (0.69)	3.68 (0.78)	.013*
Conscientious	3.23 (0.83)	3.73 (0.96)	< .001***
Neuroticism	3.08 (1.20)	2.76 (1.12)	.028*
Openness	3.82 (0.83)	3.65 (0.97)	.177
Self-construal			
Interdependent	4.93 (0.65)	4.80 (0.86)	.263
Independent	4.92 (0.73)	5.16 (0.81)	.018*

* $p < .05$, *** $p < .001$.

I conducted a MANCOVA to examine whether people from collectivist and individualist cultures experience different musical rewards when listening to their favourite music. Musical identity and musical training were transformed into a composite musical expertise score (i.e., musician rank item x years of musical training). Age, education, musical expertise, and BFI-10 personality factors were entered as covariates. The five subtypes of BMRQ were entered as the dependent variables.

After controlling for age, education, musical expertise, and personality, results showed no statistically significant differences between collectivist and individualist groups on total BMRQ scores, $F(5, 389) = 1.16$, $p = .329$, nor their subtypes (see Table 5.3 and Supplementary Materials Appendix N). This means that musical rewards experienced with favourite music were comparable between collectivist and individualist cultures.

Table 5.3 MANCOVA results for musical rewards

	Collectivist		Individualist		$F(1, 393)$	$\eta 2$
BMRQ	*M*	*SD*	*M*	*SD*		
Social reward	15.39	2.50	15.04	3.14	3.39	.001
Musical seeking	14.82	2.64	14.51	2.82	0.04	.000
Emotion evocation	16.60	2.61	16.54	2.73	2.39	.001
Mood regulation	17.57	2.01	17.17	2.70	8.89	.005
Sensory-motor	15.43	2.64	15.06	3.30	5.51	.001

Note. BMRQ, Barcelona Music Reward Questionnaire (Mas-Herrero et al., 2013).

Determinants of Musical Rewards in Collectivist and Individualist Cultures

Since interdependent and independent self-construals exist between and within cultural contexts, I conducted multiple linear regression analysis for the collectivist and individualist groups separately to examine whether self-construal was associated with musical reward. Interdependent and independent self-construals, along with age, education, musical expertise, and BFI-10 personality factors were entered as predictor variables. BMRQ subtypes were entered as the dependent variables.

Social Reward

Collectivist Group. Results indicated that the model was significant, $R^2 = .39$, adjusted $R^2 = .28$, $F\ (10, 56) = 3.57$, $p < .001$. Interdependent self-construal was a significant predictor and accounted for 32.4% of variance of social reward ($\beta = .37$, $p = .003$, $sr^2 = .324$), alongside extraversion ($\beta = .29$, $p = .036$, $sr^2 = .224$).

Individualist Group. Results indicated that the model was significant, $R^2 = .34$, adjusted $R^2 = .32$, $F\ (10, 325) = 16.88$, $p < .001$. Interdependent self-construal accounted for 19.8% of variance of social reward ($\beta = .24$, $p < .001$, $sr^2 = .198$) and independent self-construal accounted for 23.2% of variance ($\beta = .22$, $p < .001$, $sr^2 = .232$), alongside age ($\beta = -.14$, $p = .003$, $sr^2 = -.136$), musical expertise ($\beta = .17$, $p < .001$, $sr^2 = .167$), extraversion ($\beta = .11$, $p = .037$, $sr^2 = .094$), and agreeableness ($\beta = .14$, $p = .007$, $sr^2 = .122$).

Musical Seeking

Collectivist Group. Results indicated that the model was significant, $R^2 = .40$, adjusted $R^2 = .29$, $F\ (10, 56) = 3.68$, $p < .001$. Independent self-construal was a significant predictor and accounted for 26.8% of variance of musical seeking reward ($\beta = .31$, $p = .012$, $sr^2 = .268$), alongside age ($\beta = -.30$, $p = .013$, $sr^2 = -.266$).

Individualist Group. Results indicated that the model was significant, $R^2 = .22$, adjusted $R^2 = .20$, $F\ (10, 325) = 9.40$, $p < .001$. Independent self-construal was a significant predictor and accounted for 19.6% of variance of musical seeking reward ($\beta = .25$, $p < .001$, $sr^2 = .196$), alongside age ($\beta = -.21$, $p < .001$, $sr^2 = -.204$), agreeableness ($\beta = .13$, $p = .029$, $sr^2 = .107$), and openness ($\beta = .19$, $p < .001$, $sr^2 = .175$).

Emotion Evocation

Collectivist Group. Results indicated that the model was not significant, $R^2 = .19$, adjusted $R^2 = .04$, $F\ (10, 56) = 1.29$, $p = .261$. None of the variables were significant predictors of emotion evocation reward.

Individualist Group. Results indicated that the model was significant, $R^2 = .12$, adjusted $R^2 = .09$, $F\ (10, 325) = 4.39$, $p < .001$. Interdependent self-construal was a significant predictor and accounted for 18.2% of variance of emotion evocation reward ($\beta = .22$, $p < .001$, $sr^2 = .182$), alongside openness ($\beta = .16$, $p = .004$, $sr^2 = .150$).

Mood Regulation

Collectivist Group. Results indicated that the model was not significant, R^2 = .12, adjusted R^2 = -.04, F (10, 56) = 0.76, p = .664. None of the variables were significant predictors of mood regulation reward.

Individualist Group. Results indicated that the model was significant, R^2 = .11, adjusted R^2 = .08, F (10, 325) = 3.83, p < .001. Independent self-construal was a significant predictor and accounted for 17.8% of variance of mood regulation reward (β = .23, p < .001, sr^2 = .178), alongside neuroticism (β = .15, p = .018, sr^2 = .125).

Sensory-Motor

Collectivist Group. Results indicated that the model was not significant, R^2 = .21, adjusted R^2 = .07, F (10, 56) = 1.51, p = .161. None of the variables were significant predictors of sensory-motor reward.

Individualist Group. Results indicated that the model was significant, R^2 = .15, adjusted R^2 = .13, F (10, 325) = 5.90, p < .001. Interdependent self-construal accounted for 10.3% of variance of sensory-motor reward (β = .12, p = .045, sr^2 = .103) and independent self-construal accounted for 13.9% of variance (β = .18, p = .007, sr^2 = .139), alongside extraversion (β = .20, p = .001, sr^2 = .165) and openness (β = .11, p = .044, sr^2 = .103).

Unstandardised (B) and standardised (β) regression coefficients, standard errors, and squared semi-partial (or part) correlations (sr^2) for all the predictor and dependent variables are reported in Table 5.4. Taken together, the results show that interdependent self-construal was positively associated with social reward while independent self-construal was positively associated with musical seeking reward in collectivist cultures. For individualist cultures, both self-construals were positively associated with social reward and sensory-motor, interdependent self-construal was positively associated with emotion evocation, and independent self-construal was positively associated with musical seeking and mood regulation subtypes.

Table 5.4 Multiple regression analysis results for musical rewards

	Collectivist (n = 73)				Individualist (n = 361)			
	B	*Std. Error*	*β*	sr^2	*B*	*Std. Error*	*β*	sr^2
Predictors		Social Reward				Social Reward		
Age	-0.03	0.03	-0.11	-.097	**-0.03****	**0.01**	**-0.14**	**-.136**
Education	-0.40	0.40	-0.11	-.103	0.15	0.19	0.04	.035
Musical Expertise [a]	0.01	0.01	0.13	.118	**0.02*****	**0.01**	**0.17**	**.167**
Extraversion	**0.71***	**0.33**	**0.29**	**.224**	**0.33***	**0.16**	**0.11**	**.094**
Agreeableness	-0.05	0.46	-0.01	-.011	**0.57****	**0.21**	**0.14**	**.122**
Conscientiousness	-0.54	0.35	-0.18	-.162	-0.22	0.17	-0.07	-.057
Neuroticism	-0.14	0.28	-0.07	-.052	0.10	0.15	0.03	.028
Openness	0.60	0.39	0.20	.163	0.22	0.16	0.07	.061
Interdependent Self-Construal	**1.43****	**0.46**	**0.37**	**.324**	**0.85*****	**0.19**	**0.24**	**.198**
Independent Self-Construal	0.11	0.41	0.03	.027	**1.13*****	**0.22**	**0.29**	**.232**
		Musical Seeking				Musical Seeking		
Age	**-0.08***	**0.03**	**-0.30**	**-.266**	**-0.05*****	**0.01**	**-0.21**	**-.204**
Education	-0.31	0.42	-0.08	-.076	0.15	0.19	0.04	.040
Musical Expertise [a]	0.02	0.01	0.23	.203	0.01	0.01	0.07	.064
Extraversion	-0.12	0.35	-0.05	-.035	0.13	0.15	0.05	.041
Agreeableness	0.21	0.49	0.06	.045	**0.45***	**0.21**	**0.13**	**.107**
Conscientiousness	0.73	0.37	0.23	.207	0.12	0.17	0.04	.035
Neuroticism	-0.20	0.29	-0.09	-.072	-0.03	0.15	-0.01	-.008
Openness	0.66	0.41	0.21	.169	**0.56*****	**0.16**	**0.19**	**.175**
Interdependent Self-Construal	-0.28	0.48	-0.07	-.060	0.08	0.19	0.03	.022
Independent Self-Construal	**1.10***	**0.42**	**0.31**	**.268**	**0.86*****	**0.21**	**0.25**	**.196**
		Emotion Evocation				Emotion Evocation		
Age	-0.01	0.04	-0.05	-.042	0.01	0.01	0.02	.022
Education	-0.67	0.49	-0.18	-.166	-0.24	0.19	-0.07	-.066
Musical Expertise [a]	0.01	0.01	0.16	.141	0.00	0.01	0.00	.002
Extraversion	0.15	0.40	0.06	.046	0.07	0.16	0.03	.023
Agreeableness	0.55	0.56	0.15	.119	0.16	0.21	0.05	.040
Conscientiousness	0.31	0.42	0.10	.089	-0.17	0.17	-0.06	-.052
Neuroticism	-0.04	0.33	-0.02	-.015	0.27	0.15	0.11	.091
Openness	0.47	0.47	0.15	.122	**0.46****	**0.16**	**0.16**	**.150**
Interdependent Self-Construal	0.61	0.56	0.15	.132	**0.68*****	**0.19**	**0.22**	**.182**

Independent Self-Construal	0.28	0.49	0.08	.069	0.40	0.22	0.12	.095
		Mood Regulation				Mood Regulation		
Age	0.01	0.03	0.04	.034	0.00	0.01	0.00	.002
Education	-0.61	0.39	-0.21	-.197	-0.17	0.16	-0.06	-.056
Musical Expertise [a]	-0.01	0.01	-0.09	-.082	-0.00	0.01	-0.01	-.006
Extraversion	0.34	0.32	0.17	.132	-0.07	0.13	-0.03	-.028
Agreeableness	0.29	0.45	0.10	.080	0.22	0.18	0.08	.067
Conscientiousness	0.30	0.34	0.13	.113	0.27	0.15	0.12	.097
Neuroticism	0.30	0.27	0.18	.141	**0.30***	**0.13**	**0.15**	**.125**
Openness	0.43	0.37	0.18	.144	0.21	0.13	0.09	.083
Interdependent Self-Construal	0.15	0.45	0.05	.042	0.19	0.16	0.07	.061
Independent Self-Construal	0.13	0.39	0.05	.042	**0.63*****	**0.19**	**0.23**	**.178**
		Sensory-Motor				Sensory-Motor		
Age	-0.01	0.04	-0.02	-.021	-0.02	0.01	-0.06	-.055
Education	0.03	0.48	0.01	.007	0.12	0.23	0.03	.027
Musical Expertise [a]	-0.01	0.01	-0.17	-.149	0.00	0.01	0.01	.011
Extraversion	0.65	0.40	0.25	.195	**0.60****	**0.19**	**0.20**	**.165**
Agreeableness	0.21	0.56	0.05	.044	-0.11	0.25	-0.03	-.022
Conscientiousness	0.25	0.42	0.08	.071	0.29	0.21	0.09	.072
Neuroticism	-0.27	0.33	-0.12	-.098	0.32	0.18	0.11	.091
Openness	0.64	0.46	0.20	.163	**0.39***	**0.19**	**0.11**	**.103**
Interdependent Self-Construal	-0.93	0.55	-0.23	-.198	**0.46***	**0.23**	**0.12**	**.103**
Independent Self-Construal	-0.50	0.49	-0.14	-.121	**0.72****	**0.26**	**0.18**	**.139**

Note. B, unstandardized beta; β, standardized beta; sr^2, squared semi-partial (or part) correlations. Bold values indicate statistical significance.

[a] Musical expertise was computed as an interaction between musical identity (i.e., musician rank item of the Ollen Musical Sophistication Index; Ollen, 2006) and years of musical training (i.e., musical identity x years of musical training).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

The primary aim of this study was to investigate the role of self in musical reward across cultures. The first research question asked if people from collectivist and individualist cultures experience different musical rewards when they listen to their favourite music. Participants in both cultures were found to report experiencing similar types of musical rewards, suggesting that musical reward and its subtypes are comparable between collectivist and individualist cultures. It is possible that the BMRQ lacks the precision needed to detect culturally specific emphases in musical reward across individuals from different cultural backgrounds. I also recognise that this lack of difference may lie in how participants were grouped. Due to the heterogeneity of the sample, I used Hofstede et al.'s (2010) broad conceptual framework to categorise participants into collectivist and individualist groups to enable the aggregation of data across countries for higher statistical power. Instead of other sociocultural variables (i.e., country of residence or ethnicity), I chose to use nationality to be more aligned with Hofstede et al.'s (2010) conceptualisation of collectivism and individualism. For one, the uneven distribution of participants between these groups may have diminished statistical power to observe differences between cultures. Alternatively, these findings suggest that using nationality as a proxy for collectivism-individualism may be insufficient for detecting cultural variations. Nonetheless, it should not necessarily be concluded that the determinants of musical reward associated with favourite music are pancultural.

The second research question asked about the extent to which interdependent and independent self-construals are associated with musical reward, both within and between cultures, alongside other factors such as age, education, musical expertise, and personality. I conducted multiple linear regression analysis for the collectivist and individualist groups separately to assess whether determinants of musical reward associated with favourite music are similar across cultures. My first hypothesis was partially supported insofar as interdependent self-construal was positively associated with social reward in both collectivist and individualist cultures. These findings align with prior research showing that members of collectivistic societies tend to use music for social bonding (Boer et al., 2012; Boer & Fischer, 2012; Schäfer et al., 2012). Importantly, these results extend previous between-country studies by highlighting that interdependent self-construal, found within collectivist and individualist cultures, was positively linked to social reward. In other words, interdependent self-construal may explain both between- and within-cultural variation in social reward experienced with favourite music. For the individualist group, the results further revealed that independent self-construal was also positively associated with social reward. I speculate that listening to one's favourite music is not only a self-directed personal activity but also helps people connect with others in individualist cultures. This supports the idea that music is universally important for social cohesion (Savage et al., 2021; Tarr et al., 2014; Trehub et al., 2015).

Contrary to my first hypothesis, this study found that interdependent self-construal was positively associated with emotion evocation reward in individualist cultures only. This result was

unexpected but not entirely surprising. Research in cultural psychology has found an association between interdependent self-construal and socially engaging emotions – affective states that foster social bonding (Jakubanecs et al., 2019; Kitayama et al., 2000, 2006, 2009; Pusaksrikit & Kang, 2016). Consequently, it is possible that people with a dominant interdependent self-construal in individualist cultures may listen to their favourite music to evoke socially engaging emotions so as to feel more connected with both real and imagined others. It would be worth testing this hypothesis in future.

My second hypothesis was partially supported. First, the findings indicated that independent self-construal was positively associated with musical seeking reward in both collectivist and individualist cultures. This suggests that, regardless of cultural context, the rewards derived from seeking information about music are driven by personal motivation and interest. This makes sense, as engaging in musical exploration is effortful, requiring self-motivation and curiosity, which aligns with the characteristics of an independent self-construal. This positive association across cultures highlights the role of independent self-construal in musical seeking reward experienced with favourite music.

Second, the findings showed that independent self-construal was positively associated with mood regulation reward in individualist cultures only. This is consistent with previous research indicating that members of individualistic societies often use music for emotion regulation (Boer et al., 2012; Boer & Fischer, 2012; Schäfer et al., 2012). These results extend this body of work by demonstrating that mood regulation reward derived from favourite music is salient for individuals with a dominant independent self-construal within individualist cultures.

Third, the findings revealed that both independent and interdependent self-construals were positively associated with sensory-motor reward, but only in individualist cultures. Research suggests that dancing to music stimulates endorphin release which enhances mood and promotes social bonding through interpersonal synchrony (Tarr et al., 2014). This may explain why both self-construals were linked to sensory-motor reward in individualist cultures. In other words, moving to music may not only reinforce a sense individuality and personal expression, but also strengthen social connections with others.

In summary, this study found that self-construal, along with other factors, was significantly associated with social reward and musical seeking subtypes in collectivist cultures. In contrast, self-construal and other factors were significantly associated with all musical reward subtypes in individualist cultures. The greater number of significant relationships observed in individualist cultures suggests that the BMRQ may have been developed from an individualistic cultural perspective. Future research could explore the concept of musical reward from a collectivistic cultural lens, using qualitative approaches to uncover nuanced aspects of musical reward in collectivist cultures.

One strength of the present study is its inclusion of specific cultural factors (i.e., self-construal) alongside other variables (i.e., age, education, musical expertise, and personality). This allows us to assess the unique contributions and strength of the various factors that influence the types of reward obtained from listening to music between collectivist and individualist cultures. Self-construal was found to explain more variance in social reward in both collectivist and individualist cultures, as well as in emotion evocation and mood regulation rewards in individualist cultures. Thus, culture, particularly self-construal, may have a larger impact on these types of musical rewards experienced when listening to favourite music. On the other hand, age accounted for more variance in musical seeking reward in both collectivist and individualist cultures, and extraversion accounted for more variance in sensory-motor reward in individualist cultures. Consequently, these factors may play a larger role in these types of musical rewards within the context of favourite music.

Another strength of the present study is its comparison of the determinants of musical reward between collectivist and individualist cultures. The findings revealed pancultural aspects and cultural nuances. For example, independent self-construal and age predicted musical seeking reward across both cultures, whereas agreeableness and openness also predicted musical seeking reward only in individualist cultures. By employing separate multiple linear regression analyses, this study elucidated both universal and culture-specific factors influencing musical rewards associated with favourite music. As the first cross-cultural study on musical reward, this research provides a foundation for future studies to further explore the determinants of musical reward across and within cultures.

Four potential limitations of the current study should be considered. First, this study examined musical rewards within the context of the individual's favourite music, which varies widely among listeners and may affect the type of rewards experienced. For instance, participants may have selected contemporary music that is culturally similar due to the homogenising effects of globalisation (Huron, 2008), potentially contributing to the lack of observed differences in musical rewards between cultures. Also, participants were asked to reflect on their 'all-time' favourite music, which may have led them to select music that has remained significant and enjoyable to people over the years. While this is possible, I argue that individuals with a dominant interdependent self-construal are more likely to choose such music, as their preferences may be strongly influenced by others. As discussed earlier, favourite music was used in the present study to provide a snapshot of the relationship between self-construal, found between and within cultures, and musical reward. In future, researchers could examine how specific elements of music are related to self-construal and musical reward.

Second, a cross-sectional survey was administered and correlational tests applied to the data, so no conclusions can be drawn as to whether self-construal causes musical reward or vice versa. Rather, I speculate that self-construal and experiences of listening to music have a mutual influence on each other, as do the self and cultural factors (Markus & Kitayama, 2010). Third, there was a risk of self-selection bias such that only people already invested in music participated in the study, leading to an overestimation of the strength of the relationship between self-construal and musical reward. For

example, anecdotal evidence from one participant wrote, “I had to write and let you know how much I enjoyed this survey. I am an extreme music lover so I really got into this one, thanks!” Fourth, the heterogenous sample was divided into collectivist and individualist groups, meaning that multiple nationalities and countries were included in each group. As previously noted, I acknowledge that culture is not neatly bounded within these sociodemographic categories. Additionally, the collectivist sample may not be sufficiently powered to observe these relationships. Future research should address this limitation by recruiting participants from specific countries to allow for a more nuanced exploration of how self-construal influences musical reward.

The results of this study are dependent on the way I have chosen to conceptualise and operationalise cultural factors and musical experiences. Other cultural factors that were not explored in this study, such as religious heritage (Croucher, 2013; Vishkin et al., 2020) and cultural worldviews (Adeogun, 2021; Kirkendall, 2017), may influence musical rewards. Nevertheless, the finding that more significant relationships were observed in individualist but not collectivist cultures suggests that cultural context is a necessary but insufficient aspect of cultural variation. This underscores the importance of combining theories of culture with methodological innovations that do justice to a nuanced understanding of how cultural specificities influence music experience (Jacoby et al., 2020; Sauvé et al., 2023). In future, research could explore the intersection of cultural imperatives and musical cultures. For example, in certain cultures (e.g., Brazilian and African cultures), dancing to music may be considered a way of expressing one’s connectedness with others (Loaiza et al., 2022; Nzewi, 1997), whereas in other cultures (e.g., Chinese culture), dancing to music may be perceived as more self-enhancing (Wang et al., 2021). Future researchers could also examine the content of the music and investigate other musical activities such as composing and playing instruments or singing. Previous studies have found that lyrics of pop songs contained collectivistic and individualistic themes (Liew et al., 2023; Rothbaum & Tsang, 1998; Rothbaum & Xu, 1995), which may give rise to different self-construals and influence the types of musical reward experienced.

In conclusion, this study provides first evidence of the role of self-construal in shaping musical rewards associated with one’s favourite music across cultural contexts. The results reveal the potential influence of self-construal on musical reward, alongside factors such as age, education, musical expertise, and personality, both between and within cultures. Specifically, self-construal explained a greater proportion of variance in social reward across both collectivist and individualist cultures, as well as in emotion evocation and mood regulation rewards within individualist cultures. In contrast, age accounted for more variance in musical seeking reward across both cultural contexts, while extraversion explained more variance in sensory-motor reward within individualist cultures. In essence, our sense of self, particularly the extent to which we perceive ourselves as interconnected or independent, affects the kind of pleasure we derive from listening to our favourite music. As the first study of its kind, these findings lay important groundwork for future cross-cultural research on musical rewards. By adopting a novel approach to cross-cultural investigations in music psychology,

this study underscores the significance of self-construal as an individual-level explanation for culturally-based differences in affective experiences with music. This work contributes to a more nuanced understanding of cultural diversity in music psychology.

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CHAPTER SIX

"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."

– Albert Einstein

Overview

Insights from critical and new musicology suggest that music enables listeners to adopt particular subject positions and ways of being. Consequently, it is possible that different types of music may afford a vicarious experience of interdependent and independent selves. This chapter addresses the research question: can music activate different self-construals in individuals?

Abstract

Markus and Kitayama identified two types of self-construal, namely interdependent and independent, that reflect cultural differences in self-perception. Based on this framework, research has shown that self-construal influences many aspects of behavior. To investigate causal hypotheses related to culture, researchers have developed various methods for priming self-construal, such as using cultural icons. Given that music is a cultural product that conveys cultural values, it holds potential as a means to prime interdependent and independent self-construals. This study explored whether music could serve as a self-construal priming manipulation. Thirty bicultural participants (ethnically Chinese Singaporeans) were randomly assigned to one of three conditions: a control condition, a Chinese music condition, or a Western music condition. Mixed-model ANOVA results showed significant main effects but no significant interaction effects. Specifically, participants reported significantly lower scores for both interdependent and independent self-construals at the post-test compared to the pre-test, regardless of the music condition. Further analysis revealed significant changes in particular self-construal dimensions, including self-direction vs. reception to influence, consistency vs. variability, and self-interest vs. commitment to others, between pre-test and post-test across all music conditions. These findings underscore the complexity of using music to prime self-construals, which may explain why no studies to date have utilized this priming method. Nonetheless, this study highlights the profound impact listening to music, and even silence, can have on self-perception and identity. Further research is needed to establish the reliability of music-based priming and understand its underlying mechanisms.

Keywords: Self-construal, Priming, Music, Culture, Bicultural

Sounds of the Self: Exploring Music as a Self-Construal Priming Tool

Markus and Kitayama (1991) introduced the term self-construal to describe how individuals define and construe the self. While acknowledging the existence of many possible self-construals, they identified two primary types that vary across cultural contexts. They theorized that in collectivistic cultures, such as those in East Asia, individuals construe the self as fundamentally interconnected with others, referred to as interdependent self-construal. Conversely, in individualistic cultures, such as the U.S., individuals construe the self as distinct and separate from others, referred to as independent self-construal. Scholars in cross-cultural psychology have shown that these self-construals influence many aspects of behavior including cognition, perception, and emotion (see Cohen & Kitayama (2019) for an overview). To examine causal hypotheses related to culture, researchers have developed various self-construal priming methods, including the use of cultural icons (e.g., Y. Hong et al., 2000), mostly in the form of visual stimuli. Since music is a cultural product that conveys cultural values, it could potentially be used to prime interdependent and independent selves associated with collectivistic and individualistic cultures (Tang, 2024). This would expand the methodological tools available to researchers when investigating between- and within-culture consequences of self-construal. This paper investigates whether music can serve as a self-construal priming manipulation.

Priming Manipulations of Self-Construal

The premise underlying self-construal manipulations is that all individuals, regardless of cultural background, possess the capacity for both interdependent and independent self-construals (Oyserman et al., 2002). According to the culture-as-situated-cognition theory, variations in self-construal are influenced by social and contextual factors (Oyserman, 2011; Oyserman & Lee, 2008). Similarly, the dynamic constructivist approach to culture emphasizes the interaction between individual, situation, and culture, suggesting that different self-construals emerge based on the availability and applicability of cultural cues (Y. Hong et al., 2000; Y. Hong & Mallorie, 2004). In other words, cultural practices and affordances contribute to the variability in how interdependent and independent self-knowledge is elaborated and accessed. Priming techniques can make self-knowledge associated with these self-construals temporarily more accessible, allowing researchers to experimentally investigate the influence of self-construal on behavior.

Researchers have employed various methods to prime self-construals (see Cross et al. (2011) for an overview of different manipulations). Two approaches that have been used extensively include the similarities and differences with family and friends task (Trafimow et al., 1991) and a pronoun circling task (Brewer & Gardner, 1996; Gardner et al., 1999). In the former approach, participants are asked to think about what makes them similar to their family and friends (interdependent prime) or what makes them different from their family and friends (independent prime; e.g., Lee & Jeyaraj, 2014). In the latter approach, participants read a story and circle either plural pronouns (e.g., we, our,

us; interdependent prime) or singular pronouns (e.g., I, me, mine; independent prime; e.g., Grossmann & Jowhari, 2018).

Researchers have also used cultural icons to prime knowledge associated with specific cultures. Although distinct from directly priming self-construal, activating culture-specific knowledge can be thought of as affording relevant self-construals. To my knowledge, the first reported use of this method involved presenting participants Chinese and American cultural symbols (Chinese dragon vs. American flag), legendary figures from folklore or cartoons (Chinese opera singer vs. Marilyn Monroe), and landmarks (Great Wall of China vs. Capitol Building; Y. Hong et al., 2000; Y.-Y. Hong et al., 2003). Following this, other researchers have used cultural icon priming to examine a wide array of behaviors between- and within-cultures including causal attribution (Y. Hong et al., 2000; Y.-Y. Hong et al., 2003), consumer impatience (Chen et al., 2005), cooperation in the prisoner's dilemma (Wong & Hong, 2005), memory strategies (Sui et al., 2007), assimilation toward the dominant culture (No et al., 2008), intolerance of bribery (Liu et al., 2017), and moral judgments (Hu et al., 2018).

Taken together, the abovementioned studies demonstrate that using cultural products as primes can elicit behaviors congruent with interdependent-independent self-construals or collectivist-individualist cultures. However, caution is warranted regarding the use of cultural products as priming manipulations.

First, the degree to which the cultural icon method actually primes self-construals versus other dimensions of culture remains unclear (Cross et al., 2011; S. Yang, 2017). Sui et al. (2007) found that Chinese undergraduate participants primed with American cultural icons produced fewer interdependent and more independent self-descriptions. In contrast, participants in the Chinese-prime and control conditions listed an equal number of interdependent and independent self-descriptions. In another study, Li et al. (2024) examined the effects of different cultural icons on Chinese students' polycultural self-construal. Individualistic icons (e.g., Jesus, Santa Claus, Statue of Liberty, Hollywood) increased individuality and equality, Confucian icons (e.g., Confucius, Mencius, Chinese characters of "filial piety" [孝], Tomb Sweeping Day) increased relationality, and Chinese national icons (e.g., Lei Feng, Flag of the People's Republic of China, Tiananmen, Monument to the People's Heroes) increased collectivity and equality factors. Although both studies used the Ten Statements Test to measure self-construal, differences in coding strategies complicate comparisons. Moreover, only one study used a validated measure – i.e., the Polycultural Self-Construal Scale (Li & Wang, 2023). Nonetheless, these results suggest that cultural icons can indeed prime interdependent and independent self-construals, while also activating broader cultural dimensions unrelated to self-construal.

Second, most studies using cultural icons have recruited bicultural participants (Chen et al., 2005; Y. Hong et al., 2000; Y.-Y. Hong et al., 2003; Liu et al., 2017; No et al., 2008; Wong & Hong, 2005). They typically include individuals heavily influenced by or exposed to two cultures through

immigration (e.g., Korean or Chinese Americans) or extensive westernization of a society (e.g., Hong Kong and Singapore). These participants are considered well-suited for the cultural icon priming method because they are expected to have ready access to both interdependent and independent self-construals. Nevertheless, some studies have successfully used cultural icon primes with monocultural participants from relatively homogenous cultural contexts (e.g., Chinese individuals from mainland China; Hu et al., 2018; Li et al., 2024; Sui et al., 2007), and found evidence of behavior congruent with interdependent-independent self-construals or collectivist-individualist cultures. Altogether, this implies that cultural icon primes can be effective for both bicultural and monocultural participants. A common feature across these studies is the use of cultural icons relevant to the participants. For instance, Chen et al. (2005) used Singaporean symbols (e.g., Singapore national flag, Merlion, Sentosa, and the Singapore Airlines model) when recruiting participants from a Singaporean university. This underscores the importance of selecting icons that are accessible and meaningful to the target participant group to ensure effective priming of relevant self-construals.

Music as a Priming Manipulation of Self-Construal

Priming manipulation is a well-established experimental method in cognitive and social psychology (Bargh, 2014). In cognitive psychology, priming involves the spread of activation between mental representations. For example, hearing action verbs activates both working memory for language processing and motor representations for movement (Perani et al., 1999). In social psychology, priming refers to the readiness of mental representations to influence responses. Priming manipulations, therefore, involve the carryover effects of one situation or type of experience into subsequent contexts. Priming effects often occur without the individual's awareness, as shown by Higgins et al. (1977), where exposure to personality traits shaped participants' impressions of others without their conscious recognition.

Although not explicitly framed as priming effects, studies show that music can produce carryover effects across diverse contexts. Background music has been found to influence various behaviors, often without participants' awareness, such as the pace of shopping and overall sales volume in supermarkets (Milliman, 1982), whether they stayed in open public spaces (Aletta et al., 2016), and the perceived pleasantness and overall impression of food (Fiegel et al., 2014). Additionally, research has demonstrated that personality, cultural identity, and cultural values are closely linked to music preferences, such that strangers can make accurate judgments about people's ethnicity and personality based on their preferred music (Marshall & Naumann, 2018; Rentfrow et al., 2009; Rentfrow & Gosling, 2006). In other words, music can effectively communicate cultural characteristics.

Given the substantial cultural variability in musical structures (Stalinski & Schellenberg, 2012), it logically follows that specific music styles can reflect and represent different cultural contexts and values (e.g., Chinese music with collectivism, Western music with individualism). For example, research has shown that lyrics of Chinese popular songs emphasized collectivistic themes,

while U.S. pop songs reflected more individualistic themes (Rothbaum & Tsang, 1998; Rothbaum & Xu, 1995). When comparing the official Spotify Top-50 chart playlists across countries, Liew et al. (2023) found that the lyrics in Singaporean playlists contained more socially oriented words and collective pronouns (e.g., "we") than those in the U.S. playlists. Consequently, music has the potential to prime interdependent and independent self-construals (Tang, 2024). As Frith (1996) notes, music "constructs our sense of identity through the direct experiences it offers of the body, time and sociability, experiences which enable us to place ourselves in imaginative cultural narratives" (p. 124).

The Present Study

This exploratory study aimed to investigate whether music can serve as a self-construal priming manipulation. While researchers have successfully employed the cultural icon priming method using pictures, to my knowledge, no studies have explored the potential of auditory stimuli like music. Incorporating music as a priming tool could broaden the range of methodologies available for examining between- and within-culture consequences of self-construal.

Previous studies involving cultural icons have predominantly relied on implicit measures of self-construal (e.g., Y. Hong et al., 2000; Y.-Y. Hong et al., 2003), with only a few employing explicit measures, such as the Ten Statements Test or the Polycultural Self-Construal Scale (Li et al., 2024; Sui et al., 2007). To answer the research question of whether music can serve as a self-construal priming manipulation, multiple self-construal measures were used to triangulate the findings.

I also acknowledge the ongoing scholarly debate regarding the (in)adequacy of a simple interdependent vs. independent self-construal dichotomy for capturing cultural differences worldwide (Matsumoto, 1999; Vignoles et al., 2016). Moreover, there is empirical evidence that different priming manipulations activate different self-construal dimensions (S. Yang, 2017). To account for this complexity, I included an eight-dimensional model of self-reported ways of being interdependent and independent (Vignoles et al., 2016; S. Yang, 2017). The model comprises: *self-reliance vs. dependence on others, self-containment vs. connectedness to others, difference vs. similar to others, self-interest vs. commitment to others, consistency vs. variability, self-direction vs. reception to influence, self-expression vs. harmony,* and *decontextualized vs. contextualized self*. These dimensions capture distinct expressions of interdependence and independence, leading to unique self-construal profiles across cultural contexts. Incorporating this model allowed for a more nuanced analysis of how music primes self-construals.

Since the first study employing cultural icon primes was conducted with bicultural individuals (i.e., Hong Kong Chinese; Y. Hong et al., 2000), this study similarly recruited bicultural participants: ethnically Chinese Singaporeans. In Singapore, traditional Chinese values are deeply embedded in familial and everyday socialization processes. However, Western values and beliefs are also pervasive, introduced through formal education, legislation, and mass media (Ang & Stratton, 1995; Brooks & Wee, 2014; Ho, 2006; Sheehy, 2004; Tamney, 1996). Furthermore, Singapore's Bilingual

Education Policy ensures that ethnically Chinese Singaporeans are proficient in both Mandarin and English, reflecting their hybrid sociocultural identity that embodies both Eastern and Western influences (Dixon, 2005; Pakir, 1993). Thus, ethnically Chinese Singaporeans are biculturally socialized individuals. Based on the evidence that music can have carryover effects in various contexts and that music can effectively represent different cultures, I hypothesized that exposure to Chinese music would prime interdependent self-construal, while exposure to Western music would prime independent self-construal.

Methodology

Preparation of Musical Primes

After consulting with music scholars, I identified six musical pieces across various genres to represent Chinese culture (e.g., Traditional Chinese music, national anthem, Mandopop music, and Chinese movie soundtracks) and six to represent Western culture (e.g., Western Classical art music, national anthem, American pop music, and Western movie soundtracks). The national anthems and pop songs included lyrics, while the other pieces were instrumental (see Supplementary Materials Appendix O).

Chinese music was selected over "Singaporean" music to avoid conflating national identity with cultural identity. The goal was to prime knowledge of Chinese culture, which emphasizes collectivistic values and social connectedness. Given Singapore's unique sociohistorical context, it is uncertain what cultural concepts Singaporean music would prime, as Singaporean identity incorporates both collectivistic and individualistic ideals.

Six participants from Singapore, with varying levels of musical expertise, listened to the music and rated each piece on how well it represented Eastern or Chinese culture, Western or American culture, collectivistic values, and individualistic values, using a 5-point Likert Scale (1 = *not well at all* to 5 = *extremely well*). Participants also rated their familiarity with the music, how much they liked it, and how relatable they found it. These dimensions (i.e., familiarity, preference, and relatability) were evaluated because the dynamic constructivist approach to culture posits that different self-construals become activated when cultural cues are available, accessible, and relevant to the individual (Y. Hong et al., 2000; Y. Hong & Mallorie, 2004).

Participants in previous studies were exposed to cultural icons for at least 2-minutes. Unlike visual stimuli which is static, music unfolds over time. Thus, I selected two pieces per priming condition to sustain attention and activate culture-related self-knowledge. Chinese music primes were rated highly for Eastern or Chinese culture and collectivistic values, and low in representing Western or American culture and individualistic values. Similarly, Western music primes were rated highly for Western or American culture and individualistic values, and low in representing Eastern or Chinese culture and collectivistic values. Musical selections were also required to be somewhat familiar, preferred, and relatable (see Supplementary Materials Appendix P).

The Chinese prime condition included the National Anthem of China and the instrumental main theme from *Once Upon a Time in China*. The Western prime condition included *Love Story* by Taylor Swift and the main theme from *The Good, the Bad, and the Ugly*. Each condition contained one instrumental piece and one song with lyrics to signal the corresponding Eastern or Western culture. For the control condition, I used silence and brown noise. Samples of the music stimuli are provided in Supplementary Materials Appendix Q.

Participants

Participants were recruited through an online advertisement disseminated by the researcher through social media. Thirty ethnically Chinese Singaporean participants (aged between 21 and 67 years; mean = 36.90, *SD* = 12.10; 19 [63.33%] female, 11 [36.67%] male; all reported as non-disabled) participated in the study as paid volunteers.

Self-Construal Measures

Singelis' (1994) Self-Construal Scale (S-SCS)

The S-SCS consists of 15 items to measure interdependent self-construal and 15 items to measure independent self-construal with a Cronbach's α of .74 and .70 for both scales respectively (Singelis, 1994). Participants rated the statements on a 7-point Likert scale (from 1 = *strongly disagree* to 7 = *strongly agree*).

Twenty Statements Test (TST)

The TST is a self-report measure where participants were asked to write down 20 different responses to the question "Who am I?" (Kuhn & McPartland, 1954). These statements are coded by the researcher as either interdependent if they describe socially defined relationships, roles, or statuses associated with group membership (e.g., "I am a Chinese"; "I am a software engineer"; or "I am a guitarist"), or independent if they describe physical characteristics, personal traits, or emotional states (e.g., "I am empathic"; "I am someone who loves smoothies"; "I am a confident person"). The number of interdependent and independent statements are then used as interdependent and independent self-construal scores respectively.

Yang's (2017) Self-Construal Scale (Y-SCS)

The Y-SCS consists of 48 items to measure eight dimensions of self-construal: *self-reliance vs. dependence on others, self-containment vs. connectedness to others, difference vs. similar to others, self-interest vs. commitment to others, consistency vs. variability, self-direction vs. reception to influence, self-expression vs. harmony,* and *decontextualized vs. contextualized self*. Each dimension was measured using six items, and a positive score reflected a tendency toward independence whereas a negative score reflected a tendency toward interdependence. Cronbach's α for all dimensions were reported to be mostly between .72 and .89 (S. Yang, 2017). Participants rated the statements on a 9-point Likert scale (from 1 = *doesn't describe me at all* to 5 = *describes me exactly*) with 0.5 as intervals (i.e., 1.5, 2.5, 3.5, 4.5). As recommended by V. L. Vignoles (personal communication,

August 8, 2022), each dimension's score was ipsatized (i.e., the score of each dimension minus the overall average) to reduce the influence of acquiescent responding (Baron, 1996).

Procedure

Prospective participants were recruited through an online advertisement with a link to the study. After clicking the link, participants accessed the participant information sheet and scheduled an appointment. They were instructed to complete the pre-test self-construal measures at least one day prior to their study visit. On the day of the visit, the researcher reviewed the participant information sheet again and obtained informed consent. Participants first completed an interview about their all-time favorite music for a separate research study. Subsequently, they were randomly assigned to one of three conditions – control, Chinese prime, or Western prime – with the researcher masked to the assignment. In the priming task, participants listened to each musical piece for at least 1-minute, during which they were tasked to describe the music. They then completed the self-construal measures again, along with demographic questions (e.g., age, gender, educational level, and musical expertise). Musical expertise was assessed using self-reported years of musical training and the musician rank item (i.e., *"Which title best describes you?"*) from the Ollen Musical Sophistication Index (OMSI; Ollen, 2006), based on findings that these are the best single-item measures for estimating musicality (Zhang & Schubert, 2019). The order of musical pieces and self-construal measures was counterbalanced to minimize order effects. The questionnaire and randomization were administered through Qualtrics^{XM}. Ethical approval was granted by the University's Ethics Review Procedure, overseen by the Department of Music.

Data Analysis

To assess whether the music primed different self-construals, I conducted a mixed-model ANOVA with pre-test and post-test self-construal measures as the within-subjects variable and music conditions as the between-subjects factor. All analyses were performed using SPSS®28.

Results

Descriptive Results

Participants were randomly assigned into three conditions: control (n = 10), Chinese music (n = 10), and Western music (n = 10; see Table 6.1). A one-way between groups analysis of variance (ANOVA) revealed no statistically significant differences between the three conditions in terms of age, $F(2, 27) = 1.56$, $p = .229$; gender, $F(2, 27)$ 0.13, $p = .878$; education level, $F(2, 27) = 2.09$, $p = .144$; musical identity, $F(2, 27) = 0.08$, $p = .921$; or years of musical training, $F(2, 27) = 0.75$, $p = .484$. However, a significant difference was found in the number of days between pre-test and post-test, $F(2, 27) = 3.75$, $p = .036$, though post hoc analyses with Tukey's HSD ($\alpha = .05$) indicated no pairwise differences.

See Table 6.2 for the mean pre-test and post-test self-construal scores by condition. For brevity, only statistically significant findings are reported here; non-significant results are detailed in Supplementary Materials Appendix R.

Table 6.1 Participants: Demographic Information

	Control (n = 10) *M (SD)*	Chinese Music (n = 10) *M (SD)*	Western Music (n = 10) *M (SD)*	*p*
Age (Years)	31.70 (11.27)	40.80 (12.33)	38.20 (12.00)	.229
Gender, *n* (%)				.878
Female	7 (70.00)	6 (60.00)	6 (60.00)	
Male	3 (30.00)	4 (40.00)	4 (40.00)	
Disability, *n* (%)				
Yes	0 (0.00)	0 (0.00)	0 (0.00)	
No	10 (100.00)	10 (100.00)	10 (100.00)	
Education Level	4.60 (0.52)	4.90 (0.57)	5.10 (0.57)	.144
Musical Identity [a]	2.00 (0.67)	2.00 (0.82)	2.10 (0.32)	.921
Music Lessons (Years)	3.70 (4.92)	2.20 (3.08)	1.80 (2.57)	.484
Days Lapsed [b]	8.30 (8.33)	17.60 (8.14)	17.80 (10.00)	.036*

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (OMSI; Ollen, 2006) musician rank item. Musical identity was used because it was reported to be the best single-item measure that represents musical sophistication and musicality (Zhang & Schubert, 2019).
[b] Days lapsed refers to the number of days between the pre- and post-test of the self-construal measures.
* $p < .05$.

Table 6.2 Mean Self-Construal Scores at Pre-Test and Post-Test

	Control		Chinese		Western	
	Pre-test *M (SD)*	Post-test *M (SD)*	Pre-test *M (SD)*	Post-test *M (SD)*	Pre-test *M (SD)*	Post-test *M (SD)*
Singelis (1994) Self-Construal Scale						
Interdependent	78.10 (9.98)	73.80 (10.65)	73.10 (14.00)	67.00 (11.57)	72.70 (11.97)	69.60 (13.87)
Independent	76.10 (13.54)	72.50 (10.86)	76.60 (12.73)	73.20 (9.81)	77.40 (9.70)	75.90 (8.24)
Twenty Statements Test						
Interdependent	5.10 (4.98)	5.00 (4.88)	9.90 (4.77)	9.80 (5.14)	6.40 (6.17)	5.67 (6.50)
Independent	14.30 (5.44)	13.80 (5.29)	9.60 (4.33)	9.80 (5.14)	13.30 (6.17)	14.22 (6.46)
Yang (2017) Self-Construal Scale						
Difference vs. similar to others	0.42 (5.08)	-0.35 (5.28)	-1.46 (3.03)	-1.84 (2.77)	-2.97 (3.40)	-3.37 (5.10)
Self-containment vs. connectedness to others	-10.03 (6.63)	-9.05 (6.65)	-9.66 (6.21)	-10.79 (4.07)	-13.07 (4.10)	-11.41 (3.54)
Self-direction vs. reception to influence	-2.18 (4.26)	-1.15 (4.87)	-0.81 (3.01)	0.11 (2.03)	-1.47 (5.26)	-0.46 (3.79)
Self-expression vs. harmony	-4.53 (3.35)	-4.25 (4.10)	-5.76 (2.95)	-5.84 (3.15)	-2.52 (4.63)	-3.11 (2.78)
Consistency vs. variability	-7.43 (3.29)	-2.50 (4.37)	-3.81 (3.37)	2.44 (4.40)	-2.77 (5.41)	2.66 (5.21)
Decontextualized vs. contextualized self	0.02 (4.71)	-.045 (4.55)	-1.61 (4.94)	-0.94 (4.93)	-2.82 (3.98)	-0.86 (5.40)
Self-reliance vs. dependence on others	0.87 (4.59)	1.65 (5.27)	-0.51 (3.86)	0.81 (2.87)	0.38 (4.09)	1.14 (4.06)
Self-interest vs. commitment to others	-2.68 (3.76)	3.50 (4.51)	-3.81 (2.81)	3.29 (2.95)	-4.17 (3.87)	2.46 (3.32)

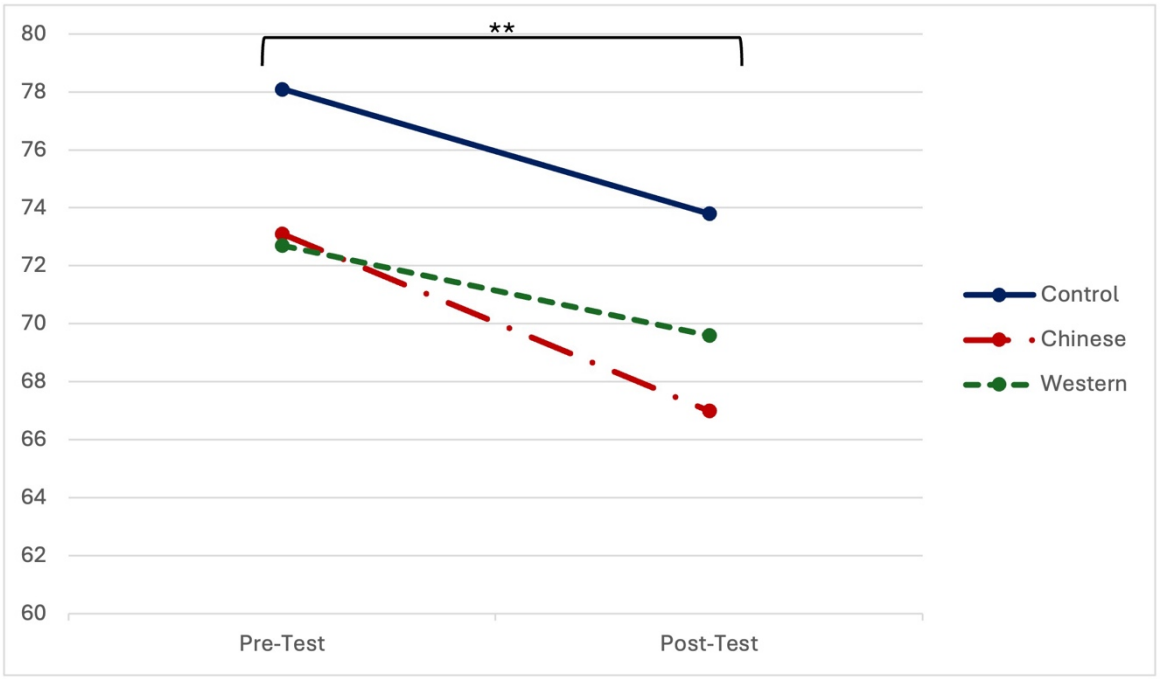
Note. For Yang's (2017) Self-Construal Scale, each dimension's score was ipsatized (i.e., the score of each dimension minus the overall average). A positive score indicates a tendency toward independence whereas a negative score reflects a tendency toward interdependence.

S-SCS

Interdependent Self-Construal

The main effect of the music prime condition was not significant, $F(2, 27) = 0.74$, $p = .489$, partial $\eta^2 = .052$, indicating no differences in interdependent self-construal between music conditions. The within-subjects main effect was significant, $F(1, 27) = 12.10$, $p = .002$, partial $\eta^2 = .309$, showing differences in interdependent self-construal between pre-test and post-test. The interaction effect was not significant, $F(2, 27) = 0.45$, $p = .640$, partial $\eta^2 = .033$, indicating that music conditions did not influence changes in interdependent self-construal between pre-test and post-test (see Figure 6.1).

Figure 6.1 Pre-Test and Post-Test Scores: S-SCS Interdependent Self-Construal

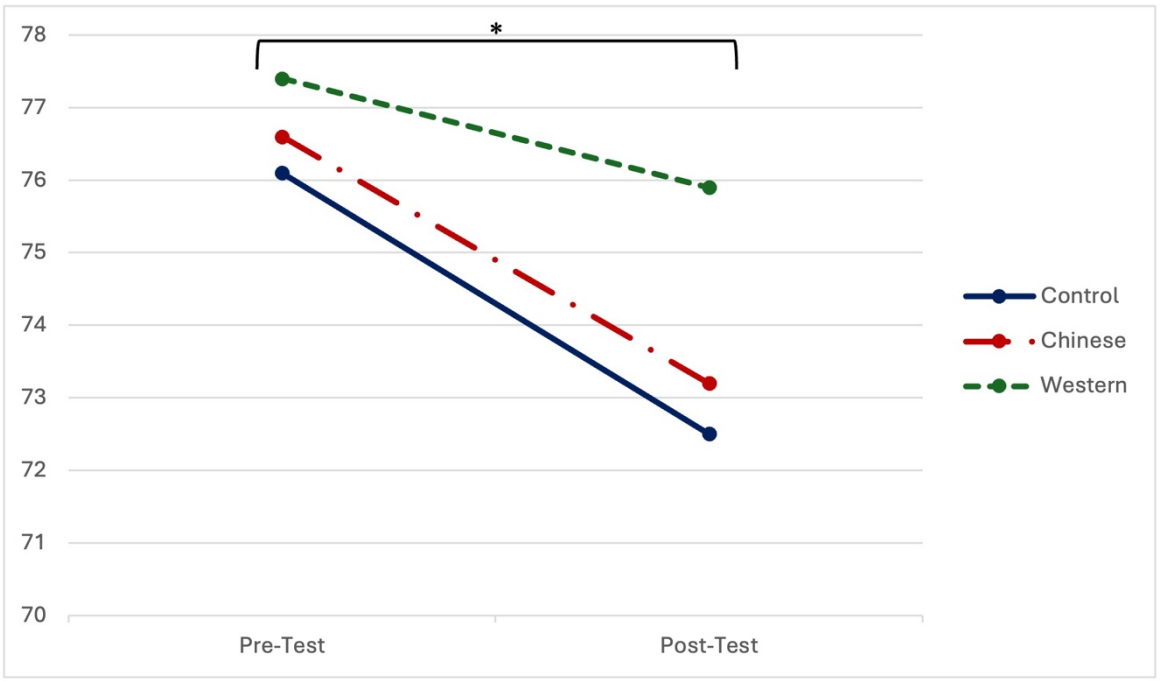


** $p < .01$.

Independent Self-Construal

The main effect of the music prime condition was not significant, $F(2, 27) = 0.14$, $p = .874$, partial $\eta^2 = .010$, indicating no differences in independent self-construal between music conditions. The within-subjects main effect was significant, $F(1, 27) = 6.01$, $p = .021$, partial $\eta^2 = .182$, indicating differences in independent self-construal between pre-test and post-test. The interaction effect was not significant, $F(2, 27) = 0.34$, $p = .718$, partial $\eta^2 = .024$, indicating that music conditions did not influence changes in independent self-construal between pre-test and post-test (see Figure 6.2).

Figure 6.2 Pre-Test and Post-Test Scores: S-SCS Independent Self-Construal



* $p < .05$.

TST

There were no significant main effects or interaction effects for both interdependent and independent self-descriptions on the TST. Refer to Supplementary Materials Appendix R for more information.

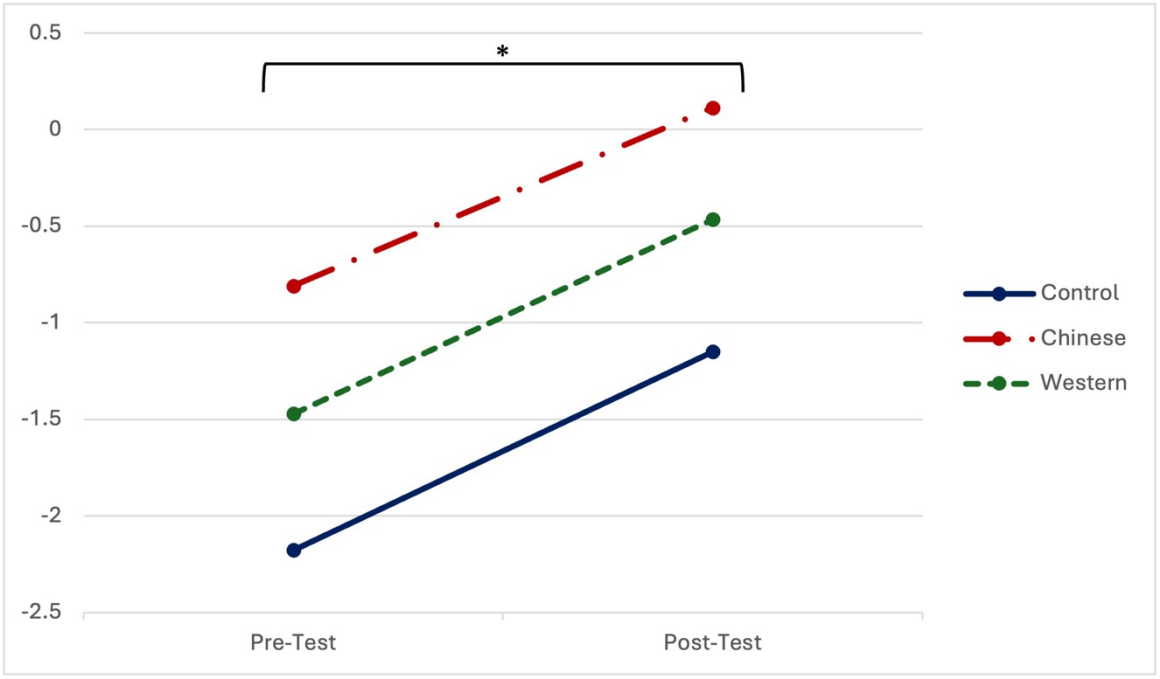
Y-SCS

There were no significant main effects or interaction effects for the following Y-SCS factors: difference vs. similar to others, self-containment vs. connectedness to others, self-expression vs. harmony, decontextualized vs. contextualized self, and self-reliance vs. dependence on others. Refer to Supplementary Materials Appendix R for more information.

Self-Direction vs. Reception to Influence

The main effect of the music prime condition was not significant, $F(2, 27) = 0.30$, $p = .746$, partial $\eta^2 = .021$, indicating no differences in the self-direction vs. reception to influence factor between music conditions. The within-subjects main effect was significant, $F(1, 27) = 4.57$, $p = .042$, partial $\eta^2 = .145$, indicating differences in this factor between pre-test and post-test. The interaction effect was not significant, $F(2, 27) = 0.01$, $p = .995$, partial $\eta^2 = .000$, indicating that music conditions did not influence changes in this factor between pre-test and post-test (see Figure 6.3).

Figure 6.3 Pre-Test and Post-Test Scores: Self-Direction vs. Reception to Influence

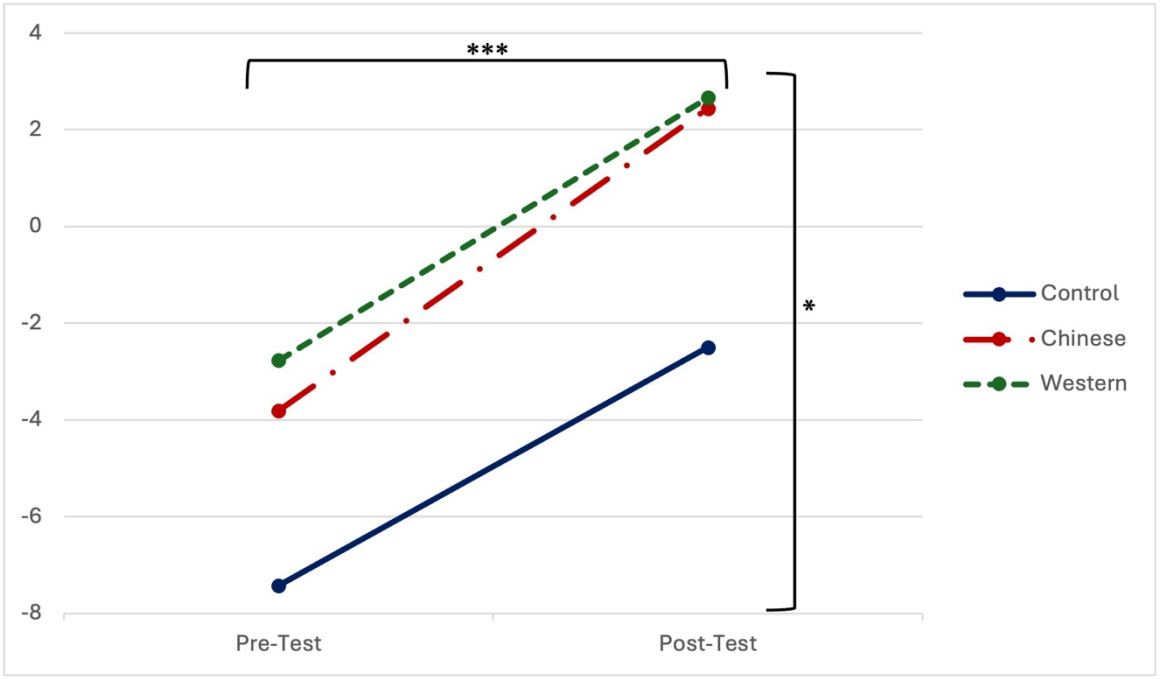


* $p < .05$.

Consistency vs. Variability

The main effect of the music prime condition was significant, $F(2, 27) = 4.21$, $p = .026$, partial $\eta^2 = .238$, with participants in the Chinese prime ($M = -0.69$, $SD = 3.74$) and Western prime ($M = -0.05$, $SD = 3.73$) conditions rating the consistency vs. variability factor higher than those in the control condition ($M = -4.96$, $SD = 3.73$). No significant differences were found between the Chinese and Western prime conditions. The within-subjects main effect was significant, $F(1, 27) = 89.78$, $p < .001$, partial $\eta^2 = .769$, indicating differences between pre-test and post-test. The interaction effect was not significant, $F(2, 27) = 0.43$, $p = .653$, partial $\eta^2 = .031$, showing that music conditions did not affect changes in this factor between pre-test and post-test (see Figure 6.4).

Figure 6.4 Pre-Test and Post-Test Scores: Consistency vs. Variability

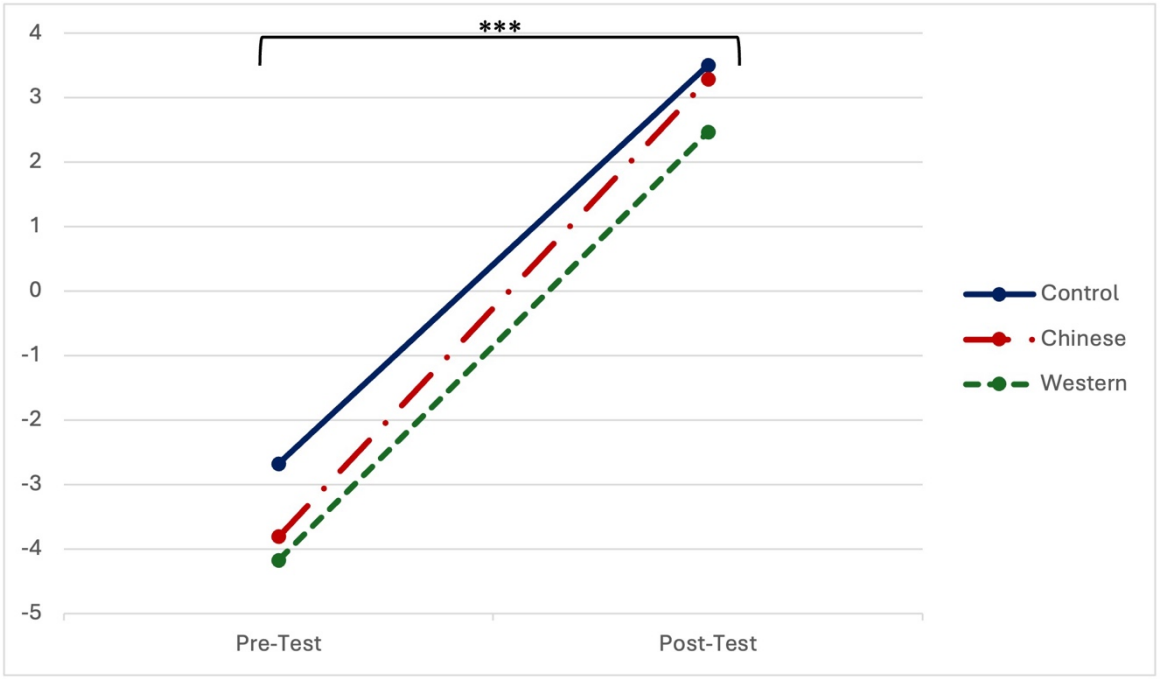


*** $p < .001$, * $p < .05$.

Self-Interest vs. Commitment to Others

The main effect of the music prime condition was not significant, $F(2, 27) = 0.35$, $p = .710$, partial $\eta^2 = .025$, indicating no differences in the self-interest vs. commitment to others factor between the music conditions. The within-subjects main effect was significant, $F(1, 27) = 255.23$, $p < .001$, partial $\eta^2 = .904$, showing differences in this factor between pre-test and post-test. The interaction effect was not significant, $F(2, 27) = 0.41$, $p = .669$, partial $\eta^2 = .029$, indicating that music conditions did not influence changes in this factor between pre-test and post-test (see Figure 6.5).

Figure 6.5 Pre-Test and Post-Test Scores: Self-Interest vs. Commitment to Others



*** $p < .01$

Discussion

This study investigated whether music listening could serve as a method to prime interdependent and independent self-construals. While participants' self-construals differed between pre-test and post-test, these changes were not influenced by the type of music, suggesting that the shifts were unrelated to specific music conditions. One possible explanation is that these changes reflect ontogenetic development in self-construal across the lifespan (Guo et al., 2008; Snyder, 2023). However, this seems unlikely given the participants' age range (21-67 years) and the brief interval (1-3 weeks) between pre-test and post-test. Instead, I argue that participants were particularly sensitive to the auditory stimuli, including silence and brown noise in the control condition. Thus, I propose that all auditory stimuli across conditions influenced participants' self-construal.

Based on the S-SCS, participants reported lower interdependent and independent self-construal scores at the post-test compared to the pre-test across all music conditions. Upon reviewing

participants' descriptions of the stimuli, it was evident that most participants recognized the silence in the control condition. Several participants remarked that the silence caused them to reflect on themselves. For instance, one participant described it as "emptiness, peace with own thoughts and background sounds that can be heard through the headphones, an inaudible barrier to keep me in my own sphere and away from others when I want to be alone." This experience likely encouraged self-focus, which might explain the lower interdependent self-construal scores.

Descriptions of the brown noise track were more varied. While some participants accurately identified it as "static/white noise," others associated it with vivid imagery, such as "a waterfall," "a car driving on the road or the highway," "waves along with the winds blowing," or "airplanes taking off." One participant reported a strong emotional response, describing it as "unpleasant, [and] evokes feelings of work, stress and a mind that is unable to relax." Interestingly, the brown noise also prompted some participants to think about others. For example, one noted, "it sounds like white noise that people listen to when they want to feel calm." This experience of associating brown noise with social contexts may account for the lower independent self-construal scores.

Taken together, these descriptions suggest that both silence and brown noise in the control condition may have influenced participants' self-construal. Previous research using the cultural icon priming method has employed various types of images in the control condition, such as landscapes (Y.-Y. Hong et al., 2003; Hu et al., 2018; Li et al., 2024), meteorological phenomena like clouds (Liu et al., 2017; No et al., 2008), geometric figures (Y. Hong et al., 2000; Wong & Hong, 2005), or flowers and fruits (Sui et al., 2007). In these studies, the control condition either did not influence behaviors (e.g., Liu et al., 2017) or produced effects similar to one of the prime conditions (e.g., Sui et al., 2007), indicating that that prime condition reflected participants' default self-construal. In contrast, this study found that participants' self-construal changed between pre-test and post-test, even in the control condition. This suggests that silence and brown noise may not be as neutral as intended. One implication is that greater care must be taken when selecting stimuli for the auditory control condition. Future research should consider different audio stimuli (e.g., audiobooks, nature sounds) or explore cross-modal control stimuli (e.g., pictures of musical notation, performances, or instruments).

Based on the S-SCS, participants in the Chinese music condition reported lower interdependent self-construal scores, whereas participants in the Western music condition reported lower independent self-construal scores at post-test compared to pre-test. These findings contradict my hypothesis that listening to Chinese music would prime interdependent self-construal, whereas listening to Western music would prime independent self-construal. I propose that the priming manipulation may have triggered a contrast effect rather than the expected assimilation effect (Kobylińska & Karwowska, 2014). Simply put, a contrast effect refers to a reaction opposite to what the priming manipulation intended. For example, Kobylińska and Karwowska (2007, 2014) found that shorter exposure to primes produces assimilation effects, while longer exposure leads to contrast effects. In the present study, participants listened to each musical excerpt for at least one minute.

Since music is a complex stimulus, extended exposure could engage deeper cognitive processing, yielding contrast effects as participants processed additional information about the music. Future research could test this by comparing short and longer exposure durations.

Assimilation and contrast effects are also influenced by individual differences, such as how bicultural identity is organized within an individual (Benet-Martínez, 2012; Benet-Martínez & Haritatos, 2005). Bicultural identity integration (BII) refers to the extent to which bicultural individuals perceive their dual cultural identities as overlapping or compatible. Individuals high in BII find it easy to integrate both cultures into their daily lives, while those low in BII view their cultural identities as conflicting and a source of internal tension. Research in cultural psychology has shown that individuals high in BII tend to respond to cultural primes in a convergent way, whereas those low in BII respond in a divergent manner (Benet-Martínez et al., 2002; Cheng et al., 2006; Friedman et al., 2012; Mok & Morris, 2009, 2013; Zou et al., 2008). Since this study did not measure BII, I can only speculate that the participants may have had low BII, perceiving Chinese and American cultures as incompatible. This perceived incompatibility could explain the contrast effects observed in this study. Future studies should include BII to account for such individual differences.

Another possible interpretation stems from social comparison theory (Festinger, 1954). This theory suggests that individuals understand themselves relative to similar others, meaning that self-perception is context dependent. Research has demonstrated that a person's behavior can change depending on the referent group. For instance, Dijksterhuis et al. (1998) found that when undergraduate participants were primed with stereotypes associated with high intelligence (e.g., professors), they performed better on a knowledge test, reflecting an assimilation effect. Conversely, when participants were primed with exemplars like Einstein, they performed worse, demonstrating a contrast effect. Similarly, Heine et al. (2002) showed that when the referent group was manipulated (i.e., comparing participants with Japanese or North Americans), participants' self-reported self-construals conformed to expected cultural differences. In the present study, rather than priming self-related knowledge tied to interdependent and independent self-construals, the Chinese and Western music conditions may have led participants to think about Chinese and American people. This could have prompted social comparisons, resulting in participants perceiving themselves as relatively less interdependent compared to Chinese people and less independent compared to American people. This interpretation may also explain the absence of differences in self-descriptions on the TST, despite participants reporting lower interdependent and independent self-construals through the S-SCS.

The results also showed that participants in the Chinese music condition reported lower independent self-construal and participants in the Western music condition reported lower interdependent self-construal at the post-test compared to the pre-test. Viewed from this perspective, the results seem to partially support my hypothesis. Nevertheless, I acknowledge the critiques regarding the interdependent-independent dichotomy and the concerns surrounding self-construal measurement (Heine et al., 2002; Matsumoto, 1999; Vignoles et al., 2016). To address these issues, I

used the Y-SCS to further explore how music primes self-construal. The results revealed higher post-test scores, reflecting a tendency toward the independent pole, on factors such as self-direction vs. reception to influence, consistency vs. variability, and self-interest vs. commitment to others across all music conditions.

These findings, based on the Y-SCS support my hypothesis that listening to Western music primes independent self-construal, suggesting an assimilation effect. In the Western music condition, participants listened to *Love Story* by Taylor Swift and the main theme from *The Good, the Bad and the Ugly*. The lyrics of *Love Story* describe a romance that defies parental disapproval, culminating in a marriage proposal. The storyline of the latter follows three gunslingers competing to unearth buried Confederate gold during the American Civil War. Both emphasize themes of defying others' opinions, persevering through varying circumstances, and pursuing personal goals – concepts aligned with independent self-construal factors such as self-direction, consistency, and self-interest. As such, listening to these musics may have primed these notions, resulting in higher independence scores on these self-construal factors.

The Y-SCS results, however, did not support my hypothesis that listening to Chinese music would prime interdependent self-construal. Instead, participants in the Chinese music condition showed a tendency toward independent self-construal. They listened to China's National Anthem ("义勇军进行曲" [yiyongjun jinxingqu] or "March of the Volunteers") and the instrumental main theme from *Once Upon a Time in China*. Despite its nationalist elements, the anthem's lyrics emphasize resistance and resilience against adversaries. The latter, a series of Hong Kong films, intertwine themes of Chinese nationalism with the inevitable spread and acceptance of western cultures. While both pieces highlight collective identity and nationalism, they also implicitly emphasize self-direction, consistency, and self-interest, albeit on a group or national level. Consequently, listening to these musics may have primed the corresponding independent self-construal concepts.

Alternatively, a contrast effect may explain the results. Research in cognitive and social psychology indicates that contrast effects can occur when participants become aware of the priming manipulation or realize its influence on the target task (Glaser & Banaji, 1999; Lombardi et al., 1987; Newman & Uleman, 1990; Strack et al., 1993). Participants might have recognized the overt cultural cues in the Chinese music and lyrics, and responded by rejecting or suppressing associated collectivistic values. This aligns with research showing a global shift toward individualistic values, particularly in places like Singapore (Chang et al., 2003; Santos et al., 2017; R. Yang, 2023). While these interpretations are speculative, future research is needed to explore the mechanisms behind these effects.

Several limitations of this study should be considered. First, the small sample size, while meeting assumptions of normality and homogeneity of variance, limits statistical power. A larger sample would enhance the robustness of the findings. Perhaps each experimental condition should

have at least 18 participants, as shown in a previous study by Sui et al. (2007). Additionally, the sample consisted solely of bicultural individuals from Singapore, which may limit generalizability. Second, self-selection bias is a concern, as participants with a particular interest in music may have been more likely to participate, potentially skewing the results. Third, the self-construal priming experiment followed an interview about participants' favorite music, which could have influenced outcomes by attenuating the intended priming effects. Additionally, although the researcher was masked to the priming assignment, the researcher's presence in the room as participants completed the post-test questionnaire may have introduced social desirability bias. Finally, the priming stimuli included both instrumental music and songs with lyrics. While each condition contained one instrumental piece and one song, it is unclear whether participants paid equal attention to the lyrics, which may have influenced the priming effect. Future research should address these limitations by using a larger and more diverse sample, employing a more controlled experimental design, using other cultural symbols as manipulation checks, and exploring how different types of music affect self-construal.

Conclusion

In conclusion, this study investigated whether music could serve as a self-construal priming manipulation. The findings indicated that participants' self-construal changed from pre-test to post-test across all music conditions, suggesting that factors beyond music influenced self-perception. Nevertheless, I argue that all auditory stimuli, including silence and brown noise, might have affected how individuals perceive and construe the self. Although no differences were observed in self-descriptions on the TST, participants reported lower interdependent and independent self-construal scores at post-test compared to pre-test. Through further analysis, the music used in this study appeared to influence specific self-construal factors, namely self-direction vs. reception to influence, consistency vs. variability, and self-interest vs. commitment to others. These results highlight the complexities and nuances of using music as a priming manipulation, perhaps explaining why, to my knowledge, no studies to date have explored this priming method. As the first study to explore music as a potential priming manipulation, I have presented possible interpretations and offered recommendations to support this line of inquiry moving forward. While further research is needed to establish the reliability and mechanisms of music-based priming, this study lays important groundwork and underscores the profound impact music can have on self-perception and identity. As Bono aptly said, "music can change the world because it can change people."

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CHAPTER SEVEN

"Music should be healing, music should uplift the soul, music should inspire; then there is no better way of getting closer to God, of rising higher towards the spirit, of attaining spiritual perfection, only if it is rightly understood."

– Hazrat Inayat Kahn

Overview

This chapter re-examines the functions of music from a cross-cultural perspective. It is guided by the research question: what are the functions of favourite music from a cross-cultural perspective?

Abstract

Previous cross-cultural research has often overlooked how researchers' theoretical assumptions influence qualitative data interpretation. This paper presents a second take on the functions of music across cultures, using a culturally diverse sample and reflexive thematic analysis, which acknowledges the researcher's active role in knowledge production. In Study One, a new framework of musical functions is proposed, categorizing them as other-directed or self-directed. Five other-directed functions were identified: social entertainment, reminiscing about others, connecting with others, evoking socially engaging emotions, and conveying social stories. Ten self-directed functions were also identified: entertainment, reminiscence, self-reflection, emotion evocation, regulation, motivation, appreciation, education/work, self-expression, and transpersonal. Study Two confirmed this framework with participants from China, Singapore, and the U.K. A frequency analysis of qualitative responses revealed cross-cultural similarities and differences. Regulation and emotion evocation were the most frequently reported self-directed functions across cultures. Among other-directed functions, evoking socially engaging emotions was most prevalent in China, whilst reminiscing about others was most common in the U.K. In Singapore, these functions were more evenly represented. Study Three, using semi-structured interviews, found that while individuals listen to music for specific purposes, these functions often overlap. This research furthers our understanding of musical functions and their cultural variability.

Keywords: uses of music, functions, favorite music, cross-cultural, culture

Second Take on the Functions of Music: A Cross-Cultural Perspective

Music plays a significant role in everyday life, with people from the U.K. and the U.S. reporting that they spend more time listening to music than engaging in other leisure activities (Lonsdale & North, 2011; Rentfrow & Gosling, 2003). Given music's ubiquity, research on the functions of music has proliferated. Broadly, scholars within music psychology have sought to identify the fundamental dimensions underlying the plethora of functions of music listening (Boer & Fischer, 2012; Rentfrow, 2012; Schäfer et al., 2013; Schubert, 2009) and to explore its relationship with other music listening behaviors (Butković & Žauhar, 2024; Hird & North, 2021). Despite the growing body of research on this topic, most studies taking a psychological perspective have relied primarily on participants from WEIRD (western, educated, industrialized, rich, and democratic) countries, limiting our understanding of how the functions of music vary across cultures (Jakubowski et al., 2025; Sauvé et al., 2023; Tang, 2024). To address this gap, this paper presents three studies examining why people listen to music, with the aim of extending our understanding of the functions of music beyond WEIRD contexts.

Functions of Music – What Is It, Really?

In this paper, I define the functions of music as the reasons why people listen to music. Scholars have proposed various functions that music listening may serve. For example, Merriam (1964) identified ten sociocultural functions of music based on anthropological investigations, such as emotional expression, symbolic representation, and societal integration. In contrast, Schubert (2009) argues that the primary function of music is to produce pleasure, with all other functions being secondary or subsidiary. Taking a uses and gratifications approach, Lonsdale and North (2011) outlined seven functions of music, including mood management, background use, musical participation, reminiscing, enjoyment, social interaction, and distraction. Drawing on insights from social and personality psychology, Rentfrow (2012) proposed that music serves a variety of functions, such as emotion regulation, self-expression, and social bonding. Other studies have examined musical functions through different lenses, including age (Campbell et al., 2007; Hays & Minichiello, 2005; Laukka, 2007; North et al., 2000; Tarrant et al., 2000), gender (DeNora, 1999; Dobrota et al., 2019; Gupta, 2018), personality (Butković & Žauhar, 2024; Chamorro-Premuzic & Furnham, 2007; Vella & Mills, 2017), and life goals (Hird & North, 2021).

The diversity of theoretical and methodological approaches has led to a highly heterogenous picture regarding the number and nature of musical functions. In an attempt to consolidate this variability, Schäfer et al. (2013) conducted a comprehensive literature review and empirical investigation, synthesizing hundreds of proposed functions into three overarching dimensions: regulating arousal and mood, achieving self-awareness, and expressing social relatedness. While this framework provides valuable insights, several limitations warrant consideration.

The majority of studies on musical functions have relied on pre-determined lists of functions generated by the researchers (North et al., 2004), such as the Uses of Music Inventory (Chamorro-

Premuzic & Furnham, 2007). A key limitation of this approach is that such lists inadvertently reflect the researchers' assumptions about music's uses. For example, in a study by Schäfer and Sedlmeier (2009), 363 out of 507 participants (71.6%) reported additional music functions beyond those listed in the questionnaire. While the researchers argued that many of these responses could be subsumed under their original list, it is also possible that participants interpreted the listed functions differently, leading them to suggest additional ones. In other words, pre-determined lists may not fully capture the diversity of musical functions. Moreover, these lists have been predominantly validated using WEIRD samples, including participants from the U.S., the U.K., New Zealand, and Germany (Boer & Fischer, 2012; Chamorro-Premuzic & Furnham, 2007; Lonsdale & North, 2011; North et al., 2000; Schäfer et al., 2013). The reliance on western samples further limits the generalizability of these findings to other cultural contexts (Henrich et al., 2010; Jakubowski et al., 2025).

To address these limitations, some studies have recruited culturally diverse samples (Boer et al., 2012) and employed a bottom-up approach using qualitative methods (Lonsdale & North, 2011). For instance, Boer and Fischer (2012) conducted an open-ended questionnaire in which participants from various cultural backgrounds described the functions of music. Using thematic analysis with an inductive approach, they developed a list of music functions based on participants' responses. To minimize cultural bias in data interpretation, they analyzed responses without referencing participants' cultural or demographic backgrounds. This approach led to the identification of seven functions: music as background, memories through music, music as diversion, emotion in music, self-regulation through music, music as a reflection of the self, and social bonding through music. Applying this framework, they then examined the prevalence of these functions across cultures. Their findings revealed both similarities and cross-cultural differences. Notably, self-regulation emerged as the most important personal function of music across all cultural groups. However, emotional and reminiscence functions were more prevalent among the non-Anglophone Western participants compared to their Asian, South American, and Anglophone Western counterparts.

These studies have undoubtedly advanced our understanding of musical functions across cultures. However, one limitation remains; although the researchers sought to reduce bias by omitting cultural and demographic identifiers during their analysis, they did not explicitly acknowledge their own epistemological and ontological assumptions. As a result, their findings may still reflect and reinforce dominant Eurocentric perspectives on musical functions, that may perhaps fit within a particular neoliberal discourse.

Overview of the Present Studies

This paper presents a second take on the functions of music from a cross-cultural perspective. The aim of Study One was to develop a framework of music functions that is applicable across cultures by addressing the limitations in previous research. This includes recruiting a culturally diverse sample and employing reflexive thematic analysis (Braun & Clarke, 2019, 2021), which acknowledges the researcher's active role in knowledge production. Unlike 'traditional' thematic

analysis, this approach emphasizes the researcher's reflexive engagement in the analytic process, requiring explicit articulation of philosophical sensibilities and theoretical assumptions when interpreting data.

Given this methodological stance, it is important to consider my own positionality, as it shapes my analytical lens and influences how I engage with the data. As an ethnically Chinese male from postcolonial Singapore, I have both exercised power and experienced its effects due to my intersecting privileged and marginalized cultural identities. My upbringing in Singapore was deeply shaped by Confucian values, reinforced through familial interactions and state institutions, including national and community service. At the same time, Western ideals of democracy, individualism, and scientific rationalism were embedded in my education. Having studied and worked in the U.S. and the U.K., I have become acutely aware of the tensions between dominant theoretical frameworks and alternative cultural perspectives. This awareness has strengthened my commitment to broadening understandings of music and culture beyond WEIRD paradigms.

When considering the functions of music listening, it is essential to understand them within their broader cultural context (DeNora, 1999; Juslin et al., 2008). My understanding of musical functions is informed by cross-cultural psychology, particularly research on collectivist and individualist cultures (Hofstede et al., 2010; Markus & Kitayama, 1991, 2010). In collectivist cultures, the primary emphasis is on group needs and goals, fostering social harmony and interdependence within the community. In contrast, individualist cultures prioritize personal achievement, independence, and self-interest over collective concerns. Given this distinction, it follows that the functions of music may align with these cultural imperatives, serving either other-directed (social) or self-directed (personal) purposes. As a biculturally socialized individual, my lived experience has exposed me to using music for both other- and self-directed reasons, heightening my awareness of these nuances. Therefore, I sought to develop a framework of musical functions that accounts for these cultural variations.

In Study Two, I applied the framework developed in Study One to examine whether the functions of music differ across cultural contexts. Previous cross-cultural research on musical functions has shown that, compared to people in individualistic cultures, those from collectivistic cultures report using music more frequently for social purposes, such as entertainment in social settings, the expression of cultural identity, and social or family bonding (Boer et al., 2012; Boer & Fischer, 2012). However, these studies tend to treat cultural differences as binary, assuming that individuals are either collectivist or individualist. Instead, I adopt the perspective that individuals are not passive members of their cultural groups but rather active agents who engage with and shape their cultural environments (Hong & Mallorie, 2004; Markus & Kitayama, 2010; Oyserman, 2011; Tang, 2024). In other words, people may subscribe to both collectivist and individualist ideals to varying degrees, meaning that other-directed and self-directed functions of music can coexist within both collectivistic and individualistic cultures. Nevertheless, the specific functions within each category

may vary depending on the cultural context. Consequently, I hypothesized that while both other-directed and self-directed music functions would be present across cultural contexts, their specific manifestations would be highly nuanced within cultures.

Since Studies One and Two utilized a questionnaire method, which encourages brevity, I employed a semi-structured interview approach in Study Three to gain deeper insights into the functions of music. This method allows for clarification of the functions identified in Study One and provides a more nuanced understanding of the nature of musical functions.

Prior research on music functions also tend to examine music in general or rely on genre-based measures (e.g., Rentfrow et al., 2011). While pragmatic, such measures do not always reliably capture individual or cultural differences, as genre categories are often perceived as overly complex or too heterogeneous (Brisson & Bianchi, 2022; Ferrer et al., 2013). To address this, the present studies investigated functions of music with respect to a specific piece of music – an all-time favorite. I acknowledge that favorite music is highly transient (Lamont & Webb, 2010); however, it was chosen because it reflects both individual and cultural influences. Research has shown that music preferences are closely associated with personality, cultural identity, and cultural values (Boer et al., 2013; Brittin, 2014; Rentfrow & Gosling, 2006). For example, music preferences can convey meaningful information about a person's cultural background (Marshall & Naumann, 2018; Rentfrow et al., 2009). Furthermore, Andrews et al. (2022) found that personal and cultural values better explained variations in music preferences than personality traits alone. Therefore, using favorite music to examine the functions of music presents the optimal strategy to reveal cross-cultural similarities and differences.

Study One

For Study One, I adopted an exploratory approach using an online open-ended questionnaire to investigate the functions of music across cultures.

Method

Participants

Participants were recruited in two ways. First, participants were recruited via an online advertisement distributed at universities in Singapore, China, Hong Kong, the U.K., and the U.S. Participants were informed that they could be entered into a draw to win one of five £10 (or equivalent in their local currency) Amazon gift cards. Second, participants were recruited via Amazon Mechanical Turk (MTurk) administered by CloudResearch (Litman et al., 2017). They were paid US$1 after completing the online questionnaire. Participants who did not complete the questionnaire or had missing responses were removed. Six hundred and ninety-three participants (mean age = 35.91, *SD* = 12.57) were included in the final analysis, of which participants reported 36 nationalities and 32 ethnicities, living in 12 different countries. See Tables 7.1 and 7.2 for more information.

Table 7.1 Study One Participant's Demographics: Age, Gender, Disability, Education, Musical Expertise

	n	*%*
Age (Years)		
Mean (SD)	35.91 (12.57)	
Gender		
Transgender	2	0.29
Non-binary	8	1.15
Female	276	39.83
Male	257	37.09
Prefer not to say	2	0.29
Disability		
Yes	63	9.09
No	467	67.39
Prefer not to say	7	1.01
Prefer to self-describe	4	0.58
Education Level		
Primary or elementary school	0	0.00
Secondary or middle school	13	1.88
Higher secondary or high school	104	15.01
College or university	288	41.56
Postgraduate degree	141	20.35
Musical identity [a]		
Non-musician	114	16.45
Music-loving non-musician	206	29.73
Amateur musician	102	14.72
Serious amateur musician	51	7.36
Semi-professional musician	42	6.06
Professional musician	30	4.33
Music Lessons (Years)		
Mean (SD)	4.08 (6.12)	

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (Ollen, 2006) musician rank item. Musical identity was used because it is the single-item measure that best represents musical sophistication and musicality (Zhang & Schubert, 2019).

Table 7.2 Study One Participant's Demographics: Nationality, Country of Residence, Ethnicity

Nationality					
N/S American		European		Asian and Others	
American	253 (36.51%)	British	96 (13.85%)	Chinese	22 (3.17%)
Brazilian	2 (0.29%)	Bulgarian	1 (0.14%)	Dual Nationality	11 (1.59%)
Canadian	54 (7.79%)	Dutch	1 (0.14%)	Filipino	2 (0.29%)
Colombian	1 (0.14%)	English	10 (1.44%)	Hmong	1 (0.14%)
Jamaican	2 (0.29%)	European	1 (0.14%)	Hong Kong	3 (0.43%)
		German	2 (0.29%)	Indian	13 (1.88%)
		Hungarian	2 (0.29%)	Indonesian	3 (0.43%)
		Irish	1 (0.14%)	Japanese	2 (0.29%)
		Italian	3 (0.43%)	Korean	1 (0.14%)
		Polish	2 (0.29%)	Laotian	1 (0.14%)
		Romanian	1 (0.14%)	Malaysian	3 (0.43%)
		Scottish	3 (0.43%)	Nepali	3 (0.43%)
		Spanish	3 (0.43%)	Singaporean	30 (4.33%)
		Ukrainian	1 (0.14%)	Taiwanese	2 (0.29%)
		Welsh	1 (0.14%)	Thai	1 (0.14%)
				Vietnam	1 (0.14%)
Country of Residence					
North America		Europe		Asia	
USA	286 (41.27%)	Britain/UK	55 (7.94%)	China	9 (1.30%)
Canada	63 (9.09%)	England	53 (7.65%)	India	2 (0.29%)
		France	1 (0.14%)	Japan	1 (0.14%)
		Ireland	1 (0.14%)	Singapore	31 (4.47%)
		Scotland	4 (0.58%)	Taiwan	1 (0.14%)
Ethnicity					
White or European		Black, Hispanic, Mixed		Asian, Pacific Islander	
Albanian	1 (0.14%)	Aboriginal	1 (0.14%)	Asian	71 (10.25%)
Belfast	1 (0.14%)	Afro Latinx	1 (0.14%)	Bangladeshi	1 (0.14%)
Caucasian	43 (6.20%)	Black/African	22 (3.17%)	Bengali	1 (0.14%)
European	2 (0.29%)	Egyptian	2 (0.29%)	Chinese	44 (6.35%)
German	1 (0.14%)	Hispanic	3 (0.43%)	Filipino	6 (0.87%)
Germanic	1 (0.14%)	Latino/a/x	3 (0.43%)	Han Chinese	10 (1.44%)
Polish	1 (0.14%)	Mixed Race	23 (3.32%)	Indian	3 (0.43%)
Ukrainian	1 (0.14%)			Japanese	5 (0.72%)
White	261 (37.66%)			Kashmiri	2 (0.29%)
White Gypsy	1 (0.14%)			Korean	3 (0.43%)
				Malay	2 (0.29%)
				Native Hawaiian	1 (0.14%)
				Singaporean	1 (0.14%)
				Southeast Asian	1 (0.14%)
				Vietnamese	1 (0.14%)

Procedure

Prospective participants were invited to take part in the study through a link provided in the online advertisement or via MTurk. After clicking the link, they completed an informed consent form before proceeding to the online open-ended questionnaire. Participants were instructed to reflect on their all-time favorite piece of music and could report up to three different selections. For each musical choice, they were asked to describe the reasons for listening to it. Following this, participants completed demographic questions, including age, gender, education level, and musical expertise. They also responded to additional questions for a separate research project. The online survey was hosted on Qualtrics^{XM} and was available in both Chinese (traditional and simplified) and English. Participation was voluntary and participants could skip any questions they preferred not to answer. This study received ethical approval through the University's Ethics Review Procedure, administered by the Department of Music.

Analytical Strategy

The content of the responses to the open-ended questions was analyzed using reflexive thematic analysis, a qualitative method for identifying patterns within the data (Braun & Clarke, 2006). One advantage of reflexive thematic analysis over 'traditional' thematic analysis is that it recognizes that themes are not simply discovered but are actively constructed. It views themes as creative and interpretive narratives shaped by the researcher's theoretical assumptions, analytic skills, and engagement with the data (Braun & Clarke, 2019, 2021). As a bicultural individual, I continuously reflect on how I interpret the data, drawing from both Eastern and Western philosophical perspectives (Nisbett, 2003) as well as my own lived experiences.

Since the survey was available in multiple languages, disentangling responses from the demographic backgrounds of the respondents, particularly those in Chinese, was challenging. This could introduce bias, as responses might be overinterpreted in relation to their cultural origins. In qualitative research, objectivity is neither the goal nor a realistic pursuit (Greenfield, 2000). Nonetheless, I took steps to minimize bias in cultural interpretations by translating the Chinese responses into English and cross-checking the translations with other bilingual researchers for accuracy. Additionally, my analysis was conducted with the aim of developing a framework that is applicable across cultures, rather than testing pre-existing theories about music functions.

During my initial reading and familiarization with the data, I first categorized participants' responses into other-directed and self-directed functions. Responses referencing other people were classified as other-directed, while those that focused solely on the individual or made no explicit mention of others were grouped as self-directed. After establishing these broad categories, I employed an inductive approach to identify key themes within each. The final themes were developed with reference to existing frameworks on musical functions (e.g., Boer & Fischer, 2012), with the goal of facilitating comparison with previous research.

Results and Discussion of Study One

Five themes were identified for other-directed functions and ten themes for self-directed functions.

Other-Directed Functions

1. Social entertainment. Participants described using music as a source of entertainment in social settings. This included active engagement, such as singing "karaoke with my friends and family" and listening "to this music to have a dance party with my friends" or "to dance with my husband." Additionally, participants highlighted passive engagement, where music appears to serve as a background element in social situations. For example, one respondent described "listening to music while drinking coffee in the morning with my boyfriend." Music was also integral to special occasions like "weddings or anniversaries" as well as everyday social interactions, such as listening to music while driving in the car with others. This suggests that music's role in social entertainment is fluid, functioning as either a primary activity (e.g., singing or dancing) or a complementary element that enhances social experiences.

2. Reminiscing about others. Participants described using music as a way to evoke memories of people in their lives. This included recalling loved ones who have passed away, as one participant shared: "Every time I hear this, it takes me back to a time with my soul-mate and spouse of 43 years who passed away a few years ago." Others reflected on shared experiences with others, such as "this song makes me think of my wife and our travels together," "to remember a time when I sang it with a small group of fellow singers in a flashmob," and "memories of times I have seen Sabaton live with friends." While most respondents associated music with positive memories, some acknowledged that music also evoked painful or bittersweet recollections. One participant expressed this sentiment: "It reminds me of someone I loved so much, but the way we treated each other caused us to act vindictively toward each other." This suggests that music can trigger both positive and negative social memories.

3. Connecting with others. Participants described using music as a means of fostering connections with others. Some reported personal relationships, mentioning specific individuals such as "my partner who is also a jazz musician," as well as family members and friends. Others reported using music to connect to broader social and cultural groups, expressing sentiments like "connects me to Canadian culture," "connect with my country/heritage," and "connects me to my Hispanic culture." Beyond social and cultural ties, some participants described music as a way to connect with spiritual or abstract concepts, including "God," "life," and "the modern culture that my people believe in." Unlike the previous theme, *reminiscing about others* which involves reflecting on the past, this theme emphasizes a sense of connection in the present moment, reinforcing relationships and sociocultural identities in the here and now.

4. Evoking socially engaging emotions. Participants described using music to evoke emotions that foster social connection. Cross-cultural research suggests that everyday emotional

experiences vary across cultures, with emotions tending to be more interpersonally focused in collectivistic cultures and more intrapersonally oriented in individualistic cultures (for an overview, see Tsai & Clobert, 2019). Studies have shown that people in collectivistic cultures experience socially engaging emotions (e.g., feeling connected, friendly, guilty, ashamed) more frequently than those in individualistic cultures (Kitayama et al., 2000, 2006, 2009). In line with this, participants reported listening to music to elicit such emotions. Examples included feeling "closeness to my wife," "a sense of belonging," "love for my partner," longing for someone," and "tenderness and expectation of a father for his child." Unlike the previous theme, *connecting with others* which involves a psychological component, this themes centers on the emotional experience of connection.

5. Conveying social stories. Participants described how music serves as a medium for expressing social narratives and broader societal themes. These narratives often revolve around relationships, social groups, or sociocultural issues. For example, one respondent noted how "this music talks about how precious a mother is regardless of any indifference between the mother and her son." Beyond interpersonal relationships, participants also highlighted how music reflects larger societal struggles. One participant shared that the "music describes how the Black community is neglected and used by the elites in society," while another commented that "this piece encompass the human race evolution and struggle with technology." In this way, music functions as a tool for transmitting and perhaps preserving sociocultural narratives.

Self-Directed Functions

1. Entertainment. Participants described various settings where they listened to music for entertainment. This mostly included passive engagement, where music served as background accompaniment, for instance, "to accompany my workout," "while cleaning or playing games," or "just chilling out or doing house work." Some noted that music "makes time pass by faster" when they are bored. In these cases, music was not the primary activity but functioned mainly as background entertainment.

2. Reminiscence. Participants described using music as a means of recalling personal memories. Some memories were self-related, such as reflecting on "my teenage emo years," "my younger days in a club and being so happy the DJ would play this track," or "my childhood self." Others were linked to specific experiences, including "refresh[ing] my memory of such great movies in the 70s," "watching Queen live at Sun City," "recall[ing] the plot of the TV show," and "remember[ing] the anime which it featured in." While most memories were positive, some participants also described music as evoking sad or painful recollections. For instance, one participant noted that the music "really relates to my youth, like a forgotten piece being brought up, sad and irreversible." This theme highlights how music serves as a powerful trigger for both happy and melancholic self-focused memories.

3. Self-reflection. Participants described using music as a tool for self-exploration and introspection. For some, music served as a mirror of their identity (e.g., "it represented me too much")

or past experiences and emotions (e.g., “it felt like an anthem that captured and reflected the situation and feelings I had at the time”). Others used music to check in with themselves (e.g., “I listen to this music to reinforce things in my life, choices I have made and the knowledge that I made myself this way”) or to move forward (e.g., “I would [listen] to it to get some form of closure”). One participant eloquently captured the essence of self-reflection through music:

> To feel like myself. To reconnect with who I am. I think that sums it up. This song feels truthful to me in ways it’s so hard to explain… something about it’s [sic] gentle guidance to just live and to be present in the world here and now.

4. Emotion Evocation. Participants described using music to elicit a myriad of emotions. Many reported experiencing positive emotions, such as feeling “happy,” “euphoria,” “goosebumps,” “calm,” and at “peace.” Others used music to evoke negatively valenced emotions stating, for example, that they listened to music “when I am sad and down to evoke negative emotions” or that “it also helps me evoke sadness (a feeling I tend to default to) when I’m feeling very empty.” Additionally, one participant wrote that music “makes me feel kind of like an aristocrat,” which reflects a sense of self-elevation. This resembles the concept of socially disengaging emotions, emotions that create distance or separation from others, which are more commonly experienced in individualistic cultures (Kitayama et al., 2000, 2006, 2009). These findings suggest that music serves as a tool for evoking a diverse spectrum of emotions, spanning both positive and negative valence, as well as emotions that reinforce a sense of individuality.

5. Regulation. Participants described using music as a tool for relaxation and emotional regulation. They reported various ways of engaging with music for this purpose, such as listening “to feel encouraged and heartened in the face of adversity,” singing along to “vent some of the repressed anger/negativity in my day to day life and transform into positive energy,” or using music “as a kind of temporary escape or release (depending on my mood) from particular emotions.” Different regulation strategies were noted, some seemingly beneficial (e.g., “whenever I feel down, this music makes me feel up and forget everything”) and others potentially reinforcing negative emotions (e.g., “when I want to wind down, to leave the stress of the day behind and wallow in melancholy”). Unlike the previous theme, *emotion evocation* which focuses on experiencing emotions, this theme highlights music’s role in shifting one’s emotional state, whether from distress to comfort or as a means of emotional processing.

6. Motivation. Participants described using music as a source of motivation and inspiration across various contexts. They reported listening to music “to get amped up for the day,” “stay focused to [sic] my work,” “get my workouts done,” and “to do things such as chores or walking somewhere.” Unlike the previous theme, *regulation* which primarily involves managing emotions, this theme is more task-oriented, emphasizing music’s role in driving action and enhancing performance in specific activities. This theme highlights the functional use of music as a stimulus for productivity and goal-directed behavior.

7. Appreciation. Participants described listening to music for the purpose of appreciating its artistry, composition, and technical execution. This included admiration for the musical structure, the beautifully written lyrics, the virtuosity of the performance, and the expressive qualities of the artist(s). One participant aptly captured this sentiment:

> I appreciate just how well crafted the music is. To me it is a modern piece of classical music made by artistic geniuses. I love the tone of Freddie Mercury's voice and the various emotions the song invites the listener to feel and experience.

Unlike the *entertainment* theme where music serves as a background or supplementary activity, *appreciation* involves actively engaging with music as the focal point of attention, valuing its artistic and technical elements.

8. Education or work. Participants described using music in professional and educational contexts. Some responses suggested that participants work in the music industry, using music for tasks such as promoting content on YouTube and Spotify or "tuning my sound equipments." Others appeared to be music students, engaging with music for academic or skill development purposes, such as: "us[ing] this piece as a soundtrack to [sic] writing academic pieces," "to analyze the instrumental approaches," and "to practice the guitar or drums." Additionally, some participants reported extramusical educational uses, such as improving language skills. For example, one participant noted using music to "practice my pronunciation."

9. Self-expression. Participants described using music as a conduit for creative self-expression. This included drawing artistic inspiration from music, as reflected in responses such as: listening to music "for artistic inspiration," "for writing my own music," and "when I need to be inspired when writing." Unlike the *self-reflection* theme which centers on gaining a deeper understanding of oneself, this theme focuses on outward expression, using music as a creative catalyst across various artistic mediums.

10. Transpersonal. Participants described music as a means of transportation, both literal and metaphorical, allowing them to escape reality or immerse themselves in imagined or spiritual experiences. Some noted feeling transported into different settings, such as "pretend[ing] I am a drag queen lipsyncing for my life on RuPaul's drag race" or "feel[ing] like I am living a teenage drama movie where I decide a party is too much for me and run away." Others described more transcendental experiences, where music "pulls you off from the reality into its world" or serves as a way to "briefly immerse myself in the spiritual world." This theme highlights how music facilitates both imaginative escapism and metaphysical experiences.

In addition to these identified themes, some participants mentioned using music for any or no reason at all. For example, some respondents stated, "I would listen to this song at just about any opportunity," "it's perfect at all times on any day," or "no particular reason." Others expressed difficulty in articulating a reason, with one participant admitting that it was "hard to describe."

To summarize, I have identified five themes for other-directed functions and ten themes for self-directed functions through this multicultural qualitative study (see Supplementary Materials Appendix S for a summary). I acknowledge that these functions are not entirely new, as they have been reported in previous research, albeit with different terminology (Chamorro-Premuzic & Furnham, 2007; Lonsdale & North, 2011; Schäfer et al., 2013). Some studies have also adopted a cross-cultural approach (Boer et al., 2012; Boer & Fischer, 2012), providing a framework of musical functions that has a more balanced coverage of social elements compared to earlier work. However, these previous analyses did not fully consider the philosophical sensibilities and theoretical assumptions of the researchers, which may still reflect a Eurocentric bias when interpreting the data.

My proposed framework, on the other hand, was developed whilst reflecting on my bicultural identity, which combines Eastern and Western cultural perspectives, and by drawing on cross-cultural psychological research. Specifically, this framework offers a more nuanced distinction of musical functions, particularly within the other-directed functions in terms of evoking socially engaging emotions and memories associated with others. Previous frameworks have mentioned emotional and memory-related functions, but they did not possess the same level of specificity revealed through my analysis. The novel contribution of this framework is its ability to provide more nuanced insights into musical functions within and between cultures. While these functions have been identified, another sample is needed to validate this framework before testing whether there are cross-cultural similarities or differences in their manifestation. Therefore, Study Two was conducted to examine the validity of the proposed functions and to explore the cultural similarities and variations in the functions of music.

Study Two

For Study Two, participants from three countries were recruited to examine the validity of the proposed functions in Study One and to investigate whether the functions of music vary across cultural contexts. The selected countries represent distinct positions along the collectivism-individualism spectrum (Hofstede et al., 2010). Specifically, China, with an individualism index score of 20, was chosen to represent a collectivist culture, while the U.K., with a score of 89, represents a predominantly individualist culture. Singapore, despite also scoring 20, presents a unique case due to its integration of both collectivist and individualist influences.

Although Singapore shares China's individualism index score, its sociocultural landscape reflects a fusion of Eastern and Western values (Chang et al., 2003). Traditional Asian values are deeply embedded in family and social life, whereas Western ideals are prominent in areas such as education, governance, and mass media (Ang & Stratton, 1995; Brooks & Wee, 2014; Ho, 2006; Sheehy, 2004; Tamney, 1996). Additionally, Singapore's Bilingual Education Policy reinforces this dual identity by fostering proficiency in both English and mother tongue languages, allowing for the coexistence of multiple cultural frameworks (Dixon, 2005; Pakir, 1993). Consequently, Singapore presents a unique sociocultural context for comparison with China and the U.K.

This study investigated whether the functions identified in Study One could be replicated. Additionally, using this framework, this study examined cross-cultural similarities and differences in the prevalence of these music functions.

Method

Participants

Participants were recruited from Henan University in China, Singapore Management University in Singapore, and University of Sheffield in the U.K. Participants in Singapore and the U.K. were recruited using the institutional psychology subject pool system. Additionally, publicity materials were distributed at the three universities through internal email communications, social media, and on campus bulletin boards. Participants either received course credit or cash vouchers (CN¥30 in China, SG$5 in Singapore, or £5 in the U.K.) as compensation for participating in this study. A total of 309 participants (107 participants residing in China, 100 in Singapore, and 102 in the U.K.) were included in the final analysis. See Tables 7.3 and 7.4 for more information.

Table 7.3 Study Two Participant's Demographics: Age, Gender, Disability, Education, Musical Expertise

	China (n = 107)	Singapore (n = 100)	The U.K. (n = 102)
	M (SD)	*M (SD)*	*M (SD)*
Age (Years)	21.01 (1.41)	20.63 (1.45)	19.70 (4.50)
Gender, *n* (%)			
Transgender	0 (0.00)	0 (0.00)	0 (0.00)
Non-binary	0 (0.00)	0 (0.00)	5 (4.90)
Female	71 (66.36)	83 (83.00)	85 (83.33)
Male	29 (27.10)	16 (16.00)	11 (10.78)
Prefer not to say	0 (0.00)	1 (1.00)	1 (0.98)
Prefer to self-describe	7 (6.54)	0 (0.00)	0 (0.00)
Disability, *n* (%)			
Yes	0 (0.00)	1 (1.00)	5 (4.90)
No	101 (94.39)	98 (98.00)	91 (89.22)
Prefer not to say	2 (1.87)	0 (0.00)	2 (1.96)
Prefer to self-describe	4 (3.74)	1 (1.00)	4 (3.92)
Education Level	4.55 (0.78)	4.25 (0.63)	4.25 (0.60)
Musical Identity [a]	4.65 (1.08)	2.31 (0.86)	2.35 (0.93)
Music Training (Years)	7.22 (4.05)	3.05 (3.65)	3.64 (4.00)

Note. [a] Musical identity was obtained using the Ollen Musical Sophistication Index (Ollen, 2006) musician rank item. Musical identity was used because it is the single-item measure that best represents musical sophistication and musicality (Zhang & Schubert, 2019).

Table 7.4 Study Two Participant's Demographics: Nationality and Ethnicity

China (n = 107)		Singapore (n = 100)		The U.K. (n = 102)	
Nationality					
Chinese	107 (100.0%)	Chinese	1 (1.0%)	British	76 (74.5%)
		Filipino	3 (3.0%)	Dual	3 (2.9%)
		Indian	1 (1.0%)	English	10 (9.8%)
		Indonesian	3 (3.0%)	Irish	1 (1.0%)
		Malaysian	1 (1.0%)	U.K.	11 (10.8%)
		Singaporean	90 (90.0%)	Welsh	1 (1.0%)
		South Korean	1 (1.0%)		
Ethnicity					
Han	101 (94.4%)	Arab	1 (1.0%)	Asian	1 (1.0%)
Hui	3 (2.8%)	Chinese	74 (74.0%)	Filipino	1 (1.0%)
Man	1 (0.9%)	Eurasian	2 (2.0%)	Indian	3 (2.9%)
Other	1 (0.9%)	Filipino	2 (2.0%)	Mixed	6 (5.9%)
Tujia	1 (0.9%)	Indian	6 (6.0%)	White	91 (89.2%)
		Indonesian	1 (1.0%)		
		Korean	2 (2.0%)		
		Malay	7 (7.0%)		
		Mixed	3 (3.0%)		
		Peranakan	1 (1.0%)		
		Sikh	1 (1.0%)		

Procedure

Prospective participants first registered their interest in the study. Upon arrival at the lab, they provided informed consent before proceeding. They were then instructed to reflect on their all-time favorite piece of music and report one selection, along with their reasons for listening to it. Afterward, they completed demographic questions and additional measures for a separate research project. The questionnaire was administered via Qualtrics^{XM}. This study received ethical approval through the University's Ethics Review Procedure, overseen by the Department of Psychology.

Analytical Strategy

The responses were categorized using a deductive approach based on the five other-directed and ten self-directed functions identified in Study One. Additionally, the data were examined to determine whether the framework required refinement or if any themes were absent.

To quantify the functions of music, responses were coded using a nominal presence-absence approach. If a function was present in a response, it was coded as 1 for that function; if absent, it was coded as 0. Since some responses contained multiple functions, a single response could be assigned to multiple categories. This coding enabled frequency analyses across the three cultural contexts, allowing for the examination of cross-cultural similarities and differences in the prevalence of music functions.

To enhance rigor, the responses were coded by a second independent coder. As recommended by McHugh (2012), reliability was assessed using both percent agreement and Cohen's Kappa. There was high interrater agreement, ranging from 84.1% to 99.7% across music functions, with an overall agreement of 93.4% between coders. Cohen's κ ranged from 0.34 (minimal agreement) to 0.80 (strong agreement) across music functions, with an overall average of 0.58 (moderate agreement). The relatively lower Cohen's κ may be due to the limited detail in some survey responses. Considering both percent agreement and Cohen's κ, the interrater agreement for this study was deemed acceptable (see Table 7.5 for more information). Nevertheless, both coders reviewed the codes together, discussed discrepancies, and reached consensus on the final codes.

Table 7.5 Interrater Reliability

	China		Singapore		The U.K.		*Mean*	
Functions of Music	*%*	*κ*	*%*	*κ*	*%*	*κ*	*%*	*κ*
Other-directed								
Social entertainment	100.0		99.0	0.80	96.1	-0.01	98.4	0.44
Reminiscing about others	97.2	0.65	98.0	0.82	95.1	0.77	96.8	0.77
Connecting with others	97.2	0.39	97.0	0.65	95.1	0.26	96.4	0.46
Evoking socially engaging emotions	90.7	0.69	97.0	0.65	96.1	0.32	94.5	0.66
Conveying social stories	96.3	0.49	100.0		100.0	1.00	98.7	0.59
Self-directed								
Entertainment	95.3	-0.02	89.0	0.42	90.2	0.34	91.6	0.34
Reminiscence	89.7	0.74	90.0	0.66	92.2	0.76	90.6	0.73
Self-reflection	84.1	0.27	90.0	0.56	92.2	0.39	88.7	0.41
Emotion evocation	82.2	0.59	87.0	0.61	85.3	0.67	84.8	0.63
Regulation	86.9	0.73	83.0	0.60	82.3	0.62	84.1	0.65
Motivation	94.4	0.37	93.0	0.50	90.2	0.56	92.6	0.51
Appreciation	90.7	0.49	93.0	0.77	95.1	0.86	92.9	0.75
Education or work	99.1	0.66	100.0	1.00	100.0		99.7	0.80
Self-expression	99.1	0.00	97.0	0.71	93.1	0.50	96.4	0.57
Transpersonal	94.4	0.54	98.0	0.49	93.1	-0.02	95.2	0.38
Overall Mean	93.2		94.1		93.1		93.4	0.58

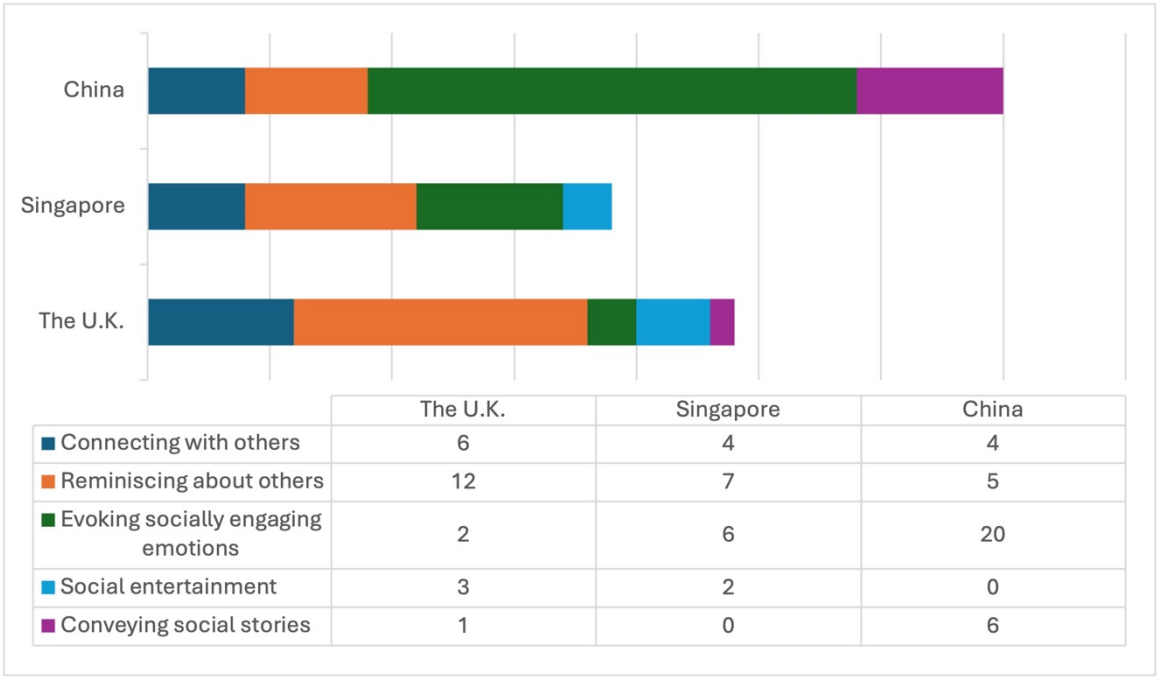
Results and Discussion of Study Two

All the functions of music identified in Study One were also present in the responses of participants in Study Two. No new themes were observed in the data. Unlike in Study One, every participant in this study provided at least one function of music, meaning that none reported listening to their favorite music for no particular reason or struggled to articulate a reason. The frequency of reported functions is presented below.

Other-Directed Functions Across Cultures

Among participants in China, the most commonly reported other-directed function was *evoking socially engaging emotions* (n = 20), followed by *conveying social stories* (n = 6) and *reminiscing about others* (n = 5). In contrast, participants in the U.K. most frequently reported *reminiscing about others* (n = 12), followed by *connecting with others* (n = 6). In Singapore, the prevalence of other-directed functions was more evenly distributed, with *reminiscing about others* (n = 7), *evoking socially engaging emotions* (n = 6), and *connecting with others* (n = 4) being similarly represented. The prevalence of other-directed music functions across these cultural contexts is illustrated in Figure 7.1.

Figure 7.1 Prevalence of Other-Directed Music Functions Across Cultures



	The U.K.	Singapore	China
Connecting with others	6	4	4
Reminiscing about others	12	7	5
Evoking socially engaging emotions	2	6	20
Social entertainment	3	2	0
Conveying social stories	1	0	6

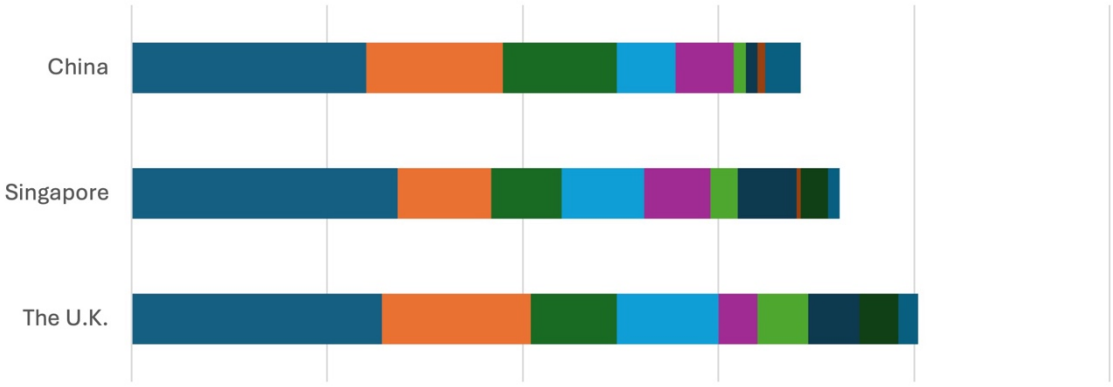
Previous cross-cultural research on the social functions of music has yielded inconsistent findings. One study found no significant differences in social bonding through music between collectivistic and individualistic subgroups (Boer & Fischer, 2012), while another study reported that social bonding was more prevalent in the Philippines and Mexico compared to Turkey and Germany (Boer et al., 2012). These mixed findings may be due to the broad nature of previous studies, which examined the functions of music in general. Given the increasing westernization and homogenization of music (Huron, 2008), cultural differences may be more difficult to detect in such broad explorations. Another possible reason is that prior studies typically reduced social functions of music to one or two subcategories, limiting their ability to capture cultural nuances.

In contrast, the framework proposed in this paper introduces more nuanced dimensions of social music functions. While other-directed functions were found across cultures, the prevalence of specific functions varied by cultural context. For instance, *evoking socially engaging emotions* was reported more frequently in China than in the U.K., aligning with previous research showing that such emotions are more commonly experienced in everyday life within collectivist cultures (Kitayama et al., 2000, 2006, 2009). Conversely, *reminiscing about others* was more prevalent in the U.K., possibly reflecting a more indirect or vicarious approach to social bonding in an individualist context. Singapore, given its unique sociohistorical and cultural position, can be considered to lie between China and the U.K. on the collectivist-individualist spectrum. Consistent with this, the two functions that were most prevalent in China and the U.K. respectively, were more evenly represented amongst the Singaporean participants. Therefore, this study contributes to the understanding of social music functions by highlighting specific cultural variations, offering deeper insights into how different cultural contexts shape the way people use music for social connection.

Self-Directed Functions Across Cultures

Among participants in China, the most commonly reported self-directed function was *regulation* (n = 60), followed by *emotion evocation* (n = 35) and *reminiscence* (n = 29). In the U.K., *regulation* was also the most frequently reported function (n = 64), followed by *emotion evocation* (n = 38) and *appreciation* (n = 26). Similarly, in Singapore, *regulation* was the most prevalent function (n = 68), followed by *emotion evocation* (n = 24) and *appreciation* (n = 21). Figure 7.2 illustrates the prevalence of self-directed music functions across these cultural contexts.

Figure 7.2 Prevalence of Self-Directed Music Functions Across Cultures



	The U.K.	Singapore	China
Regulation	64	68	60
Emotion evocation	38	24	35
Reminiscence	22	18	29
Appreciation	26	21	15
Self-reflection	10	17	15
Motivation	13	7	3
Entertainment	13	15	3
Education/Work	0	1	2
Self-expression	10	7	0
Transpersonal	5	3	9

Previous cross-cultural research on the functions of music has consistently found that self-regulation and emotional functions are among the most important uses of music across cultures (Boer et al., 2012; Boer & Fischer, 2012). The present study replicates these findings, demonstrating that *regulation* and *emotion evocation* functions were highly prevalent among participants from China, Singapore, and the U.K. One possible explanation for this similarity is the homogenization of music in today's globalized world, where the promotion of music for well-being has gained widespread recognition (Granot et al., 2021; Tymoszuk et al., 2021). Additionally, advances in music technology have made music more accessible than ever, removing barriers related to time and resources that once restricted music listening (Brown & Krause, 2020). Given this accessibility, it is unsurprising that these self-directed functions of music are consistently reported across cultures. While these findings align with previous research, this study contributes to the existing literature by further underscoring the cross-cultural similarity of self-directed music functions. Recognizing that questionnaire responses tend to be brief, I conducted Study Three to gain deeper insights into the nature of music functions.

Study Three

Building on Study Two's findings, which showed that participants in Singapore reported both other-directed and self-directed functions of music similar to those in China and the U.K., Study Three recruited participants from Singapore to gain deeper insights into the nature of musical

functions. While not all functions identified in Study One were expected to emerge, this study aimed to further explore how individuals use their favorite music, providing a more nuanced understanding of the nature of musical functions.

Method

Participants

Thirty ethnically Chinese Singaporean participants (aged between 21 and 67 years; mean = 36.90, *SD* = 12.10, 19 [63.33%] female, 11 [36.67%] male; all reported as non-disabled) participated in the study as paid volunteers. See Table 7.6 for more information.

Procedure

The researcher distributed an online advertisement via social media, providing a link to the study. Upon clicking the link, participants accessed the participant information sheet and scheduled an appointment with the researcher. On the day of the visit, the researcher reviewed the information sheet with participants and obtained informed consent. A semi-structured interview was then conducted, during which participants discussed their all-time favorite music and their reasons for listening to it. Scholars have argued that the functions of music listening must be understood within the listening context and in relation to concurrent activities (DeNora, 1999; Juslin et al., 2008). Therefore, the interview included questions about participants' favorite music to provide contextual insights into its functions. Following the interview, participants completed demographic questions and additional questionnaires for a separate research project. This study received ethical approval through the University's Ethics Review Procedure, administered by the Department of Music.

Analytical Strategy

The interviews were audio-recorded and transcribed using Google Meet. The researcher then cross-checked and edited the transcriptions against the audio recordings for accuracy. Participants were subsequently contacted and given the opportunity to review their transcripts, allowing them to add, modify, or remove any responses. Only three participants (10.0%) chose to do so, while the rest indicated that they did not need to review. Following this process, the researcher proceeded with the analysis. Each transcript was assigned a gender-neutral pseudonym, either chosen by the participant or designated by the researcher.

The transcripts were analyzed using reflexive phenomenological analysis, a qualitative method that examines how individuals make sense of their experiences (Moustakas, 1994; Rotar, 2024). While the interview included questions about participants' favorite music, the analysis focused on their reasons for listening to it, using this contextual information to enrich the interpretation of musical functions. Significant quotes related to music use were extracted and analyzed alongside participants' descriptions of their music choices and listening preferences. Additionally, the framework developed in Study One was applied to categorize responses into specific musical functions, which were then consolidated to provide deeper insights into the nature of music functions associated with favorite music. Throughout the analysis process, the researcher maintained a research

diary, documenting self-reflections and personal reactions to identify potential biases and clarify underlying assumptions in the interpretation of the data.

Results and Discussion of Study Three

Similar to Study Two, other-directed functions of music were reported less frequently than self-directed functions among participants in this study. Additionally, the prevalence of other-directed functions was more evenly distributed, while *regulation* emerged as the most common self-directed function. See Table 7.6 for participant descriptions and significant quotes related to music functions.

With regard to other-directed functions, participants' favorite music was often shared with others or associated with specific individuals. For example, Grey mentioned that their partner also enjoys *The One* by BABYMETAL, so listening to the song evokes shared memories and possibly socially engaging emotions: "I would think of the time where I listen this song together with him. Then it feels like, wah, very nice… it gives me a heart-warming feeling to it." Similarly, Xennon stated that while they had liked *Every Breath You Take* by Sting since young, the song took on renewed significance after their eldest child moved overseas. They explained that listening to it when they miss their child "brings back memory… that this longing to be there." These examples suggest that music listening incorporates other-directed functions when the music is linked to meaningful social connections, whether as a shared favorite or a song associated with others.

In contrast, self-directed functions were more prominent when participants selected music that resonated with their personal interests or experiences. For instance, Nolan described *Hero* by Mariah Carey as "the first pop album that I really liked." Zuri, on the other hand, noted their preference for *Street Fighter Mas* by Kamasi Washington because "it's got a lot of instruments involved, which I like." When favorite music reflected personal meaning, participants reported using it for self-directed purposes. Nolan listened to *Hero* "when I'm like maybe going through a challenging patch in my life," illustrating its role for *regulation*, while Zuri used *Street Fighter Mas* as background music.

Similar to Study One, two participants in this study initially indicated that they listened to their favorite music for no particular reason (Charlie) or had difficulty articulating a reason (Tate). However, with additional prompting by the researcher, they reflected on specific uses of music. One possible explanation for this difficulty may lie in how they interpreted all-time favorite music. For instance, Tate selected *My Heart Will Go On* by Celine Dion, describing it as "a classic piece" that, despite being "decades since that song came out… until now people are still listening to it, people are still like talking about it." Tate may have chosen a song that holds enduring significance for many people rather than one with strong personal meaning, making it harder to describe how they would personally use it. This suggests that some individuals may struggle to articulate reasons for listening to music, particularly when their choices are based on broader significance rather than personal relevance.

Some participants identified discrete uses for their favorite music. For example, Avery shared: "it can be for concentration music. It also can be for like just in the background." Similarly, Keagan noted that their favorite music helps them both sleep and exercise. However, for other participants, the functions of music were not mutually exclusive. In some cases, multiple self-directed functions overlapped. For instance, Ulysse described their favorite music as a means to "escape from the reality, so I can just listen to this song and cheer me up," reflecting both *transpersonal* and *regulation* functions. Casey also shared:

> I just turn it on and listen to it, like paying attention to it… allowing the music to bring me along on this ride and see what comes up. Maybe sort of like a reminder to experience life in the present. Don't get too caught up in the future or the past.

Here, Casey appears to listen to their favorite music for *transpersonal* and *self-reflection* purposes.

Other participants identified both other-directed and self-directed functions. For example, Riley shared that their favorite music can be played while doing "other things like reading email, or playing game, or chatting with my friend." Likewise, Blake noted that music "helped to create a bond between different teams" while also improving their mood. In some cases, both self-directed and other-directed functions were intertwined. For instance, Jamie shared, "listening to this song always makes me feel very comfortable, like it's like a friend… like meeting this friend again," reflecting both *regulation* and *evoking socially engaging emotions* functions. Similarly, Miles described how listening to their favorite music makes them "feel happy and sort of reminds me of my past in China and the nice times I had with my friend," encapsulating themes of *emotion evocation*, *reminiscence*, and *reminiscing about others*.

Previous studies have shown that people commonly report multiple reasons for listening to music (Lamont & Webb, 2010). This study replicates these findings and further underscores the complexity and multifaceted nature of music functions. In other words, while individuals may listen to music for distinct and discrete purposes, these functions are not always neatly defined and can often be intertwined.

Table 7.6 Study Three Summary: Participant Description, Favorite Music, Functions of Music, and Significant Quotes

Pseudonym	Age	Gender	Music Title and Artist	Functions of Music	Significant Quotes
Jamie	29	Female	Spring Day by BTS	Entertainment Reminiscence Regulation	"I will probably listen to this song if I wanted to listen to something but then I felt that I have like completely exhausted all the songs that I have listened to."
				Evoking socially engaging emotions	"Yeah, because I do have particular songs that will remind me of certain memories… this song, also I think partially evokes that memory, but then I think it's long than that. It's not just the Korea trip but it's general sense of comfort."
					"Like when I want to relax, maybe the emotions are like a bit like up and down, up and down. And you just want to relax, I don't want to think about anything. Then listening to this song always makes me feel very comfortable, like it's like a friend… like meeting this friend again."
Blake	35	Male	Happy by Pharrell Williams	Regulation Education/Work	"Basically, sometimes when I'm feeling down, this song has an uplifting kind of mood. Yeah, I mean whenever I listen to it, usually I will feel better or won't feel so down and blue anymore."
				Connecting with others	"I was doing some company-related videos that happen to use this soundtrack for my video as well… 'cause we have a kind of cohesion big team event. Yeah, and it helped to create a bond between different teams because on typical days, we usually don't really work with other team as often."
Charlie	52	Female	Dancing in the Moonlight by Toploader	Regulation Motivation Entertainment	"It's a very uplifting music. Yeah, so it makes, it uplifts the mood lah, so I guess it does helps to inspire you to do something, more exciting things."
					"No particular way of using it. When I'm doing something, when I'm on the task. I won't sit there and listen. It will be accompanying when I do something."
Dylan	35	Male	Stay With Me by Chanyeol and Punch	Self-reflection	"So time to time like when I write out some of my reflection. Like I usually have some background music that goes along with it and this would be one of the pieces that I might choose… I'd say at points in my life where I want to step back and say okay like what's been happening for a while you know, let's reflect on what's happening. Where am I going? Like you know, let's take stock of the past. And then, yeah, this would be the song that I would play and then I would think back on what has happened, the good and bad, whatever, right?"

Eden	53	Male	Dune (Part 1) by Hans Zimmer	Appreciation Emotion evocation	"Pleasure… Yeah, because my thing, I created it [sound system/setup]. Better enjoy it. You already spend that kind of money, jolly well enjoy it or else, why the hell are we doing all these things? Yeah, you better soak into it because how much time you spend, how much effort you put in. Yeah, of course, you in the first place, you must like music. Yeah, you must like music. So that's the whole point is pleasure." "Feeling. Music is about feeling. It creates a nice feeling."
Freddie	27	Female	Love Story by Taylor Swift	Self-expression Entertainment	"But in general, I just use it for like randomly singing like in a bathroom when I'm bored that kind of thing… So I don't really play background music because I find that it doesn't stay in the background, it's very distracting. But yeah, so sometimes when I'm at work, you know so like, because I work part-time in the kitchen, so I have nothing to do right? Yeah, so I'll just sing to myself."
Harper	67	Male	Hotel California by Eagles	Regulation Motivation	"I think more or less that is the thing that I use it for [to take a break from work]. Because my job is quite hectic ah, so it's a lot of thing, because sometime a lot of time is got a deadline. Then I need to meet with the Board of Directors, maybe they say they want to publish the thing by when by when. So you have to really follow their schedule. Something like you got no choice or no freedom. That's why this song talking about freedom and that's the thing that I find that is quite relevant to me. How to go from this one, the confines to finish the thing and follow the deadline. I can do anytime or anywhere to finish the assignment."
Lark	21	Female	稻香 (Rice Field) by Jay chou	Connecting with others Social entertainment Entertainment Education/Work	"Like just bonding with friends, like singing in a karaoke." "Because this one, maybe like on Spotify when I go places to places." "Sometimes I also like look through his songs to like find music notes, you know, sheets to like when I don't know what to play."
Keagan	24	Male	Last Dance by Eve	Entertainment Regulation Motivation	"Like this just takes up some of my commute. Like maybe once, I mean, I have a very wide music taste these days, so, but once very two days I'd listen to this piece also lah. So, even during commute, I would say, is one thing." "When I'm sometimes, okay, I listen to music to sleep sometimes… Surprising, it helps me sleep… Another thing I use this for is exercise also."

Miles	58	Male	Prelude Op 28 Number 15 by Chopin	Emotion evocation Reminiscence Reminiscing about others	"So whenever I listen, I just feel nowadays, I just feel happy and sort of reminds me of my past in China and the nice times I had with my friend… You know, at that time I was quite young and innocent, working overseas very brave you know? Yeah, now looking back, yeah, it was a very good memory."
Nolan	43	Female	Hero by Mariah Carey	Regulation	"I mean, come to think of it right, when I'm like maybe going through a challenging patch in my life… it's like, okay, I need a pat on my back for like being strong and courageous during this difficult period of time."
Olive	39	Female	Paranoid Android by Radiohead	Education/work Appreciation	"Maybe sampling bits for projects because, I mean, after getting the copyright. But then again, I don't really see it other than just absorbing it."
Indigo	30	Male	All of Me by John Legend	Appreciation Regulation	"When I feel like I'm in a good mood and yeah, I just want to listen, listening to it." "If I'm down ah, yeah. Yeah, if I'm down right, yeah, it will kind of cheer me up."
Payton	33	Female	So Close by NOTD	Regulation Self-expression	"It's really mostly for changing my mood, I think. If I'm stuck in a rut and I need a break from work, then I'll maybe choose this song to like groove to, and then okay, then okay, it's a break, break. A dance break. And then after that I'll get back to my things."
Quinn	31	Female	可惜没如果 (If Only) by JJ Lin	Self-expression	"I think it's my voice, as my unspoken expression… Like it is, it's the thing that I want to say. But it's the if you know you know."
Riley	38	Female	Für Elise by Ludwig van Beethoven	Regulation Entertainment Social entertainment	"I hear like sad thing, I listen to this music. Like uplift my mood." "Yeah put in the background then maybe I do other thing like reading email or playing game or chatting with my friend."
Spencer	36	Female	如果可以 Red Scarf by WeiBird	Social entertainment Regulation Entertainment	"I mean KTV. I mean, and of course, weddings – my friends have used it." "I do listen to it when you know like maybe before I sleep. Then you know, there's that time where you don't feel like doing work, but you don't feel like sleeping either. So is that pre-bedtime, just wanna listen to some songs… So I gues it's like pre-bedtime relaxation." "Or if I'm doing something very like repetitive. Let's say I'm doing household chores like washing dishes and all that… or like I'm ironing clothes and then there's like that period of just doing something very boring and repetitive. Then I will play some music in the background and probably that would be one of the songs."

Tate	30	Female	My Heart Will Go On by Celine Dion	Appreciation	"I actually have no idea. It's not like I happy and then I'll Google like this. It's more like, oh okay, if I see this and then it's like, you know, when I'm scrolling and then people are like using it. And so, it's just like, yeah, I like listening to it."
Ulysse	33	Female	Good Luck, Babe! By Chappell Roan	Regulation Transpersonal	"More to relaxing. More to distract my emotions. Yeah, like distract me from the present stress. And I can relate more to the fantasy world, something like that. Yeah. I mean like escape from the reality, so I can just listen to this songs and cheer me up."
Valentine	59	Female	高山青 by华晨宇 (Hua Chenyu) and那英 (Na Ying)	Appreciation	"Really listening. Really admiring, that's all. I didn't use it for, you know. Most of the songs which I listen nowadays, I don't really use it for, just really listening." "Yeah, it's not that I, you know, some of them, you can, like my daughter, listen to music and study. I cannot. No way… Yeah, I cannot. For this, I cannot. Of course, as some of other things I still can multitask lah. Like watchin TV and playing phone, social media all this. But for music, you know, it's music I want to concentrate. I want to focus on listening. I want to focusing and just appreciate the music, with the song, all the performance by the singers."
Wren	30	Female	All Too Well (10-Minute Version) by Taylor Swift	Appreciation Entertainment Regulation	"Sometimes I listen for the sake of it. Like for the fun of it. Like you know, when I'm feeling the mood or sometimes when I feel like singing or when I'm sad lor."
Trent	27	Male	【女性が歌う】ひまわりの約束/秦基博 "STAND BY ME ドラえもん"主題歌（Full Covered by コバソロ & 春茶）	Entertainment Regulation	"Usually just in the background like relaxing. Maybe just *nua*-ing."
Alex	26	Male	He's a Pirate by Geoff Zanelli, Hans Zimmer, and Klaus Badelt	Regulation Motivation	"I would say like relaxation." "And I don't know if it's considered weird but sometimes when I'm going for a jogs, I kind of select this piece 'cause it's kind of motivating. You know the power, like power you through the run."
Xennon	50	Female	Every Breath You Take by Sting	Reminiscing about others	"Actually, when I miss him [their son]… actually the day when he left, I keep on listening to the song… and I think it brings back, I think it brings back memory that you know, that this longing to be there."

Yale	27	Female	知足 (Contentment) by Mayday	Regulation Self-reflection	"I think it is just more for like reflecting or like when you don't really want to think about a lot of things."
Zuri	36	Male	Street Fighter Mas by Kamasi Washington	Entertainment	"Maybe if I just want something, some background music, I would just play this instead of having to choose some Spotify playlist. I guess more chilling."
Avery	28	Female	You Were Always There by Denise Young	Entertainment Motivation	"For fun… it can be like for concentration music. It also can be for like just in the background… traveling."
Grey	21	Female	The One by BABYMETAL	Self-expression Self-reflection Evoke socially engaging emotions Reminiscing about others	"I would play this music mostly for singing. Yeah. Usually in the shower… Number one is in the shower." "And secondly, I think I play it when, you know, when you try to be, when I go home, where I go home at night in the busy, and it's like very dark outside… it feels like you're alone at night. Then you just, it makes me reflect about my entire day. Yeah. it makes me feel very reflective and like what did I do today?" "Actually, right because I recommended this song to my boyfriend… then he like this song a lot also, so every I would think of the time where I listen this song together with him. Then it feels like, wah, very nice. Yeah, it just feels, it gives me a heart-warming feeling to it. And this song itself is already very heart-warming. Yeah, so it adds on to it."
Porkypig	53	Female	Air on the G String by JS Bach	Regulation	"You are very into your work, but then again sometimes the going just gets tough and like you're stuck. And then wow, yeah, then I will think of music. Yeah, then I will play Air on a G String on Spotify. And I just find that it also cools me down lah. I mean psychologically, physically. So I mean, I don't have depression, but I find that during the depressed times right, yeah, I think music also helps."
Casey	36	Male	Ocean by John Butler Trio	Reminiscence Appreciation Transpersonal Self-reflection	"It's just that I feel like no matter what stage of my life I listen to this, it would bring up different things." "There are times where I just, out of the blue, I just turn it on and listen to it, like paying attention to it. It almost feels like a meditation. I'm just allowing the music to bring me along on this ride and see what comes up. Maybe sort of like a reminder to experience life in the present. Don't get too caught up in the future or the past."

General Discussion

This paper aimed to explore the functions of music from a cross-cultural perspective. In Study One, a culturally diverse sample was recruited and reflexive thematic analysis was employed to develop a framework of music functions. Five other-directed functions were identified: social entertainment, reminiscing about others, connecting with others, evoking socially engaging emotions, and conveying social stories. Additionally, ten self-directed functions were identified: entertainment, reminiscence, self-reflection, emotion evocation, regulation, motivation, appreciation, education or work, self-expression, and transpersonal. Notably, some participants indicated listening to music for any reason or without a specific reason, or found it difficult to articulate why they listened to their favorite music. This framework was subsequently confirmed in Study Two with another group of participants from China, Singapore, and the U.K.

Study Two also examined whether the functions of music varied across cultural contexts. Both other-directed and self-directed functions were reported across all three cultural groups. While self-directed functions showed cross-cultural similarities, other-directed functions exhibited nuanced cultural differences. Regulation and emotion evocation were the most frequently reported self-directed functions across participants from China, Singapore, and the U.K. As for other-directed functions of music, evoking socially engaging emotions was the most frequently reported in China, whereas reminiscing about others was most prevalent in the U.K. In Singapore, these two functions were more evenly represented, perhaps reflecting Singapore's unique sociocultural position as a place where Eastern and Western influences intersect.

Study Three explored the nature of music functions through semi-structured interviews with participants from Singapore. Other-directed functions tended to emerge when favorite music was associated with meaningful social connections, whereas self-directed functions were more prevalent when music resonated with personal interests. Moreover, this study found that while individuals may listen to music for discrete and specific purposes, these functions often overlap and are not always distinctly separated.

One implication of these findings is that musical functions are highly nuanced. Although other-directed functions may be associated with collectivistic ideals, they can also be observed in individualistic societies. Similarly, self-directed functions, though typically linked to individualistic values, are equally evident in collectivistic societies. This suggests that cultural differences are not strictly binary (i.e., collectivist or individualist) and that individuals may embody these cultural tendencies to varying degrees. Such insights can significantly benefit music practitioners and therapists who utilize music to enhance well-being in community and clinical settings. By increasing awareness of the diverse ways individuals engage with music, practitioners can design more culturally sensitive and appropriate interventions, ultimately improving their effectiveness and relevance.

When interpreting these findings, it is essential to recognize that the present studies specifically explored the functions of participants' favorite music. Consequently, I do not claim that

the identified functions exhaustively capture all possible uses of music. For instance, previous research has identified additional functions such as the integration of society (Merriam, 1964) and the expression of political attitudes (Boer et al., 2012), which were not explicitly found in this study. Further research is needed to test and refine a comprehensive model of musical functions that is culturally inclusive and broadly applicable. Nonetheless, these findings underscore the importance of researcher reflexivity when interpreting qualitative data. Acknowledging one's philosophical sensibilities and theoretical assumptions is crucial in minimizing Eurocentric biases in data interpretation and ensuring that cross-cultural research truly represents diverse perspectives on music and its functions.

The studies reported here are not without limitations. First, although the proposed framework was developed based on a large and culturally diverse sample, the questionnaire was only available in two languages. Additionally, in terms of geographical representation, individuals from countries in Africa and South America were underrepresented or entirely absent. Future research should make greater efforts to include these diverse voices, adopting anti-colonial research approaches to better explore the full spectrum of musical functions across cultures (Sauvé et al., 2023; Tang, 2024)

Second, there are limitations pertaining to the use of an open-ended questionnaire and interviews. These methods assume that participants are self-aware and able to articulate their reasons for listening to music. However, as seen in Studies One and Three, some participants found this difficult. Furthermore, survey responses tend to encourage brevity, which may explain why other-directed functions were reported less frequently than self-directed functions. To address these limitations, future research could adopt alternative qualitative approaches such as focus-group discussions as well as arts-based methods that mitigate linguistic barriers and allows for diverse knowledge production methods to emerge.

Third, the findings of these studies provide a descriptive account of the prevalence of musical functions within and between cultures. However, they do not indicate the relative importance of each function to participants. Future research could explore how individuals prioritize different musical functions and how these priorities vary culturally and contextually. Such investigations could have important theoretical implications for understanding cross-cultural uses of music and inform policies that promote music for health and well-being in society.

In conclusion, this paper contributes to the growing body of knowledge on the functions of music and their cultural variability. I hope this work sparks further cross-cultural investigations and encourages greater researcher reflexivity in the study of music and culture. It is only when we make our assumptions explicit that we can truly uncover the rich cultural diversity of musical behaviors.

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SUPPLEMENTARY MATERIALS

Appendix A

Operational Definitions of Cultural Values from Cultural Psychology

Cultural Value	Definition
Cultural Syndromes [a] (Triandis, 1994, 1996)	
Tightness	The degree to which norms apply across situations. A tight culture does not allow for much variation in values and behaviours that are deemed acceptable, whereas there is considerable latitude in loose cultures.
Cultural complexity	The number of different cultural elements, such as role definitions.
Active-passive	Active elements include competition, action, and self-fulfillment, whereas passive elements include reflective thought, leave the initiative to others, and cooperation.
Honour	Beliefs, attitudes, norms, values, and behaviours (e.g., hypersensitivity to affronts) that favour the use of aggression for self-protection, to defend one's honour, and to socialise children so that they will react when challenged.
Culture as Mental Programming (Hofstede et al., 2010)	
Power distance	The extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally. In cultures with small power distance, inequality should be minimised, while in cultures with large power distance, inequalities are expected and desired.
Uncertainty avoidance	The extent to which members feel threatened by ambiguous or unknown situations. In cultures with weak uncertainty avoidance, uncertainty is a normal feature and each day is accepted as it comes, while in cultures with strong uncertainty avoidance, uncertainty is a continuous threat that must be fought.
Individualism and collectivism	Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family. Collectivism pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty.
Masculinity and femininity	A society is masculine when emotional gender roles are distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be modest, tender, and concerned with the quality of life. A society is feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.
Long- versus short-term orientation	Long-term orientation stands for the fostering of virtues oriented toward future rewards (e.g., perseverance and thrift). Short-term orientation stands for the fostering of virtues related to the past and present (e.g., respect for tradition, preservation of "face," and fulfilling social obligations).
Schwartz Cultural Value Orientations [b] (A. D. Masuda, 2018, p. 91)	
Affective autonomy	Most people pursue hedonistic and stimulation values such as variety, excitement, and pleasure.
Intellectual autonomy	Most people pursue self-direction values such as intellectual freedom, curiosity, and broadening of one's mind.

Embeddedness	Most people comply with traditions and fulfill values such as conformity, family, national security, and social order.
Mastery	People believe they should try to change the natural world to accomplish their goals. Most people place importance on achievement values such as ambition, competence, influence, and success.
Harmony	Most people believe that they should adapt to nature. Individuals place importance on values such as world of peace, unity with nature, and protecting the environment.
Egalitarianism	A society that avoids deterioration of social fabric by sharing values such as collaboration and caring for the welfare of others. Most people share universalistic and benevolent values such as social justice, equality for all, and helping others.
Hierarchy	Most people rely on ascribed social roles to maintain social behaviour. People share values such as wealth and power.

Note. This table presents models of cultural values that were developed by researchers in cross-cultural psychological research, namely Triandis (1993), Hofstede et al. (2010), and Schwartz (1992), and subsequently updated by the same and other researchers.

[a] A cultural syndrome is a "pattern of shared attitudes, beliefs, categorizations, self-definitions, norms, role definitions, and values that is organized around a theme that can be identified among those who speak a particular language, during a specific historic period, and in a definable geographic region" (Triandis, 1996, p. 408).

[b] Cultural values express shared conceptions of what is good and desirable in the culture; they shape goals at the individual level and goals, practices, and norms at the group, organisational, and the national level.

Appendix B

Summary of Studies Regarding Self-Construal and Ideal Affect

Study Objective	Interdependent Self-Construal	Independent Self-Construal
Mixed Affect		
Explore how mixed emotions are experienced, what impact such experience might have on persuasion outcomes, and why these outcomes may arise (Williams & Aaker, 2002) [a]	Asian Americans reported less discomfort in mixed emotional appeal condition; they had more favourable attitudes toward the happy and mixed emotional appeals than the sad appeals.	Anglo Americans had more feelings of discomfort in mixed emotional appeal condition; they had more favourable attitudes toward happy than sad or mixed appeals.
Investigate the role of dialectical lay beliefs in mediating cultural variation in emotional complexity (Spencer-Rodgers et al., 2010)	Chinese scored higher on dialecticism tended to rate experiences as more emotionally complex.	European Americans scored lower on dialecticism.
Explore how affective states from viewing favourite entertainment messages vary as a function of culture (Kim et al., 2014) [a]	Koreans were more likely to report mixed affect experiences from viewing all-time-favourite films; this was more prominent in response to comedy than to sad films and was mediated by naïve dialecticism.	U.S. Americans were more likely to report positive affect and less likely to report negative affect experiences from viewing all-time-favourite films.
Examine how people's ideal affect shapes their likelihood of actually experiencing mixed emotions over time (Sims et al., 2015)	Chinese were more likely to experience mixed emotions than Americans.	European Americans who valued independence wanted to maximise positive affect and minimise negative affect; they are also less likely to experience mixed emotions. Beyond nationality, the more people valued independence over interdependence, the more they wanted to feel positive over negative affect.
Explore the role of dialectical beliefs and interdependence in explaining cultural differences in emotional complexity (Grossmann et al., 2016)	Higher prevalence of mixed emotion sentences in Malaysia, Singapore, and Philippines; this aligned with country-level variability in collectivism. Japanese had lowest tendency to report positive and negative emotions as opposites, with Indians and Germans in the middle; Japanese showed greater emotional complexity.	Low prevalence of mixed emotion sentences in Australia, Canada, the U.K., the U.S., and South Africa; this aligned with country-level variability in individualism. Americans and British were most likely to report positive and negative emotions as opposites; U.S. participants showed lower emotional complexity.

Ideal Affect		
Examine whether culture influences ideal more than actual affect (Tsai et al., 2006)	Asian Americans valued low arousal positive emotions (clam, relaxed, peaceful) more than European Americans.	European Americans valued high arousal positive emotions (enthusiastic, excited, elated) more than Asian Americans.
	Chinese American and Hong Kong Chinese valued low arousal more than European Americans.	European Americans and Chinese Americans valued high arousal positive emotions more than Hong Kong Chinese.
Answer why American contexts value high arousal positive states more and low arousal positive states less than Chinese contexts (Tsai, Miao, et al., 2007)	Chinese Americans valued low arousal positive emotions more than European Americans.	European Americans valued high arousal positive emotions more and low arousal positive emotions less than Hong Kong Chinese; Asian Americans valued high arousal positive emotions more than Hong Kong Chinese.
	Participants in the matcher condition valued low arousal positive emotions more; they were more likely to choose low arousal positive emotion CD.	Participants in the influencer condition valued high arousal positive emotions more; they were more likely to choose the high arousal positive emotion CD; European Americans were more likely to choose high arousal positive emotion CD than Hong Kong Chinese and Chinese Americans.
Develop a value-based account of desired, rather than experienced, emotions (Tamir et al., 2016)	Across countries, the more participants endorsed self-transcendence values, the more they wanted love and empathy; the more they endorsed conservation values, the more they wanted calmness and the less they wanted fear.	Across countries, the more participants endorsed self-enhancement values, the more they wanted pride, anger, and contempt; the more they endorsed openness to change values, the more they wanted interest and excitement.
	On average, participants from in Ghana preferred conserving emotions more than opening emotions.	On average, participants in the U.S. desired opening emotions more than conserving emotions.
Examine the influence of culture on responses to positive facial expressions (Park et al., 2016) [a]	Chinese showed decreased activity in the ventral striatum and left caudate in response to excited expressions; they showed greater medial prefrontal cortex activity in response to Asian calm expressions.	European Americans showed greater activity in the ventral striatum and left caudate in response to excited expressions.
	Participants who valued low arousal positive emotions found calm faces more rewarding.	

Examine the effects of ideal affect match on giving (Park et al., 2017) [a]	Koreans gave more to calm than excited recipients and rated them as more trustworthy; the more participants valued low arousal positive states, the more they gave and rated recipients as trustworthy.	European Americans gave more to excited than calm recipients and rated them as more trustworthy; the more participants valued high arousal positive states, the more they gave and rated recipients as trustworthy. The more participants found recipients' faces rewarding (increased nucleus accumbens activity), the more they appeared to share their thoughts or feelings (decreased right temporo-parietal junction activity), the more they gave.
Examine whether ideal affect is culturally transmitted through exposure to storybooks (Tsai, Louie, et al., 2007) [a]		European American children were more likely to prefer the excited (vs. calm) smile than the Asian American and Taiwanese children; they were more likely to perceive the smile as happier than Asian American children. European American children preferred more exciting (vs. calm) activities than the Asian American and Taiwanese children. American books contained more excited (vs. calm) expressions, wider smiles, and had higher overall arousal activity than Taiwanese books.
Examine how cultural factors shape how people express concern for another person's suffering (Koopmann-Holm & Tsai, 2014)	German sympathy cards contained more positive words and fewer negative words; Germans were more comfortable sending negative cards more than Americans.	American sympathy cards contained fewer negative words and more positive words; European Americans want to avoid feeling negative states more than Germans; they felt less comfortable sending negative cards and more comfortable sending positive cards.
Examine how physicians' affective expressions interact with patients' affective characteristics to influence patients' preferences (Sims et al., 2014)	Participants with ideal low arousal positive states were more likely to prefer low arousal positive-focused physicians; they rated these physicians as more trustworthy.	Participants with ideal high arousal positive states were more likely to prefer high arousal positive-focused physicians; they rated these physicians as more trustworthy.
Examine whether members of cultures that differ in their ideal affect also vary in their responses to physicians (Sims et al., 2018) [a]	Chinese Americans and Hong Kong Chinese were less likely to select excitement-focused physicians; Asian Americans preferred calm-focused physician and recalled fewer	European Americans preferred excitement-focused physician; Chinese Americans that preferred excitement-focused physicians had greater orientation to American culture;

	recommendations provided by excitement-focused physician; Asian Americans rated calm-focused physicians as more positive.	European American recalled more recommendations provided by excitement-focused physician; European Americans rated excitement-focused physicians as more positive.
Examine whether cultural differences in ideal affect are reflected in the emotions that individuals want to express when applying for a job and in hiring decisions (Bencharit et al., 2019) [a]	Hong Kong Chinese wanted to convey more low arousal positive emotions. Hong Kong Chinese preferred ideal applicants with low arousal positive emotions.	European Americans wanted to convey more high arousal positive emotions, used more high arousal positive emotion words, and showed more high intensity smiles. European Americans preferred ideal applicants with high arousal positive emotions and were more likely to hire the excited applicant.
Examine whether people's beliefs and values regarding ideal affect influence how they socially judge people's emotional facial expressions (Tsai et al., 2019) [a]	Hong Kong Chinese rated calm faces as more extraverted; they rated excited and calm faces as similarly agreeable; Hong Kong Chinese were more likely to hire the calm applicant.	European Americans rated excited faces are more extraverted and agreeable; the more participants valued high arousal positive states, they more they judged excited faces as extraverted; European Americans were more likely to hire the excited applicant.
Examine whether leaders' smiles reflect cultural differences in ideal affect (Tsai et al., 2016)	The more nations valued low arousal positive emotions, the more likely their leaders were to show calm smiles.	Leaders in the U.S. were more likely to express any type of smile than leaders in the China; they were more likely to show excited smiles. The more nations valued high arousal positive emotions, the more likely their leaders were to show excited smiles.

[a] Self-construal was assumed based on national origin or ethnicity. In all other studies, self-construal was measured and/or manipulated.

Appendix C

Summary of Studies Regarding Self-Construal and Perception of Emotions

Study Objective	Interdependent Self-Construal	Independent Self-Construal
Cognition Styles		
Test the hypothesis that the history of voluntary settlement fostered an especially high degree of implicit independence among North Americans (Kitayama et al., 2009)	Japanese were the least in focused attention (analytic cognition) but more holistic in attention.	Americans were relatively more focused in attention (analytic cognition); Americans were less holistic in attention than British and German participants; no difference between British and Germans.
Attention to Emotion		
Test whether attentional preference was related to a social network change (Li et al., 2015)	Older Chinese adults with high interdependent SC paid more attention to angry/sad emotions when the number emotionally close social partners decreased.	
Process of Decoding Emotions		
Examine facial cues that contribute to emotion recognition differences across cultures (Yuki et al., 2007) [a]	Japanese gave more interpretive weight to eyes, rating emotions as more intense when locus was in the eyes.	Americans gave more interpretive weight to the mouth, rating emotions as more intense when locus was in the mouth.
Examine whether people from different cultures process faces using the same perceptual strategies and whether they adapt visual information extraction as a function of the race of the input face (Blais et al., 2008) [a]	East Asians had more fixations on the central region of the face (nose).	Western Caucasian had more fixations in the eye region.
Address whether there are cultural variations in how people attend to faces (Miyamoto et al., 2011) [a]	Japanese were more likely to use overall resemblance to choose a prototype; they reported attending more to eyes and configural aspects (configuration, impression, and external contour).	Americans took longer to respond and made more errors; they reported attending more to mouths and individual features (mouth).
Elucidate the factors that explain the cultural differences in the tendency to emphasise eyes and mouth in recognising emotions from facial expressions (Ikeda, 2021)	Japanese with higher interdependent SC significantly recognised sadness through the eyes.	Japanese with higher independent SC recognized happiness through the mouth.

Accuracy of Decoding Emotions		
Examine cross-cultural differences in empathic accuracy within the context of different relationships (Ma-Kellams & Blascovich, 2012)	East Asians were less accurate at inferring emotions of strangers but more accurate at inferring emotions of close others (i.e., friends); people who viewed themselves as more interdependent were more accurate at inferring another's feelings.	European Americans were more accurate at inferring positive emotions of strangers.
Examine effects of temporarily salient and chronic SC on decoding accuracy for positive and negative facial expressions of emotion (Kafetsios & Hess, 2013)	Greeks with higher chronic interdependent SC, who were primed with an interdependent schema, were less accurate in perceiving negative facial emotion expressions.	
Investigate the influence of contextual expressions on emotion recognition accuracy and gaze patterns (Stanley et al., 2013) [a]	Chinese spent less time contrasting the target face with contextual faces, which led to lower emotion recognition accuracy.	Americans tended to use the contrasting strategy, which led to greater emotion recognition accuracy.
Demonstrate that cultural display rules and emotion regulation are linked to judgments of emotional expressions of others (Matsumoto et al., 2018)	Japanese inferred higher intensity for internal than external displays of emotion during low and neutral expressions.	Americans inferred higher intensity for external than internal displays of emotion during high expressions.
Influence of Contextual Information		
Explore cultural differences in the perception of facial emotion (T. Masuda et al., 2008) [a]	Japanese displayed discrepancy between matched and mismatched (happy target, angry background), rating target's happy face as happier when background figures' faces looked happy; they spent less time looking at the central figure and more time at the background figures.	Westerners (Australia, Canada, New Zealand, the U.K., the U.S.) rated target's emotions similarly in matched and mismatched images (happy target, angry background); they spent more time looking at the central figure and less time at the background figures.
Examine how cultural differences in context processing affect how people interpret facial emotions (Ko et al., 2011) [a]	Younger Korean participants were most influenced by background contexts when interpreting fear and happy facial expressions.	
Examine whether differences in fear of isolation between U.S. Americans and Italians are similar to those found between Westerners and Easterners (Federici et al., 2011)	Italians had a higher chronic fear of isolation score than U.S. Americans and were more influenced by context; i.e., Italians performed worse than U.S. American participants on recognition memory task.	

Examine whether cross-cultural differences in attention to context are observable in preschool children (Kuwabara et al., 2011)	Japanese children tended to shift their choices, choosing the face with a slight smile, when the context changes.	U.S. children were more likely to retain original facial expression despite change in context.
Examine whether East Asians' context sensitivity is stronger than that of North Americans (T. Masuda et al., 2012) [a]	Japanese were more likely than European Canadians and Asian Canadians to be influenced by affective context; Japanese and Asian international students were more likely than European Canadians to allocate their attention to background area.	European Canadians and Asian Canadians were more likely than Japanese to allocate attention to the centre area.
Examine cross-cultural judgments of congruent and incongruent response linkages (Matsumoto et al., 2012) [a]	Context effects were larger for Japanese and Korean participants.	Context effects were small for American participants.
Examine whether context information differently influence intensity ratings of target facial emotions (Ito et al., 2013) [a]	East Asians' ratings of target facial emotions were influenced by both landscape sceneries and background people.	European Canadians' ratings of target facial emotions were influenced by landscape sceneries only and not background people; this was stronger for European Canadians who considered facial emotions as individuals' volitional actions.
Assess the impact of social context on the judgment of emotional facial expressions as a function of SC and decoding rules (Hess et al., 2016)	Greeks rated sadness and disgust more intensely; they perceived anger least intensely when group showed a neural expression and rated sad more intensely in the absence of social context; interdependent SC mediated the effect of social context on emotion perception.	Germans rated anger more intensely; they perceived anger and happiness more intensely when target and group showed the same emotion.
Examine children's and parent's perception of facial expressions embedded in a social context culture (Lee et al., 2017) [a]	Japanese parents were more likely than their children to refer to the background figures' emotional expressions; Japanese children showed no difference with Canadian children.	Canadian parents were less likely to refer to background figures' emotional expressions; Canadian children showed no difference with Japanese children.
Neurologic Evidence for Contextual Sensitivity		
Investigate whether Asian-Americans would be more likely to process incongruities in affect between facial expressions and visual scenes (Goto et al., 2013)	Asian Americans showed greater N400 [b] when background affective scenes were incongruent with facial expressions; positive relationship between the N400 incongruity effect and interdependent SC.	European Americans showed no difference in N400 [b] amplitude across all conditions; no relationship between N400 incongruity effect and independent SC.

Examine whether priming SC affects neural activity underlying attention to social contexts in individuals (Fong et al., 2014)	Asian Americans had a significantly larger N400 [b] to incongruent than congruent facial expressions after the interdependent prime. European Americans showed a trend for greater N400 [b] after the interdependent prime.	Asian Americans showed no difference in N400 [b] between incongruent and congruent conditions after the independent prime.
Explore North Americans' and East Asians' neural processing of face lineups (Russell et al., 2015)	Japanese was more influenced by social incongruence. Japanese showed more N400 [b] processing for incongruent face lineups; no relationship with independent. Japanese showed more LPC [c] processing for incongruent face lineups; individuals with greater independent beliefs showed weaker LPC incongruity effects.	European Canadians were less influenced by social incongruence. European Canadians showed no difference in N400 [b] processing for congruent and incongruent face lineups; less independent European Canadians showed greater N400 [b] incongruity effects. European Canadians showed no difference in LPC [c] processing in both conditions; individuals with greater independent beliefs showed weaker LPC incongruity effects.
Investigate what role culture plays in people's neural processing of social context (Russell et al., 2019)	Japanese showed greater N400 [b] for acquaintances in incongruent social context; they showed N2 [d] incongruity effect for acquaintance condition; less N2 [d] conflict was experienced for more interdependent individuals for close relationships.	European Canadians showed greater N400 [b] for close relationships in incongruent social context; they showed N2 [d] incongruity effect for both close and acquaintance conditions; less N2 [d] conflict was experienced for more independent individuals for acquaintances.
Attention to Auditory Cues		
Explores whether emotional information processing may be moderated by cultural or linguistic factors (Kitayama & Ishii, 2002) [a]	Japanese participants were less accurate and had longer response time during the incongruous condition; Japanese showed moderate interference effect in both the word evaluation judgement and the vocal emotion judgement task.	American participants were equally accurate and had no difference in response time during the congruous, incongruous, or neutral conditions; Americans showed strong interference in the vocal emotion judgment but not word evaluation judgment task.
Examine if people in different cultures are differentially attuned to verbal content or vocal tone in comprehending emotional words (Ishii et al., 2003) [a]	Japanese showed greater interference for word-meaning judgments than for vocal-tone judgments. Bilingual Filipinos showed greater interference for word-meaning judgments than for vocal-	Americans showed stronger interference in vocal-tone judgments than in word-meaning judgments.

	tone judgments regardless of language used (English or Tagalog).
Investigate whether the perceiver's social orientation modulates brain response to incongruity of word meaning to vocal tone (Ishii et al., 2010)	Japanese showed significantly slower response time during incongruous condition; a more pronounced N400 [b] was observed during incongruous condition; incongruity-based negativity was predicted by chronic social orientation for female but not male participants.

Note. SC = self-construal; LPC = late positive complex.

[a] Self-construal was assumed based on national origin or ethnicity. In all other studies, self-construal was measured and/or manipulated.

[b] N400 is an early event-related potential (ERP) that is sensitive to processing semantic relationships. Increased magnitude of N400 associated with unexpected or incongruent semantic events suggest increased cognitive processing of anomalous semantic (or affective) information.

[c] Late positive complex (LPC) is a positive ongoing ERP that reflects cognitive resource allocation and stimuli evaluation. LPC is sensitive to affective incongruence such that incongruent stimuli generally result in larger LPCs than congruent stimuli.

[d] Frontal N2 is associated with early conflict monitoring processes. Increased N2 associated with incongruent stimuli (vs. congruent stimuli) suggests increased cognitive processing.

Appendix D

Summary of Studies Regarding Self-Construal and Felt Emotions

Study Objective	Interdependent Self-Construal	Independent Self-Construal
Specific Emotions		
Investigate a path model with self-reflection and self-rumination as mediating factors between an independent SC and subjective happiness (Elliott & Coker, 2008)		Higher independent SC was associated with greater happiness in Australians.
Examine how SC impacts feelings of pride (Neumann et al., 2009)	Chinese felt more pride if relevant others were successful. When primed with interdependent SC, Germans felt more pride when thinking about others' achievements and felt less pride when thinking about own achievements.	Germans felt more pride when thinking of own achievements.
Explore what people know about happiness and unhappiness in Japan and the U.S. (Uchida & Kitayama, 2009)	Japanese descriptions of happiness included non-positive and negative aspects, and were closely aligned with social harmony.	American descriptions of happiness were mostly positive and more closely aligned with personal achievement; these facets were reported to be more desirable.
Examine if self-conscious emotions are influenced by SC (Neumann, 2020)	Germans reported no difference for transgressions of close others.	Germans reported stronger guilt responses to own transgressions after independent SC prime.
Frequency, Type, and Intensity of Emotions		
Explore whether emotional experiences have corresponding social functions and cultural artefacts (Kitayama et al., 2000) [a]	Japanese experienced higher frequency of SEE than SDE; positive emotions (e.g., calm, elated) were associated with positive SEE (e.g., friendly).	Americans experienced higher frequency of positive than negative emotions; positive emotions (e.g., calm, elated) were associated with positive SDE (e.g., pride).
Examine cross-cultural differences in emotion norms (Eid & Diener, 2001) [a]	Guilt is more important in collectivistic cultures (Taiwan and China); people in China tend to report less frequent and less intense pleasant and unpleasant emotions.	Pride is more important in individualistic cultures (Australia and the U.S.); people in Australia and the U.S. tend to report more frequent and more intense pleasant and unpleasant emotions.

Examine Japanese and American self-reports of emotions across different social situations (Kitayama et al., 2006) [a]	Japanese experienced SEE more frequently and intensely (e.g., feeling connected, friendly, guilty, ashamed).	North Americans experienced SDE more frequently and intensely (e.g., feeling superior to, proud, angry, frustrated).
Test the hypothesis that the history of voluntary settlement fostered an especially high degree of implicit independence among North Americans (Kitayama et al., 2009)	Japanese experienced SEE more than SDE.	Germans, British, and Americans experienced SDE more than SEE; this tendency was stronger for Americans than Europeans.
Examine cultural differences in the effects of attending to individual versus relational aspects of the self on emotional reactivity (Chentsova-Dutton & Tsai, 2010)	When focused on family members, Asian Americans reported more intense positive emotions.	When focused on self, European American reported more intense positive emotions and showed higher heart rate levels. When focused on self, European Americans reported more intense sadness.
Examine similarities and differences in shame, guilt, and pride assessed in children residing in the U.S., Korea, and Japan (Furukawa et al., 2012) [a]	Japanese children reported higher shame than Korean and U.S. children; Korean children reported higher guilt than U.S. children.	U.S. children reported higher pride than Korean and Japanese children.
Investigate whether cross-cultural differences exist in the recognition of emotional vocalizations (Koeda et al., 2013) [a]	Japanese's intensity ratings were significantly lower for anger, disgust, fear, surprise, and pleasure. Japanese's valence ratings were higher for anger, disgust, fear; Japanese's valence ratings were lower for pleasure. Japanese's arousal ratings were higher for sad.	There were no differences in arousal ratings for the other emotions.
Explore the role of dialectical beliefs and interdependence in explaining cultural differences in emotional complexity (Grossmann et al., 2016)	Higher prevalence of mixed emotion sentences in Malaysia, Singapore, and Philippines; this aligned with country-level variability in collectivism. Japanese had lowest tendency to report positive and negative emotions as opposites, with Indians and Germans in the middle; Japanese showed greater emotional complexity.	Low prevalence of mixed emotion sentences in Australia, Canada, the U.K., the U.S., and South Africa; this aligned with country-level variability in individualism. Americans and British were most likely to report positive and negative emotions as opposites; U.S. participants showed lower emotional complexity.

Emotions in Cultural Products		
Examine whether people from Japan and America experience emotions differently (Uchida et al., 2009) [a]	Japanese athletes were more likely to mention emotion when interviewer asked them about others.	American athletes were less likely to mention emotion when interviewer asked them about others.
	Japanese were more likely to describe athletes as expressing relational and other-focused and mentioned self- and other-focused emotions equally.	Americans were more likely to describe athletes as expressing self-focused emotions and mentioned self-focused emotions more frequently.
	After reading relationship-focused script, Japanese participants inferred more emotions.	After reading self-focused script, American participants inferred more emotions.
	Japanese mentioned more emotion when the target was pictured with teammates than when shown alone.	American mentioned more emotion when the target was alone than with teammates.
Investigate emotion displays in children's storybooks for preschoolers from Romania, Turkey, and the U.S. (Wege et al., 2014) [a]	Romanian books displayed positive emotions less frequently; Romanian and Turkish books displayed more negative powerless than negative powerful emotions.	American books displayed positive emotions more frequently and more strongly; American books displayed negative powerless and negative powerful emotions equally.
Emotions in Social Situations		
Examine relationships between self-construal and emotions in social interactions and how such relationships varied cross-culturally (Nezlek et al., 2008)	No consistent relationships were found between daily affective experience and positive/negative affective states.	For U.K. participants, independent SC was positively related to happiness, enthusiasm, and activity; for Greek participants, independent SC was negatively related to happiness, enthusiasm, and activity.
Distinguish and compare correlations of opposing emotions among East Asians and North Americans in positive, mixed, and negative situations (Leu et al., 2010) [a]	In negative situations, East Asians reported more guilt.	In positive situations, North Americans reported more pride and excitement; they also reported more fear and confusion.
	In mixed situations, East Asians reported more guilt, jealousy, and general bad feelings; Japanese reported more neither-pleasant-nor-unpleasant emotions.	In negative situations, North Americans reported more fear and confusion.
		In mixed situations, North Americans reported more confusion.
Investigate cultural similarities and differences in mixed emotions (Miyamoto et al., 2010)	During pleasant situations, Japanese reported mixed emotions more; Japanese reported mixed emotions in all situations (self-success, self-failure, transition, and loss situations).	During pleasant situations, Americans reported positive emotions more; Americans reported mixed emotions only in self-failure, transition, and loss situations.

Test the idea that people's emotions are afforded by the situations that they encounter in their cultural context (Boiger, Mesquita, et al., 2013) [a]	Japanese perceived situations to be less likely to occur the more angering they were; perceived to be in situations when others were inconsiderate of interpersonal norms and with close others. Japanese perceived situations to be more likely to occur the more shameful they were; perceived to be in situations that implied a loss of public face and when they themselves were responsible.	Americans perceived situations to be more likely to occur the more angering they were; perceived to be in situations with close others. Americans perceived situations to be less likely to occur the more shameful they were; perceived to be in situations where their personal flaws were revealed and when others' actions caused them to feel shame.
Investigate whether people's cultural worlds are structured in ways that promote and highlight emotions that are beneficial in achieving the central goals of their culture (Boiger, Deyne, et al., 2013) [a]		U.S. participants perceived anger situations to occur more frequently while Belgian participants perceived anger to occur neither more nor less frequently. U.S. participants perceived shame situations to occur less frequently while Belgian participants perceived shame situations to occur more frequently.
Investigate whether SEE are central to the model of self and relationships prevalent in Mexican cultural contexts (Savani et al., 2013) [a]	Mexicans reported more SEE; Positive SEE motivated Mexicans to perform on an unrelated task while negative SEE undermined their motivation.	European Americans reported more SDE.
Study the impact of self-construal with the context of self-gifting (Pusaksrikit & Kang, 2016)	Participants with higher interdependent SC were likely to have lowest level of self-gifting propensity and expend less effort on self-gift selection; experienced more other-focused positive emotions after self-gifting.	Participants with higher independent SC were likely to have high level of self-gifting propensity and expend more effort on self-gift selection; experienced more ego-focused emotions (e.g., pride and happiness) after self-gifting.
Study the nature of brand emotions elicited by advertising stimuli across cultures and the process underlying such emotional experiences (Jakubanecs et al., 2019)	Thais experienced more positive SEE and SDE brand emotions, and fewer negative SEE; social context advertising increased positive and negative SEE among Thais.	Norwegians experienced less positive SEE and SDE brand emotions, and more negative SEE; individual and social context advertisements did not affect emotion type among Norwegians.

Neurologic and Physiologic Evidence		
Investigate whether and how SC priming influences empathic neural responses to others' emotional states (Jiang et al., 2014)	Primed interdependence decreased empathic responses [b] for Chinese; painful stimuli elicited positive shift of ERP amplitudes in Westerners during an interdependent prime.	Primed independence decreased empathic responses [b] for Westerners; painful stimuli elicited positive shift of ERP amplitudes in Chinese during an independent prime.
Investigate whether individualistic and collectivistic groups engaged distinct neural systems while evaluating negative social cues (Liddell et al., 2017)	When contextual information was missing, regions associated with contextual integration (parahippocampal gyrus) were engaged; enhanced negative context dependent brain activity (involving left superior occipital gyrus/cuneus and right anterior insula).	More sensitive to negative faces (activating right middle cingulate gyrus, dorsal prefrontal and parietal regions); heightened appraisal and self-referential activations (in medial prefrontal and temporoparietal regions) to negative contexts.

Note. SC = self-construal; SEE = socially engaging emotions; SDE = socially disengaging emotions; ERP = event-related potentials.
[a] Self-construal was assumed based on national origin. In all other studies, self-construal was measured and/or manipulated.
[b] Limited to fronto-central activity at 232-332ms, which is associated with the automatic component of empathy.

Appendix E

Study One Participant Characteristics

Table E1

Participants' Nationality

N/S American (*n* = 255)		European (*n* = 103)		Asian (*n* = 76)	
American	214 (49.3%)	British	73 (16.8%)	Chinese	20 (4.6%)
Brazilian	2 (0.5%)	Dutch	1 (0.2%)	Dual Nationality	7 (1.6%)
Canadian	38 (8.8%)	English	10 (2.3%)	Filipino	3 (0.7%)
Jamaican	1 (0.2%)	European	1 (0.2%)	Hmong	1 (0.2%)
		German	2 (0.5%)	Hong Kong	2 (0.5%)
		Hungarian	1 (0.2%)	Indian	8 (1.8%)
		Irish	1 (0.2%)	Indonesian	3 (0.7%)
		Italian	3 (0.7%)	Korean	1 (0.2%)
		Polish	2 (0.5%)	Laotian	1 (0.2%)
		Romanian	1 (0.2%)	Malaysian	1 (0.2%)
		Scottish	3 (0.7%)	Nepali	3 (0.7%)
		Spanish	3 (0.7%)	Singaporean	22 (5.1%)
		Ukrainian	1 (0.2%)	Taiwanese	2 (0.5%)
		Welsh	1 (0.2%)	Thai	1 (0.2%)
				Vietnamese	1 (0.2%)

Table E2

Participants' Country of Residence

North America (*n* = 281)		UK/Europe (*n* = 119)		Asia (*n* = 34)	
Canada	45 (10.4%)	England	43 (9.9%)	China	10 (2.3%)
U.S.	236 (54.4%)	France	1 (0.2%)	India	1 (0.2%)
		Ireland	1 (0.2%)	Singapore	22 (5.1%)
		Scotland	4 (0.9%)	Taiwan	1 (0.2%)
		U.K.	70 (16.1%)		

Table E3

Participants' Ethnicity

White/Caucasian (*n* = 251)		Black, Hispanic, & Mixed (*n* = 53)		Asian or Pacific Islander (*n* = 130)	
Albanian	1 (0.2%)	Aboriginal	1 (0.2%)	Asian	58 (13.4%)
White	249 (57.4%)	Black	24 (5.5%)	Bangladeshi	1 (0.2%)
White Gypsy	1 (0.2%)	Egyptian	2 (0.5%)	Bengali	2 (0.5%)
		Hispanic	2 (0.5%)	Chinese	42 (9.7%)
		Latinx	2 (0.5%)	Filipino	6 (1.4%)
		Mixed Race	22 (5.1%)	Indian	10 (2.3%)
				Japanese	4 (0.9%)
				Korean	3 (0.7%)
				Malay	2 (0.5%)
				Native Hawaiian	1 (0.2%)
				Southeast Asian	1 (0.2%)

Appendix F

Emotion Checklist

Table F1

Emotion Checklist in English

Socially Engaging Emotions	Socially Disengaging Emotions	Aesthetic Emotions	Positive General Emotions	Negative General Emotions
Positive	**Positive**	Awe, enchanted	Lively, stimulated	Fear, anxiety
Affectionate, love	Superior, top of the world	Touched, moved	Calm, relaxed	Bored, indifferent
Nostalgia, sentimental	Proud, confidence	Interest, curiosity	Happy, joyful	Tired, sleepy
Empathy, connectedness	**Negative**	Feel like dancing, want to dance	Hope, optimistic	Confusion, disoriented
Friendly feelings, amicable	Angry, agitated	Humor, playfulness	Sad, melancholy	
Negative	Contempt, disgust	Spirituality, transcendence	Enthusiastic, eager	Hopeless, pessimistic
Ashamed, humiliation	Disappointment, dissatisfied		Pleasure, enjoyment	Pain, discomfort
Guilt, regret				
Indebted, grateful	Jealousy, resentment			

Table F2

Emotion Checklist in Chinese (Simplified)

Socially Engaging Emotions	Socially Disengaging Emotions	Aesthetic Emotions	Positive General Emotions	Negative General Emotions
Positive	**Positive**	敬畏，着迷	活泼，亢奋	恐惧，焦虑
倾慕，爱情	优越，世界之巅	感动，触动	安心，放松	无趣，冷漠
怀旧，忧愁	自豪，自信	趣味，好奇	开心，愉悦	疲惫，困倦
共鸣，同理心	**Negative**	让人想要起舞	希望，乐观	混乱，迷茫
亲切，友好	生气，激动	灵性，超然	幽默，俏皮	伤心，忧郁
Negative	鄙视，轻蔑		热情，渴望	无助，悲观
羞愧，屈辱	失望，不满		乐趣，享受	疼痛，不舒服
愧疚，后悔	妒忌，怨恨			
感恩，感激				

Appendix G

Study One Music Choices

Table G1

Music Titles and Artists

The U.S.
吻别Kiss Goodbye – 张学友Jacky Cheung
(Everything I Do) I Do It For You – Bryan Adams
101 Eastbound – Nathan East
1979 – The Smashing Pumpkins
A Day in the Life – The Beatles
A Strange Loop – Michael R. Jackson
Adele
Alone – Taylor Swift
Amen – Bon Jovi
America – Tom MacDonald
American Teenager – Ethel Cain
And I Love You So – Don McLean
Angel Baby – Troye Sivan
Another Love – Ha Yea Song
Anyone of Us (Stupid Mistake) – Gareth Gates
Arabesque – Claude Debussy
As Long as You Love Me – Backstreet Boys
As Time Goes By – Lee Wiley
Ave Maria – Charles Gounod and Johann Sebastian Bach
Bagatelle in A Minor – Ludwig Van Beethoven
Bartender – Akon and T-Pain
Because of You – Kelly Clarkson
Believe – Cher
Big Big World – Emilia
Billie Jean – Michael Jackson
Blank Space – Taylor Swift
Blind – SZA
Blue Train – John Coltrane
Bob Marley
Bodys – Car Seat Headrest
Bohemian Rhapsody – Queen
Born to Run – Bruce Springsteen
Breathe – Faith Hill
Butter – BTS
Buy Dirt – Jordan Davis and Luke Bryan
California Dreamin' – The Mamas & the Papas
Calm Down – Rema and Selena Gomez
Can You Feel the Love Tonight – Elton John
Can't Let Go – Mariah Carey
Can't C Me – Tupac Shakur
Carolina in My Mind – James Taylor
Chapter Four – Avenged Sevenfold
Cherish – Kool & The Gang
Chuck Berry
Clair de lune – Claude Debussy
Classical Gas – Mason Williams
Close Your Eyes – Brett Callaway
COPYCAT – Billie Eilish
Dangerous – Michael Jackson
David Sanborn
Dear Mama – Tupac Shakur
Digital Bath – Deftones
Don Giovanni Overture – Wolfgang Amadeus Mozart
Don't Stop Believin' – Journey
Drink Up Me Hearties Yo Ho – Hans Zimmer
Duran Duran
Dynamite – BTS
Eight – IU
Eine kleine Nachtmusik – Wolfgang Amadeus Mozart
Esper – mitsume
Euphoria – BTS
Everything She Wants – Wham!
Fade to Black – Metallica
Fighter – Christina Aguilera
Fly as Me – Bruno Mars, Anderson .Paak, Silk Sonic
Justin Bieber
Lavender Haze – Taylor Swift
Le Freak – Chic
Let It Be – The Beatles
Let's Go Crazy – Prince and The Revolution
Like A Rolling Stone – Bob Dylan
Lose Yourself – Eminem
Lux Aurumque – Eric Whitacre
Maggie May – Rod Stewart
Mass in B Minor, BWV 232: Benedictus – Kai Wessel
Messiah, HWV 56 – George Frideric Handel
More Than I Can Say – The Crickets
Motorcycle Drive By – Third Eye Blind
My Happy Ending – Avril Lavigne
My Heart Will Go On – Celine Dion
My Name is Khan – Shah Rukh Khan
My Way – Frank Sinatra
Neon – John Mayer
New Kid in Town – Eagles
Nightflyer – Allison Russell
O Holy Night – David Phelps and Gaither Vocal Band
O mio babbino caro – Giacomo Puccini and Giovacchino Forzano
Oceans (Where Feet May Fail) – Hillsong UNITED
Oh My Love – John Lennon
Paparazzi – Lady Gaga
Piano Concerto in A minor – Edvard Grieg
Piano Concerto No. 3 – Sergei Rachmaninoff
Piano Sonata No. 14 (Moonlight Sonata) – Ludwig van Beethoven
Ponni Nadhi – A. R. Rahman
Pour Some Sugar on Me – Def Leppard
Pride (In the Name of Love) – U2
Psalm 145 – Shane & Shane
Reclaim the Castle – Noriyuki Asakura
Requiem in D Minor – Mozart
Revelation (Mother Earth) – Ozzy Osbourne
Right Here Waiting – Richard Marx
Rocket Man – Elton John
ROS – Mac Miller
Sadness Guide – Kim Bum-soo
Salomon: Arrival of the Queen of Sheba – George Frideric Handel
Scarborough Fair – Sarah Brightman
Scars to Your Beautiful – Alessia Cara
Scratch the Surface – Sick of It All
Shofukan – Snarky Puppy
Shoulders – FOR KING + COUNTRY
Siegfried – Richard Wagner
SLOW DANCING IN THE DARK – Joji
Smells Like Teen Spirit – Nirvana
Soke – Burna Boy
Sometime Around Midnight – The Airborne Toxic Event
Somewhere in Time – John Barry
Stairway to Heaven – Led Zeppelin
Standing Outside a Broken Phone Booth With Money in My Hand – Primitive Radio Gods
Star Wars IV: A New Hope Soundtrack – John Williams
Sugar – Maroon 5
Sweet Baby James – James Taylor
Sweet Child O' Mine – Guns N' Roses
Symphony No. 9 – Ludwig van Beethoven
Take Me Home, Country Roads – John Denver
Take On Me – A-ha
Teardrops On My Guitar – Taylor Swift
Thank You for the Venom – My Chemical Romance
That's What Living is to Me – Jimmy Buffet
The Blue Danube – Johann Strauss II

Fortunate – Maxwell
Ghost – Justin Bieber
God Will Make a Way – Don Moen
Great Mass in C minor, K. 427 – Wolfgang Amadeus Mozart
Growing Up Can Go To Hell – Marisa Maino
Happy Ferris Wheel – Eason Chan
Happy Place – Saint Phnx
Heartbreak – Yelawolf
Hey Jude – The Beatles
Hotel California – Eagles
I Can Only Imagine – MercyMe
I Feel Love – Donna Summer
I have a dream – Kalafina
I Look to You – Whitney Houston
I Love You So – The Walters
I Miss You – Beyoncé
I Still Haven't Found What I'm Looking For – U2
I Will Always Love You – Whitney Houston
I Would Die 4 U – Prince and The Revolution
I'm Yours – Jason Mraz
I'll Be There for You – Bon Jovi
Ikaros – Jesus Christ Muscle Car
Imagine – John Lennon
Intense – Armin van Buuren
Into You – Ariana Grande
Iris – Goo Goo Dolls
Is It Already Time – George Strait
Jetzt oder nie – Helene Fischer
Jimi Hendrix
The Dance – Garth Brooks
The Dark Side of the Moon – Pink Floyd
The Day You Went Away – M2M
The Message – Grandmaster Flash & The Furious Five
The Night We Met – Lord Huron
The Painful Way – Darren Korb
The Sound of Silence – Disturbed
The Start of Something – Voxtrot
The Unforgettable Fire – U2
This Must Be the Place (Naive Melody) – Talking Heads
Though You Slay Me – Shane & Shane
Thriller – Michael Jackson
To Sheila – The Smashing Pumpkins
To the Loveless – Boom Boom Satellites
Travelin – Josh Kelley
Triggered – Chase Atlantic
Under The Influence – Chris Brown
Vincent – Don McLean
Violin Sonata in A major (Performed by Joshua Bell) - César Franck
We The People – Kid Rock
Where the Streets Have No Name – U2
Wind Beneath My Wings – Bette Midler
Wonderful Tonight – Eric Clapton
Work – Rihanna
Yesterday – The Beatles
Yi Jian Mei – Fei Yu-ching
You Shook Me All Night Long – AC/DC
Zigeunerweisen, Op. 20 – Pablo de Sarasate

The U.K.

(Sittin' On) The Dock of the Bay – Otis Redding
911 / Mr. Lonely – Tyler, The Creator
Adagio for Strings – Samuel Barber
Ahead On Our Way – Nobuo Uematsu and Toshiyuki Mori
All the Angels – My Chemical Romance
All Too Well – Taylor Swift
Anarchy in the U.K. – Sex Pistols
And All That Could Have Been – Nine Inch Nails
Anywhere but Here – Mayday Parade
Are you happy? – SHY Martin
Ave virgo sanctissima – El León de Oro, Francisco Guerrero, and Peter Phillips
Bakerman – Laid Back
Bassline – Jamie Duggan
Better Dayz – Tupac Shakur
Blue Monday – New Order
Bohemian Rhapsody – Queen
Both Sides Now – Joni Mitchell
Bruno Mars
Can't Help Falling in Love – Elvis Presley
Canon & Gigue in D Major – Johann Pachelbel
CLOUDS – NF
Cut Here (If Only Mix 2018) – The Cure
Dang! – Mac Miller
Dani California – Red Hot Chili Peppers
Do I Wanna Know? – Arctic Monkeys
Dream On – Aerosmith
Dreaming of You – The Coral
El Capitan – Idlewild
Fallingforyou – The 1975
Faster Car – Loving Caliber
Feeling Good – Nina Simone
Fiona Coyne – Skylar Spence
Flashing Lights – Kanye West
For the Love of God – Steve Vai
Forget Me – Lewis Capaldi
From Time – Drake ft. Jhene Aiko
Heal the World – Michael Jackson
Hearts / Wires – Deftones
Higher Ground – Rasmussen
Hours of Wealth – Opeth
I Surrender – Hillsong Worship and Matt Crocker
I Want It All – Queen
Immortals – Fall Out Boy
In a Beautiful Place Out in the Country – Boards of Canada
In the Aeroplane Over the Sea – Neutral Milk Hotel
Joseph and the Amazing Technicolor Dreamcoat – Tim Rice
Judy and the Dream of Horses – Belle and Sebastian
Jump – Van Halen
Kun Faya Kun – A. R. Rahman, Javed Ali, and Mohit Chauhan
Lie – NF
Life on Mars? – David Bowie
Like A Rolling Stone – Bob Dylan
Messiah, HWV 56 – George Frideric Handel
Mouvement (– vor der Erstarrung) – Helmut Lachenmann
Music for 18 Musicians – Steve Reich
New Riders of the Purple Sage
No Easy Way Out – Robert Tepper
PAPERMOON – Tommy heavenly6 and Tomoko Kawase
Petals – Tops
Radioactive – Imagine Dragons
Raglan Road – Luke Kelly
Red Right Hand – Nick Cave and the Bad Seeds
Requiem: Pie Jesu – Anthony Way
Rose Tattoo – Dropkick Murphys
Royalty – Egzod, Maestro Chives, and Neoni
Shiver – Coldplay
Sing for the Moment – Eminem
Sleep is for the Weak – Spectralist
Sparks – Coldplay
Suncity – Khalid
The Fellowship of the Ring: Lord of the Rings – Main Theme – Howard Shore
The Last Of The Real Ones – Fall Out Boy
The One True Colour – Enter Shikari
The Way We Were – Barbra Streisand
This Must Be the Place (Naive Melody) – Talking Heads
This Year's Love – David Gray
Those Who Fight – Nobuo Uematsu
Turn to Stone – Electric Light Orchestra
Veridis Quo – Daft Punk
Vincent – Don McLean
When the Chips Are Down from Hadestown – Anaïs Mitchell
Wild Is the Wind – David Bowie
Wish You Were Here – Pink Floyd
Work Song – Hozier
You Be Tails, I'll Be Sonic – A Day to Remember
You Can Do Magic – America

Brazil

Codinome Beija-Flor – Cazuza
Telegraph Road – Dire Straits

Canada

Alive – Pearl Jam
All of Me – John Legend
American Pie – Don McLean
Asayake – Casiopea
Billie Jean – Michael Jackson
Born for You – David Pomeranz
creature – Half Alive
Désenchantée – Mylène Farmer
Echo Beach – Martha and the Muffins
Everlong – Foo Fighters
Experience – Daniel Hope, I Virtuosi Italiani, and Ludovico Einaudi
Golden Hours – Brian Eno
Here Comes the Sun – The Beatles
Hotel California – Eagles
I Want It That Way – Backstreet Boys
Lithium – Nirvana
Man! I Feel Like A Woman! – Shania Twain
Master of Puppets – Metallica
Mourir d'aimer – Charles Aznavour
My Way – Frank Sinatra
One Dance – Drake
Owner of a Lonely Heart – Yes
Party People – Nelly
Pink Moon – Nick Drake
Ride or Die - The Knocks VIP Club Mix – The Knocks
Rockit Miss U.S.A. – Sigue Sigue Sputnik
Scorponok – Steve Jablonsky
Shivers – Ed Sheeran
Somewhere Only We Know – Keane
Symphony No. 9 – Ludwig van Beethoven
Take the Veil Cerpin Taxt – The Mars Volta
Teachme – Musiq Soulchild
The Cinema Show – Genesis
The Decline – NOFX
Unchained Melody – Elvis Presley

Europe

Are 'Friends' Electric? – Tubeway Army
Calm Down – Rema and Selena Gomez
Come On Eileen – Dexys Midnight Runners and Kevin Rowland
Despacito – Daddy Yankee and Luis Fonsi ft. Justin Bieber
German Requiem, Op. 45: Denn alles Fleisch ees ist wie Gras – Johannes Brahms, London Symphony Orchestra
Hips Don't Lie – Shakira
Modern Love – David Bowie
Numb – Linkin Park
One – U2
Playing God – Polyphia
Sky Above, Voice Within – Jeremy Soule
Stockholm Syndrome – Muse
Vater – Soap&Skin
You'll Be in My Heart – Phil Collins

South Asia

Afreen Afreen – Rahat Fateh Ali Khan
Back In Black – AC/DC
Baharon Phool Barsao – Mohammed Rafi
CNCO
FAKE LOVE – BTS
Geeta Dutt
Ievan Polkka – Loituma
Last Christmas – Wham!
Mounamgane Edagamani – Bhumika
October Sky – YEBBA
Pradeep Kumar

Dual Nationality

21 Guns – Green Day
Come On Eileen – Dexys Midnight Runners and Kevin Rowland
Hazy Skyscraper – DEMONDICE
Hugging You (Acoustic) – Tom Rosenthal ft. Billie Marten
O mio babbino caro – Giacomo Puccini and Giovacchino Forzano
Thank You Lord – Don Moen
Violin Concerto in E by Itzhak Perlman – Felix Mendelssohn

East Asia

カメレオンCHAMELEON – King Gnu
今天只做一件事 – 陈奕迅 Eason Chan
匆匆 – 李剑青
君が好きだと叫びたい – 多々納好夫
无问 – 毛不易
月光 – 李健
梦的延续 – Koji Tamaki
約定 – EXO
Ain't No Mountain High Enough – Diana Ross
All Too Well (10 Minute Version) – Taylor Swift
Bubble – G.E.M.
Cello Suite No. 5 in C Minor, BWV 1011: IV. Sarabande – Johann Sebastian Bach, Mstislav Rostropovich
C大调幻想曲 Fantasie in C major, Op. 17 – 舒曼Robert Schumann
Defying Gravity – Idina Menzel and Kristin Chenoweth
Energy Flow – 坂本龙一Ryuichi Sakamoto
Heartbeat (" From the "Lyle, Lyle, Crocodile" Original Motion Picture Soundtrack ") – Shawn Mendes
I Believe I Can Fly – R. Kelly
I Will Go to You Like the First Snow – Ailee
Lune – Anomalie ft. Mateus Asato
Mystery of Love – Sufjan Stevens
Photograph – Ed Sheeran
September – Earth, Wind & Fire
Sir Duke – Stevie Wonder
SloMo – Chanel
The Swan – Sergei Rachmaninoff
Your Bones – Of Monsters and Men

Southeast Asia

小依赖 – 劉增瞳
505 – Arctic Monkeys
9 Hours Tibetan Healing Sounds
Bad Romance – Lady Gaga
Black or White – Michael Jackson
City of Stars – Ryan Gosling & Emma Stone
Crave – Paramore
Death of a Strawberry – Dance Gavin Dance
Face Facts (Do Better) – Living With a Bear
Feenin' – Jodeci
Goodbye Yellow Brick Road – Elton John
Grenade – Bruno Mars
Helplessness Blues – Fleet Foxes
If We Hold On Together – Diana Ross
Impossible – Thomas Bergersen and Two Steps From Hell
Janet Jackson's Rhythm Nation 1814 – Janet Jackson
Jay Chou
Lemon Tree – Fools Garden
Liar – ONE OK ROCK
Mirrors – Justin Timberlake
My Heart Will Go On – Celine Dion
Pachelbel's Canon – Johann Pachelbel
Ribs – Lorde
Shouldn't Be – Luke Chiang
Somewhere Only We Know – Keane
Speechless – Naomi Scott
Summer Nights – The Millennial Club
The Zephyr Song – Red Hot Chili Peppers
Vampira – Lijah Lu
Violin Concerto in D Major, Op. 35 – Tchaikovsky
What You Know – Two Door Cinema Club

Appendix H

Study Two Participant Characteristics

Table H1

Participants' Nationality

The U.K. (*n* = 102)		China (*n* = 107)		Singapore (*n* = 100)	
British	76 (24.6%)	Chinese	107 (34.6%)	Chinese	1 (0.3%)
Dual	3 (1.0%)			Filipino	3 (1.0%)
English	10 (3.2%)			Indian	1 (0.3%)
Irish	1 (0.3%)			Indonesian	3 (1.0%)
U.K.	11 (3.6%)			Malaysian	1 (0.3%)
Welsh	1 (0.3%)			Singaporean	90 (29.1%)
				South Korean	1 (0.3%)

Table H2

Participants' Ethnicity

The U.K. (*n* = 102)		China (*n* = 107)		Singapore (*n* = 100)	
Asian	1 (0.3%)	Han	101 (32.7%)	Arab	1 (0.3%)
Filipino	1 (0.3%)	Hui	3 (1.0%)	Chinese	74 (23.9%)
Indian	3 (1.0%)	Man	1 (0.3%)	Eurasian	2 (0.6%)
Mixed	6 (1.9%)	Other	1 (0.3%)	Filipino	2 (0.6%)
White	91 (29.4%)	Tujia	1 (0.3%)	Indian	6 (1.9%)
				Indonesian	1 (0.3%)
				Korean	2 (0.6%)
				Malay	7 (2.3%)
				Mixed	3 (1.0%)
				Peranakan	1 (0.3%)
				Sikh	1 (0.3%)

Appendix I

Study Two Music Choices

Table I1

Music Titles and Artists

The U.K.	
14.3 Billion Years – Andrew Prahlow	Last Goodbye – Jeff Buckley
505 – Arctic Monkeys	Lay All Your Love On Me – ABBA
A Drop in the Ocean – Ron Pope	Liability – Lorde
A Dustland Fairytale – The Killers	Libianca – People ft. Ayra Starr, Omah Lay
All Seems Beautiful to Me – Eric Whitacre and Voces8	Long Live – Taylor Swift
Almost (Sweet Music) – Hozier	Lose Control – Teddy Swims
Always Forever – Cults	Love of My Life – Queen
Angela – The Lumineers	Mayonaise – The Smashing Pumpkins
Attracted to You – PinkPantheress	MON23 (1:3) – Charles Leclerc
Babydoll – Dominic Fike	Mona Lisa – Dominic Fike
Better Together – Jack Johnson	Movements (Chapter III) – Leon Vynehall
Blue Lights – Jorja Smith	Murder on the Dancefloor – Sophie Ellis-Bextor
Boys in the Better Land – Fontaines D.C.	My Love – Florence & The Machine
Bring It On Home to Me – Sam Cooke	New Shoes – Paolo Nutini
Candy – Paolo Nutini	Night Changes – One Direction
candy grapes – Fousheé	No.1 Party Anthem – Arctic Monkeys
champagne problems – Taylor Swift	Nobody Gets Me – SZA
Chasing Pavements – Adele	Pompeii – Bastille
Constellations – The Oh Hellos	Prelude to the Afternoon of a Faun – Claude Debussy
Crazy In Love – Beyoncé ft. JAY Z	Reflections – The Neighbourhood
Dance (While the Music Still Goes On) – ABBA	Ride – Lana Del Rey
Dancing Queen – ABBA	Right Before My Eyes – Cage The Elephant
Desoleil (Brilliant Corners) – Loyle Carner and Sampha	Robbers – The 1975
Dial Drunk – Noah Kahan	Rolling in the Deep – Adele
Do I Wanna Know? – Arctic Monkeys	Romance Symphony – BIG Naughty
Drink Before the War – Sinéad O'Connor	Rozy – Dakh Daughters
DRIP – Crywolf	Santa Fe – Jeremy Jordan
Everywhere – Fleetwood Mac	Satellite – Harry Styles
Experience – Daniel Hope, I Virtuosi Italiani, and Ludovico Einaudi	Self Control – Frank Ocean
	Shake it Off – Taylor Swift
Expert in a Dying Field – The Beths	Strawberry Swing – Coldplay
Fairytale of New York – The Pogues	Style – Taylor Swift
Fine Line – Harry Styles	Sun Machine – Bears in Trees
Fireside – Arctic Monkeys	SWEET – BROCKHAMPTON
Flesh and Bone – The Killers	Sweet Disposition – The Temper Trap
Ghosts Again – Depeche Mode	Take On Me – A-ha
Gold Dust Woman (Sessions version) – Fleetwood Mac	Taking Up Space – Olive Klug
Golden Brown – The Stranglers	The Edge – Panicland
Good Days – SZA	The Nutcracker: Waltz of the Snowflakes – Kammerorchester Berlin, Peter Wohlert, and Pyotr Ilyich Tchaikovsky
Goodbye – The Sundays	
Greedy – Tate McRae	Too Good to Say Goodbye – Bruno Mars
Hallelujah – Leonard Cohen	TOOTIMETOOTIMETOOTIME – The 1975
Haunted – Taylor Swift	TV – Billie Eilish
Human – The Killers	Video Games – Lana Del Rey
I Don't Live Today – Jimi Hendrix	Vienna – Billy Joel
I Won't Give Up – Jason Mraz	Viva La Vida – Coldplay
I'll Make a Man Out of You – Donny & Marie Osmond	What Can I Do If the Fire Goes Out? – Gang of Youths
illicit affairs – Taylor Swift	Wicked Game – Chris Isaak
Int'l Players Anthem (I Choose You) – UGK ft. Outkast	You Can't Stop the Beat (Medley) from Hairspray
Jackie and Wilson – Hozier	You've Got a Friend in Me (Cover) – Cavetown
Kyoto – Phoebe Bridgers	Your Song – Elton John

China

一丝不挂 – 陈奕迅Eason Chan
一荤一素 – 毛不易Mao Buyi
七里香Common Jasmin Orange – 周杰伦Jay Chou
三年二班 – 吴亦凡Tizzy T
下一个天亮 – 董书含
下雨天 Rainy Day – 南拳妈妈Nan Quan Mama
不放手Coming of Age – Billkin/PP Krit
东北民谣Northeast Folktale – 毛不易Mao Buyi
九州同 – 关大洲
交换余生 No Turning Back – 林俊杰JJ Lin
亲爱的旅人啊Always With Me – 周深Zhou Shen
仰望Longing For – 杨丞琳Rainie Yang
你给我听好 – 陈奕迅Eason Chan
你要跳舞吗 – 新裤子
你还要我怎样 – 薛之谦Joker Xue
最后一页 – 江语晨
凄美地The Fog Space – 郭顶Guo Ding
剪云者Paper Clouds – 林俊杰JJ Lin
勿忘心安 – 张杰Jason Zhang
原来你也在这里You are Here Too – 刘若英Rene Liu
去有風的地方 – Yisa Yu郁可唯
喜欢Xi Huan – 张悬anpu
圣诞快乐，劳伦斯先生Merry Christmas, Mr. Lawrence – 坂本龙一Ryuichi Sakamoto
夏夜最后的烟火 – 颜人中
多分。風 Tabun, Kaze – 山口一郎 Sakanaction
大石碎胸口 – 万能青年旅舍
太阳花 Sunflower – 孙培博
好运来 – 祖海Zu Hai
如果我们不曾相遇What If We Had Never Met – 五月天Mayday
孤雏 – AGA
心脏Heart – 阿云嘎Ayanga
悬溺 – 葛东琪Ge Dongqi
情歌Love Song – 梁静茹Fish Leong
想你时风起 – 单依纯
想念拟人化 – 孟慧园
想见你想见你想见你(Live) – 张杰
我 – 张国荣Leslie Cheung
我好像在哪儿见过你 – 薛之谦Joker Xue
我怀念的What I Miss – 孙燕姿Stefanie Sun
我用什么把你留住 – 福禄寿
推开世界的门 – 杨乃文Naiwen Yang
故乡是北京 – 龚爽
星河叹Galaxy Sigh – 黄龄Huang Ling
普通朋友 – 陶喆David Tao
朋友的酒 – 李晓杰
欲望把地板铺满 – 张悬Deserts Xuan
江南 River South – 林俊杰JJ Lin
没有什么不同 – 曲婉婷Qu Wanting
泸沽湖 Lugu Lake – 麻园诗人
浪漫血液The Romantic – 林俊杰 JJ Lin
海阔天空Sky – 黄家驹Beyond
淘汰 Elimination – 陈奕迅Eason Chan
爱的回归线 – 单依存
理想 – 赵雷Zhao Lei
秦皇岛 – 万能青年旅馆
空谷幽兰 The Hollow – 许巍Xu Wei
红色的河The Red River – 旅行团乐队The Life Journey, 吴青峰
红蜻蜓Aka Tombo – 坂本龙一Ryuichi Sakamoto
给电影人的情书 – 单依纯
花妖Flower Demon – 刀郎Dao Lang
花开忘忧 – 周深
莫里森与杂货铺 – 马赛克乐队
蓝莲花 – 许铮
裹着心的光 Light of Sanctuary – 林俊杰 JJ Lin
西湖Xi-Hu – 痛仰乐队 Miserable Faith
让我欢喜让我忧 – 薛之谦
起风了 – 买辣椒也用券
路 – 彩虹合唱团 蔡程翌
踮起脚尖爱 – 单依纯
郭源潮Guo Yuan hao – 宋冬野Song Dongye
阿兹海默 – 粥粥zxr 与小伙
青火 – 黄子弘凡
鸽子 – 宋冬野
Attention – NewJeans
Bad Boy – Red Velvet
Beautiful – Crush
Bleeding Love (Cover by Ni/Co) – Leona Lewis
City Of Stars – Emma Stone and Ryan Gosling
Demons – Imagine Dragons
Die For You – Grabbitz and VALORANT
Down to Earth – Justin Bieber
Earth Song – Michael Jackson
Flying Squirrel Creek – Matthew Lien
Forever Star(《偷偷藏不住》电视剧插曲) – 张淨豪
Ghost Face – 法老Pharaoh
Hate You – Jim Yosef and RIELL
Kidult – Seventeen
Kill This Love – BLACKPINK
Last Dance – 伍佰Wu Bai & China Blue
Love Me Like That – Sam Kim
Lucky – Lenka
Never Coming Back – Evan Call
Night on Balk Mountain 荒山之夜 by The New Symphony Orchestra Of London – Modest Mussorgsky
No Gods, No Masters – Arch Enemy
one day – 万人合唱/外国夫妇
Perfume – 张杰Jason Zhang
Pure Imagination – Rook1e
Revolving Door – Abel Korzeniowski
River Flows In You – 李闰珉Yiruma
Something Just Like This – Coldplay and The Chainsmokers
The Orchestral Point of No Return – Roger Subirana
Tornado of Souls – Megadeth
TruE – 黄龄HOYO-MiX and Isabelle Huang
What Are Words – Chris Medina
What is Love? – TWICE

Singapore

ひとりじゃない (Not Alone / Hitorijanai) – Seventeen
体面Decency – 于文文Kelly Yu
如果雨之後The Chaos After You – 周興哲Eric Chou
安靜An Jing – 周杰伦Jay Chou
我想我会I think I Will – 尹露浠Yin Luxi
手掌心Heart of Palms – 丁当Ding Dang
2 Soon – Keshi
A little more – Doyoung
AH! LOVE – Seventeen
All Falls Apart – Polyphia
Answer: Love Myself – BTS
Arabic Kuthu - Halamithi Habibo – Anirudh Ravichander and Jonita Gandhi
august – Taylor Swift
Beyond – Leon Bridges
Bleeding Love – Leona Lewis
cardigan – Taylor Swift
Cheerleader – Ashnikko
Chemical – Post Malone
Cool With You – NewJeans
Cruel Summer – Taylor Swift
Dancing With Our Hands Tied – Taylor Swift
Dial Drunk – Noah Kahan
Die for You – The Weeknd
Ditto – NewJeans
drunk – Keshi
Escapism. – 070 Shake and Raye
exile (feat. Bon Iver) – Taylor Swift
Falling for U – Seventeen
Fast Forward – Jeon Somi
FLOWER ROAD – BIGBANG
Flying – Cody Fry
Godspeed – Frank Ocean
golden hour – JVKE
Halo – Beyoncé
Happier Than Ever – Billie Eilish
Here Always (SEUNGMIN of Stray Kids) – Stray Kids
High Hopes – Kodaline
Honeymoon Avenue – Ariana Grande
I See the Light – Mandy Moore and Zachary Levi
I Wonder – Kanye West
I'm Yours – Jason Mraz
illicit affairs – Taylor Swift
In the Stone – Earth, Wind & Fire
It's My Life – Bon Jovi
Jasmine – DPR LIVE
La La Lost You – 88rising and NIKI
Life Is Still Going On – NCT Dream
like my father – Jax
Love Yourself – Justin Bieber
Lovers Forever – Benjamin Kheng
Mastermind – Taylor Swift
Merry Christmas, Mr. Lawrence – Ryuichi Sakamoto
Miss Missing You – Fall Out Boy
My blue wavy room – Redoor
My Tears Ricochet – Taylor Swift
Never Not – Lauv
New Person, Same Old Mistakes – Tame Impala
Nights – Frank Ocean
No Surprises – Radiohead
Nothing – Bruno Major
Numb Little Bug – Em Beihold
One Summer's Day – Joe Hisaishi
Overnight – Parcels
Paradise – Maher Zain
Perfect – Ed Sheeran
Saturn – Sleeping At Last
Save Your Tears – The Weeknd
September – Earth, Wind & Fire
Somebody To You (feat. Demi Lovato) – The Vamps
Stairway to Heaven – Led Zeppelin
Starry Night – Mamamoo
STUCKINMYBRAIN – Chase Atlantic
Superstar – Mido and Falasol
Sweet Chaos – Day6
Swim – Chase Atlantic
Talk Too Much – COIN
Talking to the Moon – Bruno Mars
Tango – ABIR
this is how you fall in love – Chelsea Cutler and Jeremy Zucker
To Build a Home – The Cinematic Orchestra ft. Patrick Watson
Too Sad To Cry – Sasha Alex Sloan
Tujh Mein Rab Dikhta Hain – Roopkumar Rathod
vampire – Olivia Rodrigo
Viva La Vida – Coldplay
Waiting For You 等你下课 – Jay Chou
WESTSIDE – Keshi
What Other People Say – Demi Lovato and Sam Fischer
What Was I Made For? – Billie Eilish
When I Was Your Man – Bruno Mars
When You Love Someone – Day6
When You're Gone – Shawn Mendes
Where Do Broken Hearts Go – Whitney Houston
While My Guitar Gently Weeps – The Beatles
Why'd You Only Call Me When You're High? – Arctic Monkeys
wildfire – Jeremy Zucker
Yellow – Coldplay
You Belong With Me – Taylor Swift
Young and Beautiful – Lana Del Rey

Appendix J

Full Mediation Analysis Results (Perceived Emotions)

Table J1

Frequency of Perceived Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
Mediators			Interdependent Self-Construal				
Country 1 (China-UK)	0.19	0.30	0.10	1.84	.067	-0.01	0.39
Country 2 (Singapore-UK)	**0.30**	**0.47**	**0.09**	**3.37**	**< .001*** **	**0.13**	**0.48**
			Independent Self-Construal				
Country 1 (China-UK)	0.13	0.19	0.12	1.15	.250	-0.09	0.36
Country 2 (Singapore-UK)	0.09	0.12	0.10	0.86	.391	-0.11	0.28
Emotions			Positive Socially Engaging Emotions				
Country 1 (China-UK)	**-0.52**	**-0.50**	**0.17**	**-3.13**	**.002****	**-0.85**	**-0.19**
Country 2 (Singapore-UK)	0.09	0.08	0.15	0.59	.554	-0.20	0.37
Interdependent Self-Construal	**0.25**	**0.15**	**0.09**	**2.67**	**.008****	**0.06**	**0.43**
Independent Self-Construal	**0.17**	**0.11**	**0.08**	**2.05**	**.041***	**0.01**	**0.33**
Age	0.03	0.09	0.02	1.52	.131	-0.01	0.07
Gender	-0.11	-0.06	0.10	-1.07	.287	-0.31	0.09
Education	-0.14	-0.09	0.09	-1.52	.127	-0.31	0.04
Musical Expertise	0.00	0.08	0.00	1.26	.210	-0.00	0.01
			Negative Socially Engaging Emotions				
Country 1 (China-UK)	**-0.19**	**-0.37**	**0.08**	**-2.27**	**.024***	**-0.35**	**-0.02**
Country 2 (Singapore-UK)	0.04	0.09	0.07	0.61	.542	-0.10	0.19
Interdependent Self-Construal	-0.02	-0.03	0.05	-0.47	.639	-0.11	0.07
Independent Self-Construal	0.01	0.01	0.04	0.18	.858	-0.07	0.09
Age	-0.01	-0.05	0.01	-0.89	.377	-0.03	0.01
Gender	0.06	0.07	0.05	1.09	.275	-0.04	0.15
Education	0.01	0.02	0.04	0.31	.756	-0.07	0.10
Musical Expertise	0.00	0.01	0.00	0.16	.870	-0.00	0.00

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
			Positive Socially Disengaging Emotions				
Country 1 (China-UK)	**-0.19**	**-0.37**	**0.09**	**-2.25**	**.025***	**-0.37**	**-0.02**
Country 2 (Singapore-UK)	-0.14	-0.28	0.08	-1.90	.058	-0.29	0.01
Interdependent Self-Construal	0.04	0.05	0.05	0.78	.439	-0.06	0.13
Independent Self-Construal	0.07	0.09	0.04	1.53	.127	-0.02	0.15
Age	0.01	0.04	0.01	0.62	.538	-0.01	0.03
Gender	-0.07	-0.08	0.05	-1.29	.197	-0.17	0.04
Education	0.06	0.07	0.05	1.20	.232	-0.04	0.15
Musical Expertise	0.00	0.12	0.00	1.74	.082	-0.00	0.01
			Negative Socially Disengaging Emotions				
Country 1 (China-UK)	-0.10	-0.21	0.08	-1.27	.207	-0.26	0.06
Country 2 (Singapore-UK)	0.14	0.28	0.07	1.93	.054	-0.00	0.27
Interdependent Self-Construal	-0.08	-0.10	0.04	-1.79	.230	-0.17	0.01
Independent Self-Construal	-0.05	-0.07	0.04	-1.20	.075	-0.13	0.03
Age	-0.01	-0.04	0.01	-0.71	.478	-0.03	0.01
Gender	0.05	0.07	0.05	1.11	.267	-0.04	0.15
Education	0.03	0.05	0.04	0.78	.434	-0.05	0.12
Musical Expertise	0.00	0.05	0.00	0.69	.488	-0.00	0.00
			Aesthetic Emotions				
Country 1 (China-UK)	**-0.58**	**-0.54**	**0.17**	**-3.44**	**< .001*** **	**-0.91**	**-0.25**
Country 2 (Singapore-UK)	-0.04	-0.03	0.15	-0.25	.801	-0.33	0.25
Interdependent Self-Construal	0.13	0.08	0.09	1.37	.172	-0.06	0.48
Independent Self-Construal	**0.31**	**0.21**	**0.08**	**3.77**	**< .001*** **	**0.15**	**0.31**
Age	-0.03	-0.09	0.02	-1.56	.121	-0.08	0.01
Gender	-0.06	-0.04	0.10	-0.62	.536	-0.26	0.14
Education	-0.04	-0.02	0.09	-0.40	.688	-0.21	0.14
Musical Expertise	**0.02**	**0.30**	**0.00**	**4.53**	**< .001*** **	**0.01**	**0.02**

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive General Emotions			
Country 1 (China-UK)	-0.45	-0.28	0.26	-1.72	.087	-0.96	0.07
Country 2 (Singapore-UK)	-0.16	-0.10	0.23	-0.69	.491	-0.61	0.29
Interdependent Self-Construal	0.08	0.03	0.14	0.54	.593	-0.21	0.36
Independent Self-Construal	0.22	0.10	0.13	1.69	.092	-0.04	0.47
Age	-0.02	-0.04	0.03	-0.58	.560	-0.08	0.05
Gender	-0.08	-0.03	0.16	-0.54	.591	-0.40	0.23
Education	-0.03	-0.01	0.14	-0.21	.831	-0.30	0.25
Musical Expertise	**0.01**	**0.15**	**0.01**	**2.21**	**.028***	**0.00**	**0.02**
				Negative General Emotions			
Country 1 (China-UK)	-0.23	-0.24	0.16	-1.45	.148	-0.54	0.08
Country 2 (Singapore-UK)	**0.36**	**0.37**	**0.14**	**2.57**	**.011***	**0.08**	**0.63**
Interdependent Self-Construal	-0.13	-0.87	0.09	-1.51	.133	-0.30	0.04
Independent Self-Construal	-0.04	-0.03	0.08	-0.50	.614	-0.19	0.11
Age	0.01	0.03	0.02	0.58	.561	-0.03	0.05
Gender	0.07	0.04	0.10	0.69	.491	-0.12	0.25
Education	0.02	0.01	0.08	0.19	.846	-0.15	0.18
Musical Expertise	-0.00	-0.03	0.00	-0.43	.669	-0.01	0.00

Note. CI = confidence interval; LL = lower limit; UL = upper limit. Bold values indicate statistical significance.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table J2

Intensity of Perceived Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
Mediators			Interdependent Self-Construal				
Country 1 (China-UK)	0.19	0.30	0.10	1.84	.067	-0.01	0.39
Country 2 (Singapore-UK)	**0.30**	**0.47**	**0.09**	**3.37**	**< .001*** **	**0.13**	**0.48**
			Independent Self-Construal				
Country 1 (China-UK)	0.13	0.19	0.12	1.15	.250	-0.09	0.36
Country 2 (Singapore-UK)	0.09	0.12	0.10	0.86	.391	-0.11	0.28
Emotions			Positive Socially Engaging Emotions				
Country 1 (China-UK)	-0.23	-0.09	0.43	-0.54	.591	-1.09	0.62
Country 2 (Singapore-UK)	0.65	0.24	0.38	1.71	.088	-0.10	1.41
Interdependent Self-Construal	0.41	0.10	0.24	1.70	.089	-0.06	0.88
Independent Self-Construal	**0.45**	**0.12**	**0.21**	**2.08**	**.039***	**0.02**	**0.87**
Age	0.01	0.01	0.06	0.14	.888	-0.10	0.12
Gender	-0.11	-0.03	0.26	-0.42	.673	-0.63	0.41
Education	-0.42	-0.11	0.23	-1.82	.070	-0.88	0.04
Musical Expertise	0.00	0.01	0.01	0.15	.878	-0.02	0.02
			Negative Socially Engaging Emotions				
Country 1 (China-UK)	-0.55	-0.26	0.34	-1.59	.114	-1.23	0.13
Country 2 (Singapore-UK)	0.31	0.15	0.30	1.02	.308	-0.29	0.91
Interdependent Self-Construal	0.03	0.01	0.19	0.15	.881	-0.19	0.40
Independent Self-Construal	0.15	0.05	0.17	0.85	.396	-0.35	0.48
Age	-0.03	-0.04	0.04	-0.68	.495	-0.12	0.06
Gender	0.20	0.06	0.21	0.95	.344	-0.21	0.61
Education	0.18	0.06	0.19	0.97	.331	-0.18	0.54
Musical Expertise	-0.00	-0.03	0.01	-0.39	.693	-0.02	0.01

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive Socially Disengaging Emotions			
Country 1 (China-UK)	-0.61	-0.26	0.38	-1.60	.111	-1.36	0.14
Country 2 (Singapore-UK)	-0.61	-0.26	0.34	-1.81	.072	-1.27	0.05
Interdependent Self-Construal	0.11	0.03	0.21	0.54	.593	-0.30	0.53
Independent Self-Construal	0.25	0.08	0.19	1.31	.191	-0.12	0.62
Age	0.04	0.05	0.05	0.81	.418	-0.06	0.14
Gender	-0.23	-0.06	0.23	-1.00	.317	-0.69	0.22
Education	0.23	0.07	0.20	1.13	.260	-0.17	0.63
Musical Expertise	0.01	0.11	0.01	1.54	.125	-0.00	0.03
				Negative Socially Disengaging Emotions			
Country 1 (China-UK)	-0.31	-0.17	0.29	-1.06	.291	-0.89	0.27
Country 2 (Singapore-UK)	0.34	0.19	0.26	1.31	.190	-0.17	0.85
Interdependent Self-Construal	-0.24	-0.09	0.16	-1.47	.142	-0.56	0.08
Independent Self-Construal	-0.20	-0.08	0.15	-1.37	.170	-0.48	0.09
Age	-0.03	-0.05	0.04	-0.78	.434	-0.10	0.04
Gender	0.29	0.10	0.18	1.66	.099	-0.06	0.64
Education	0.06	0.02	0.16	0.39	.700	-0.25	0.37
Musical Expertise	0.00	0.04	0.01	0.54	.590	-0.01	0.01
				Aesthetic Emotions			
Country 1 (China-UK)	-0.67	-0.24	0.46	-1.45	.149	-1.57	0.24
Country 2 (Singapore-UK)	0.19	0.07	0.41	0.47	.641	-0.61	0.99
Interdependent Self-Construal	0.22	0.05	0.26	0.85	.395	-0.28	0.72
Independent Self-Construal	**0.58**	**0.14**	**0.23**	**2.52**	**.012***	**0.13**	**1.02**
Age	0.00	0.00	0.06	0.02	.988	-0.11	0.12
Gender	0.10	0.02	0.28	0.34	.733	-0.45	0.64
Education	-0.02	-0.01	0.25	-0.09	.924	-0.51	0.46
Musical Expertise	**0.03**	**0.21**	**0.01**	**3.03**	**.003****	**0.01**	**0.05**

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive General Emotions			
Country 1 (China-UK)	-0.28	-0.10	0.45	-0.62	.538	-1.16	0.61
Country 2 (Singapore-UK)	-0.21	-0.08	0.40	-0.52	.604	-0.98	0.57
Interdependent Self-Construal	0.25	0.06	0.25	0.99	.325	-0.24	0.74
Independent Self-Construal	0.29	0.08	0.22	1.31	.192	-0.15	0.73
Age	-0.05	-0.05	0.06	-0.79	.428	-0.16	0.07
Gender	-0.31	-0.07	0.27	-1.13	.260	-.084	0.23
Education	0.14	0.04	0.24	0.59	.555	-0.33	0.62
Musical Expertise	0.02	0.12	0.01	1.71	.088	-0.00	0.03
				Negative General Emotions			
Country 1 (China-UK)	**-0.86**	**-0.32**	**0.43**	**-2.01**	**.045***	**-1.69**	**-0.02**
Country 2 (Singapore-UK)	**0.97**	**0.36**	**0.37**	**2.60**	**.009****	**0.24**	**1.71**
Interdependent Self-Construal	-0.05	-0.01	0.24	-0.20	.843	-0.51	0.42
Independent Self-Construal	-0.02	-0.00	0.21	-0.08	.935	-0.43	0.40
Age	**0.11**	**0.12**	**0.05**	**2.04**	**.042***	**0.00**	**0.22**
Gender	**0.63**	**0.14**	**0.26**	**2.46**	**.015***	**0.13**	**1.14**
Education	0.20	0.05	0.23	0.89	.372	-0.25	0.65
Musical Expertise	-0.00	-0.02	0.01	-0.26	.795	-0.02	0.01

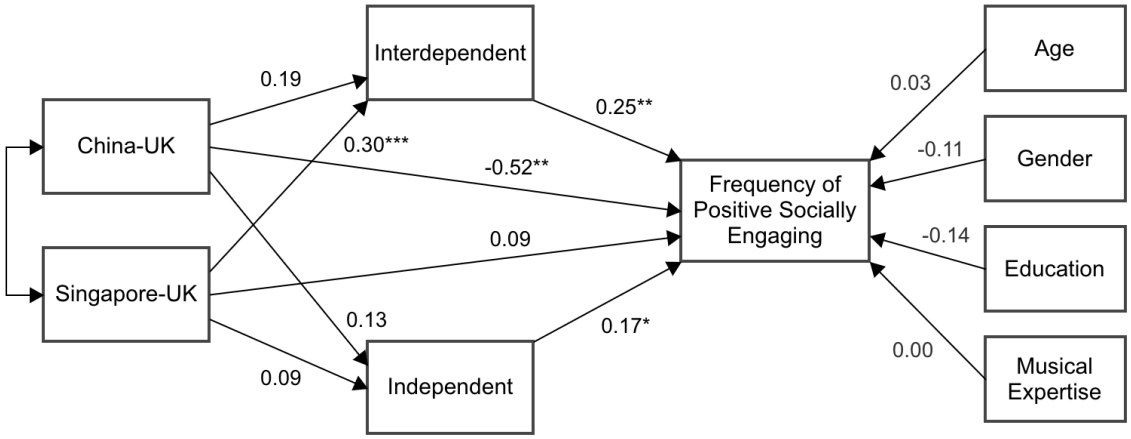
Note. CI = confidence interval; LL = lower limit; UL = upper limit. Bold values indicate statistical significance.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix K

Full Mediation Analysis Diagrams (Perceived Emotions)

Figure K1a

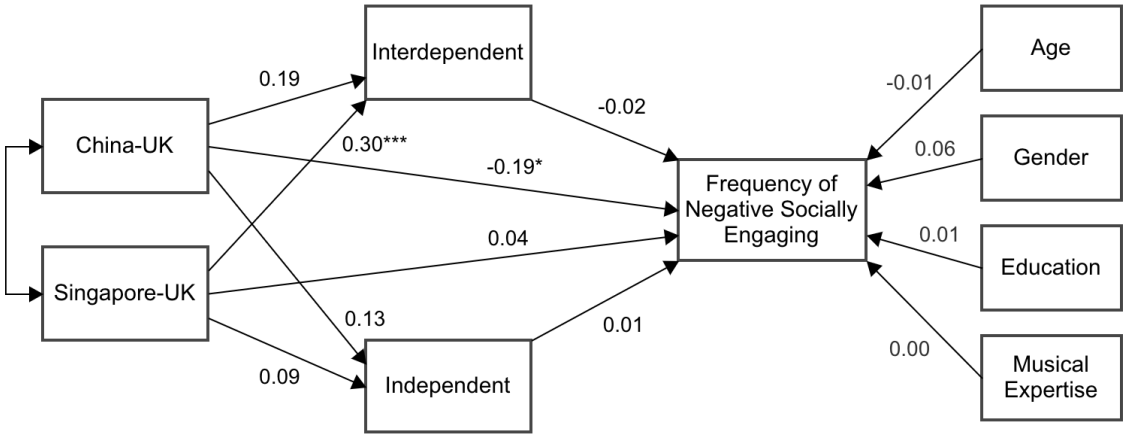
Frequency of Positive Socially Engaging Emotions



* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure K1b

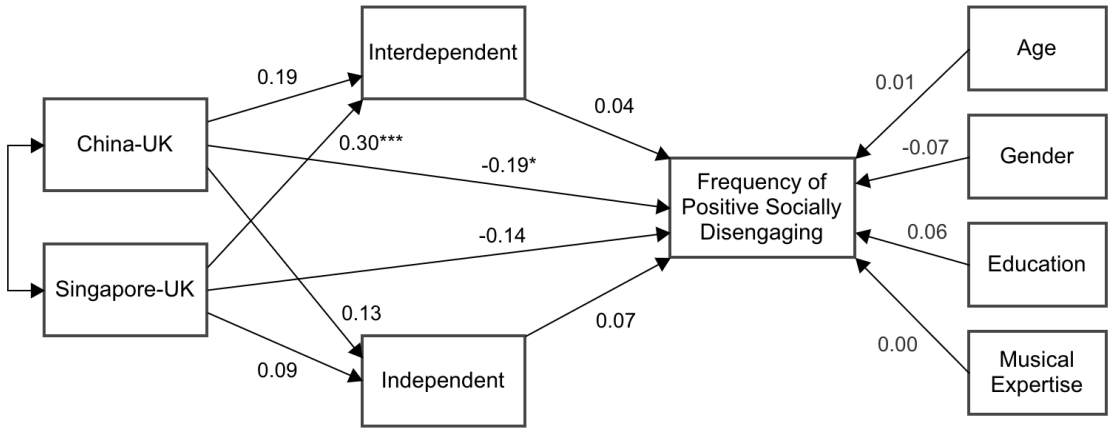
Frequency of Negative Socially Engaging Emotions



* $p < .05$, *** $p < .001$.

Figure K1c

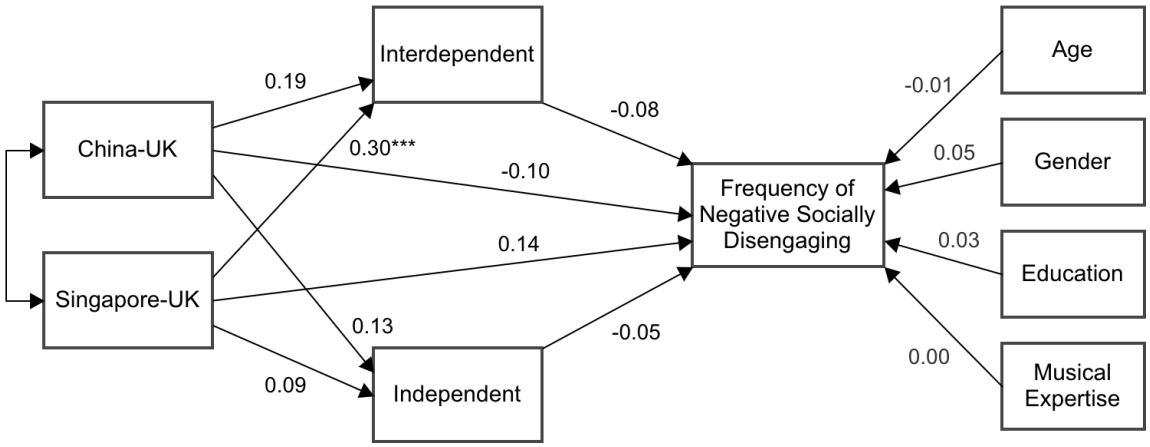
Frequency of Positive Socially Disengaging Emotions



* $p < .05$, *** $p < .001$.

Figure K1d

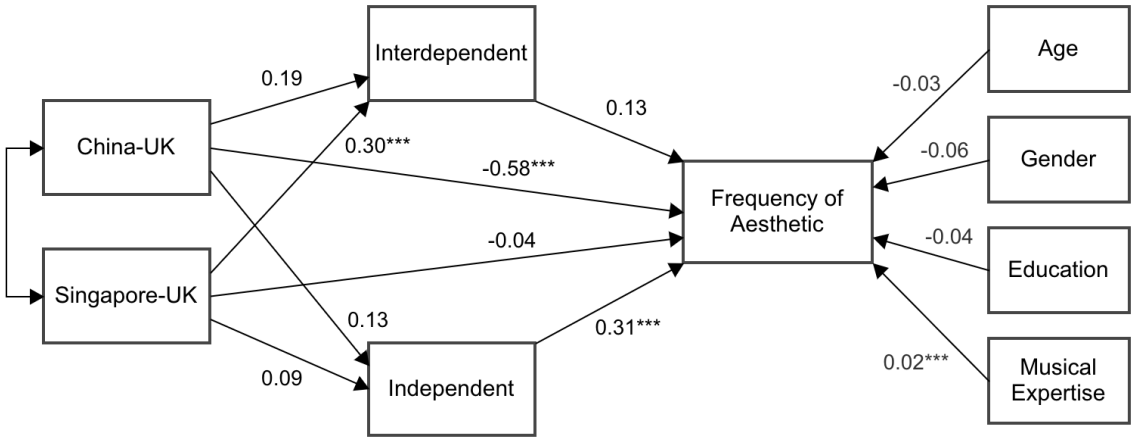
Frequency of Negative Socially Disengaging Emotions



*** $p < .001$.

Figure K1e

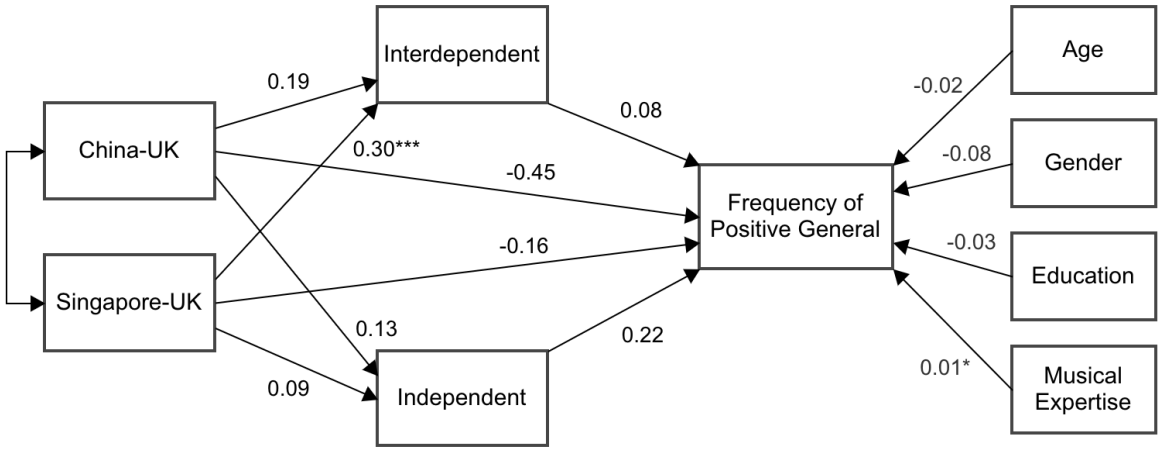
Frequency of Aesthetic Emotions



*** $p < .001$.

Figure K1f

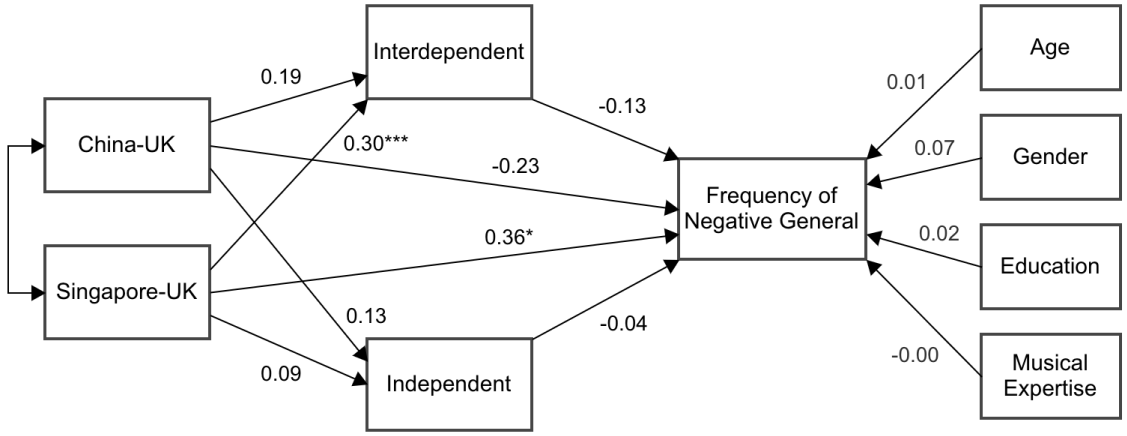
Frequency of Positive General Emotions



* $p < .05$, *** $p < .001$.

Figure K1g

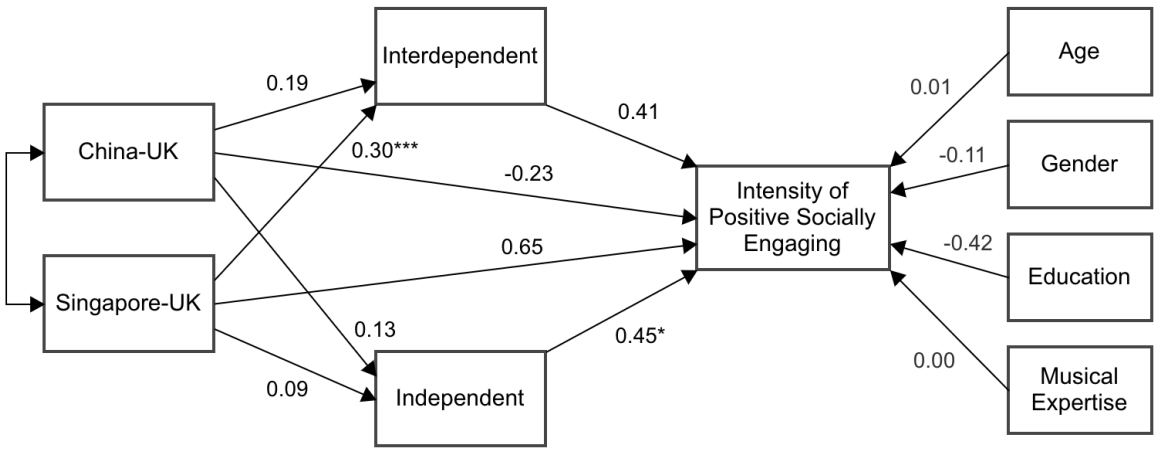
Frequency of Negative General Emotions



*** $p < .001$.

Figure K2a

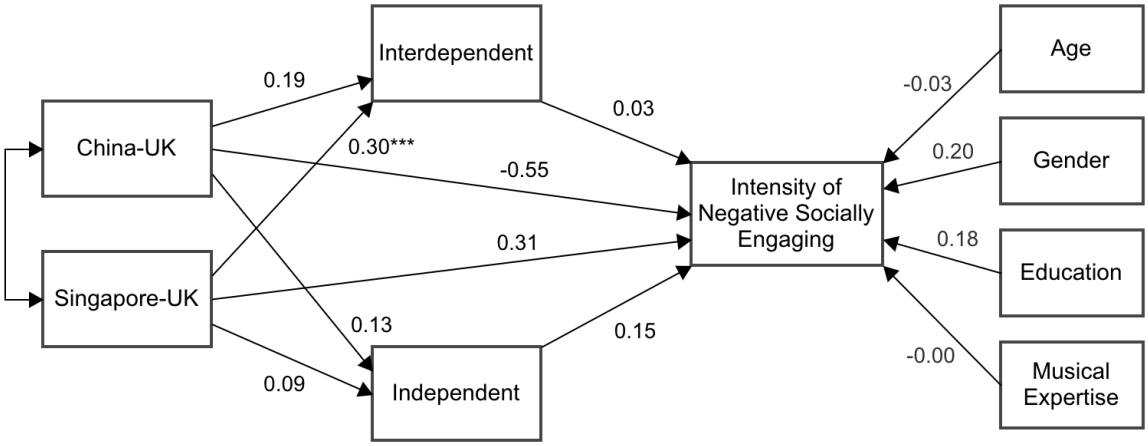
Intensity of Positive Socially Engaging Emotions



* $p < .05$, *** $p < .001$.

Figure K2b

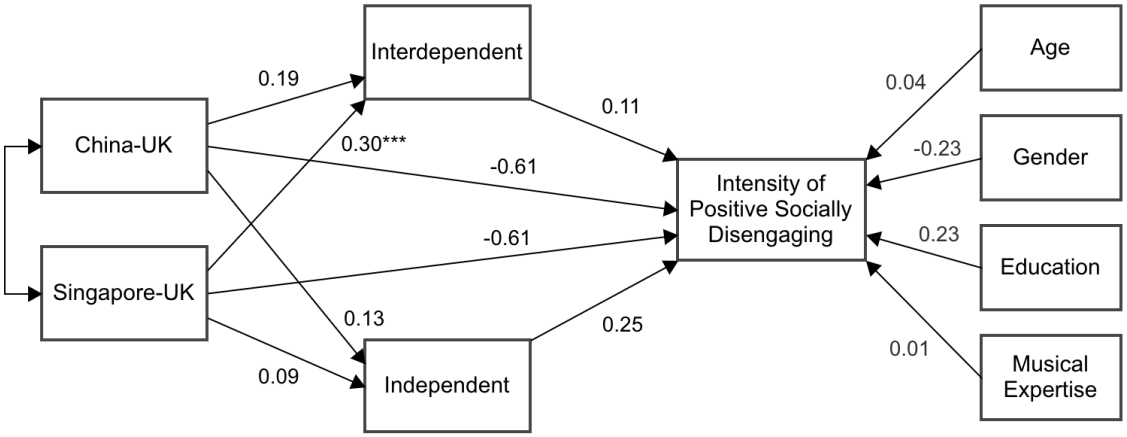
Intensity of Negative Socially Engaging Emotions



*** $p < .001$.

Figure K2c

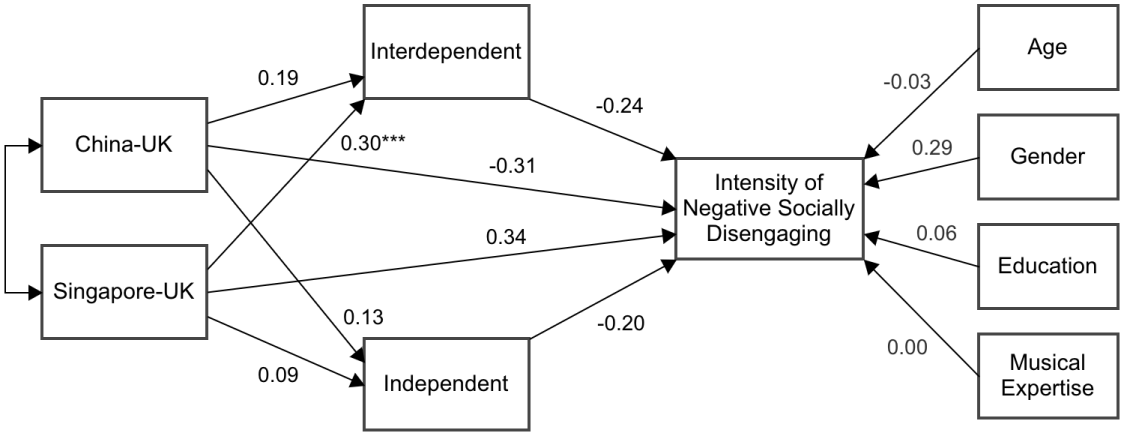
Intensity of Positive Socially Disengaging Emotions



*** $p < .001$.

Figure K2d

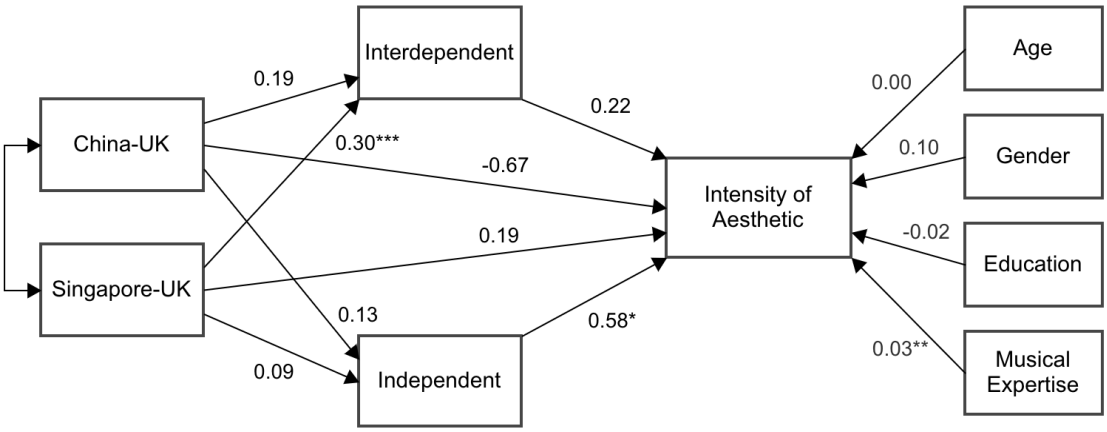
Intensity of Negative Socially Disengaging Emotions



*** $p < .001$.

Figure K2e

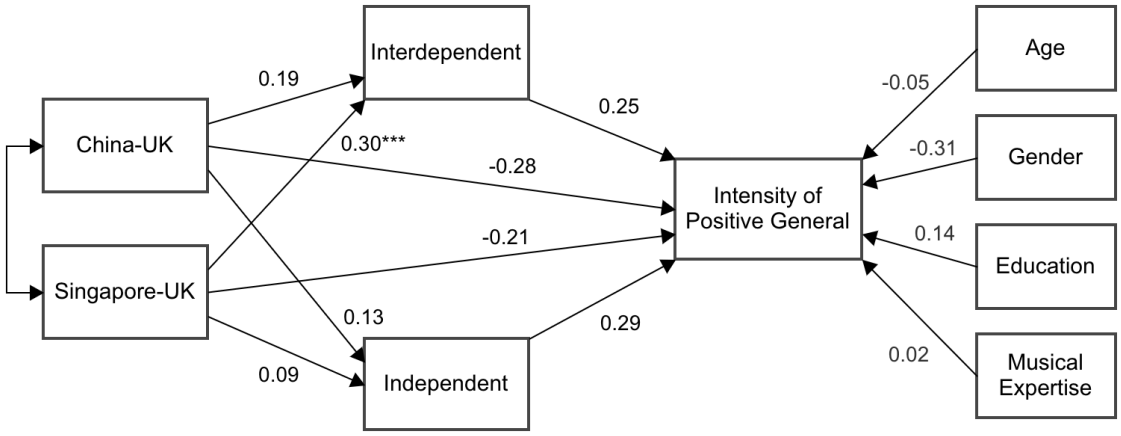
Intensity of Aesthetic Emotions



* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure K2f

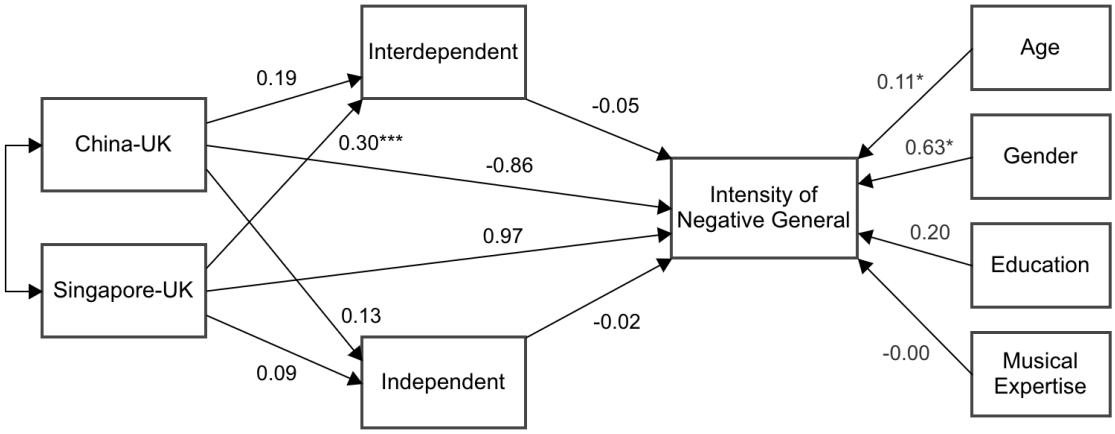
Intensity of Positive General Emotions



*** $p < .001$.

Figure K2g

Intensity of Negative General Emotions



* $p < .05$, *** $p < .001$.

Appendix L

Full Mediation Analysis Results (Felt Emotions)

Table L1

Frequency of Felt Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
Mediators			Interdependent Self-Construal				
Country 1 (China-UK)	0.19	0.30	0.10	1.84	.067	-0.01	0.39
Country 2 (Singapore-UK)	**0.30**	**0.47**	**0.09**	**3.37**	**< .001*** **	**0.13**	**0.48**
			Independent Self-Construal				
Country 1 (China-UK)	0.13	0.19	0.12	1.15	.250	-0.09	0.36
Country 2 (Singapore-UK)	0.09	0.12	0.10	0.86	.391	-0.11	0.28
Emotions			Positive Socially Engaging Emotions				
Country 1 (China-UK)	**-0.69**	**-0.68**	**0.16**	**-4.25**	**< .001*** **	**-1.02**	**-0.37**
Country 2 (Singapore-UK)	**-0.29**	**-0.28**	**0.14**	**-1.99**	**.047***	**-0.57**	**-0.00**
Interdependent Self-Construal	**0.25**	**0.16**	**0.09**	**2.78**	**.006****	**0.07**	**0.43**
Independent Self-Construal	0.11	0.08	0.08	1.41	.159	-0.05	0.27
Age	0.01	0.02	0.02	0.41	.682	-0.03	0.05
Gender	-0.11	-0.06	0.10	-1.09	.277	-0.30	0.09
Education	-0.06	-0.04	0.09	-0.70	.485	-0.23	0.11
Musical Expertise	0.00	0.05	0.00	0.72	.469	-0.00	0.01
			Negative Socially Engaging Emotions				
Country 1 (China-UK)	-0.05	-0.11	0.07	-0.71	.481	-0.18	0.08
Country 2 (Singapore-UK)	0.03	0.06	0.06	0.44	.662	-0.09	0.14
Interdependent Self-Construal	0.07	0.11	0.04	1.83	.068	-0.01	0.14
Independent Self-Construal	0.01	0.02	0.03	0.28	.780	-0.06	0.07
Age	**0.03**	**0.24**	**0.01**	**4.09**	**< .001*** **	**0.02**	**0.05**
Gender	0.02	0.03	0.04	0.53	.595	-0.06	0.10
Education	-0.02	-0.03	0.04	-0.47	.641	-0.09	0.05
Musical Expertise	-0.00	-0.05	0.00	-0.77	.442	-0.00	0.00

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
			Positive Socially Disengaging Emotions				
Country 1 (China-UK)	**-0.32**	**-0.58**	**0.09**	**-3.56**	**< .001*** **	**-0.50**	**-0.14**
Country 2 (Singapore-UK)	**-0.19**	**-0.34**	**0.08**	**-2.38**	**.018***	**-0.34**	**-0.03**
Interdependent Self-Construal	-0.05	-0.06	0.05	-1.07	.287	-0.15	0.05
Independent Self-Construal	**0.11**	**0.14**	**0.04**	**2.49**	**.014***	**0.02**	**0.20**
Age	0.00	0.02	0.01	0.27	.791	-0.02	0.03
Gender	-0.01	-0.01	0.05	-0.16	.870	-0.12	0.10
Education	0.06	0.07	0.05	1.16	.246	-0.04	0.15
Musical Expertise	0.00	0.04	0.00	0.51	.607	-0.00	0.00
			Negative Socially Disengaging Emotions				
Country 1 (China-UK)	0.01	0.06	0.04	0.34	.738	-0.06	0.09
Country 2 (Singapore-UK)	0.06	0.27	0.03	1.88	.062	-0.00	0.13
Interdependent Self-Construal	0.01	0.03	0.02	0.52	.606	-0.03	0.05
Independent Self-Construal	0.01	0.03	0.02	0.58	.561	-0.03	0.05
Age	0.00	0.02	0.00	0.35	.724	-0.01	0.01
Gender	0.02	0.05	0.02	0.80	.427	-0.03	0.06
Education	0.00	0.00	0.02	0.04	.968	-0.04	0.04
Musical Expertise	-0.00	-0.06	0.00	-0.93	.356	-0.00	0.00
			Aesthetic Emotions				
Country 1 (China-UK)	**-0.92**	**-0.86**	**0.16**	**-5.59**	**< .001*** **	**-1.24**	**-0.59**
Country 2 (Singapore-UK)	**-0.45**	**-0.43**	**0.14**	**-3.15**	**.002****	**-0.74**	**-0.17**
Interdependent Self-Construal	-0.06	-0.03	0.09	-0.61	.545	-0.23	0.12
Independent Self-Construal	**0.31**	**0.20**	**0.08**	**3.79**	**< .001*** **	**0.15**	**0.47**
Age	-0.01	-0.01	0.02	-0.26	.7978	-0.05	0.04
Gender	-0.10	-0.06	0.10	-1.02	.306	-0.30	0.09
Education	-0.15	-0.10	0.09	-1.73	.085	-0.33	0.02
Musical Expertise	**0.01**	**0.28**	**0.00**	**4.32**	**< .001*** **	**0.01**	**0.02**

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive General Emotions			
Country 1 (China-UK)	**-1.04**	**-0.64**	**0.26**	**-3.93**	**< .001*** **	**-1.56**	**-0.52**
Country 2 (Singapore-UK)	**-0.49**	**-0.30**	**0.23**	**-2.11**	**.036***	**-0.95**	**-0.03**
Interdependent Self-Construal	-0.08	-0.03	0.15	-0.57	.566	-0.37	0.20
Independent Self-Construal	**0.27**	**0.12**	**0.13**	**2.09**	**.037***	**0.02**	**0.53**
Age	-0.01	-0.02	0.03	-0.38	.703	-0.08	0.05
Gender	-0.03	-0.01	0.16	-0.20	.838	-0.35	0.28
Education	0.05	0.02	0.14	0.33	.744	-0.23	0.33
Musical Expertise	**0.01**	**0.16**	**0.01**	**2.37**	**.019***	**0.00**	**0.02**
				Negative General Emotions			
Country 1 (China-UK)	0.04	0.05	0.13	0.33	.740	-0.21	0.29
Country 2 (Singapore-UK)	0.15	0.20	0.11	1.38	.169	-0.07	0.37
Interdependent Self-Construal	0.02	0.01	0.07	0.23	.821	-0.12	0.15
Independent Self-Construal	-0.09	-0.08	0.06	-1.41	.161	-0.21	0.03
Age	0.03	0.12	0.02	1.91	.057	-0.00	0.06
Gender	**0.15**	**0.12**	**0.08**	**2.02**	**.044***	**0.00**	**0.30**
Education	-0.01	-0.01	0.07	-0.17	.869	-0.14	0.12
Musical Expertise	-0.00	-0.06	0.00	-0.90	.369	-0.01	0.00

Note. CI = confidence interval; LL = lower limit; UL = upper limit. Bold values indicate statistical significance.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Table L2

Intensity of Felt Emotions

	Outcome Variables						
						95% CI	
Predictor Variables	*b*	*β*	*SE*	*t*	*p*	*LL*	*UL*
Mediators			Interdependent Self-Construal				
Country 1 (China-UK)	0.19	0.30	0.10	1.84	.067	-0.01	0.39
Country 2 (Singapore-UK)	**0.30**	**0.47**	**0.09**	**3.37**	**< .001*** **	**0.13**	**0.48**
			Independent Self-Construal				
Country 1 (China-UK)	0.13	0.19	0.12	1.15	.250	-0.09	0.36
Country 2 (Singapore-UK)	0.09	0.12	0.10	0.86	.391	-0.11	0.28
Emotions			Positive Socially Engaging Emotions				
Country 1 (China-UK)	**-2.56**	**-0.96**	**0.40**	**-6.46**	**< .001*** **	**-3.34**	**-1.78**
Country 2 (Singapore-UK)	0.05	0.02	0.35	0.14	.887	-0.64	0.74
Interdependent Self-Construal	**0.51**	**0.12**	**0.22**	**2.31**	**.022***	**0.07**	**0.94**
Independent Self-Construal	0.30	0.08	0.20	1.53	.128	-0.09	0.69
Age	-0.05	-0.06	0.05	-1.01	.314	-0.15	0.05
Gender	-0.04	-0.01	0.24	-0.15	.884	-0.51	0.44
Education	-0.23	-0.06	0.21	-1.06	.288	-0.65	0.19
Musical Expertise	0.01	0.08	0.01	1.28	.203	-0.01	0.03
			Negative Socially Engaging Emotions				
Country 1 (China-UK)	-0.13	-0.07	0.33	-0.41	.683	-0.77	0.51
Country 2 (Singapore-UK)	0.38	0.19	0.29	1.32	.188	-0.19	0.94
Interdependent Self-Construal	0.35	0.11	0.18	1.92	.056	-0.01	0.70
Independent Self-Construal	-0.12	-0.04	0.16	-0.75	.454	-0.44	0.20
Age	0.07	0.11	0.04	1.78	.075	-0.01	0.16
Gender	0.20	0.06	0.20	1.00	.317	-0.19	0.59
Education	-0.01	-0.00	0.17	-0.08	.940	-0.36	0.33
Musical Expertise	-0.00	-0.05	0.01	-0.75	.455	-0.02	0.01

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive Socially Disengaging Emotions			
Country 1 (China-UK)	**-1.54**	**-0.67**	**0.37**	**-4.14**	**< .001*** **	**-2.27**	**-0.81**
Country 2 (Singapore-UK)	**-0.67**	**-0.29**	**0.33**	**-2.05**	**.042***	**-1.31**	**-0.03**
Interdependent Self-Construal	-0.20	-0.06	0.21	-0.99	.321	-0.61	0.20
Independent Self-Construal	**0.37**	**0.11**	**0.18**	**1.99**	**.048***	**0.00**	**0.73**
Age	0.01	0.02	0.05	0.30	.766	-0.08	0.11
Gender	0.09	0.02	0.23	0.38	.706	-0.36	0.53
Education	0.21	0.06	0.20	1.05	.297	-0.18	0.60
Musical Expertise	0.00	0.03	0.01	0.42	.677	-0.01	0.02
				Negative Socially Disengaging Emotions			
Country 1 (China-UK)	0.07	0.07	0.17	0.42	.675	-0.26	0.41
Country 2 (Singapore-UK)	0.22	0.22	0.15	1.48	.139	-0.07	0.52
Interdependent Self-Construal	0.08	0.05	0.09	0.88	.382	-0.10	0.27
Independent Self-Construal	-0.03	-0.02	0.08	-0.40	.688	-0.20	0.13
Age	0.00	0.01	0.02	0.17	.868	-0.04	0.05
Gender	0.12	0.07	0.10	1.14	.255	-0.09	0.32
Education	0.03	0.02	0.09	0.28	.780	-0.15	0.21
Musical Expertise	-0.00	-0.07	0.00	-1.07	.287	-0.01	0.00
				Aesthetic Emotions			
Country 1 (China-UK)	**-2.66**	**-1.02**	**0.39**	**-6.79**	**< .001*** **	**-3.44**	**-1.89**
Country 2 (Singapore-UK)	**-1.17**	**-0.45**	**0.35**	**-3.39**	**< .001*** **	**-1.85**	**-0.49**
Interdependent Self-Construal	-0.19	-0.05	0.22	-0.88	.381	-0.62	0.24
Independent Self-Construal	**0.50**	**0.14**	**0.19**	**2.60**	**.009****	**0.12**	**0.89**
Age	-0.02	-0.03	0.05	-0.50	.618	-0.12	0.07
Gender	-0.24	-0.06	0.24	-1.01	.314	-0.71	0.23
Education	-0.30	-0.08	0.21	-1.40	.162	-0.71	0.12
Musical Expertise	0.01	0.07	0.01	1.03	.303	-0.01	0.02

						95% CI	
	b	*β*	*SE*	*t*	*p*	*LL*	*UL*
				Positive General Emotions			
Country 1 (China-UK)	**-2.76**	**-1.13**	**0.36**	**-7.59**	**< .001*** **	**-3.47**	**-2.04**
Country 2 (Singapore-UK)	-0.10	-0.04	0.32	-0.31	.756	-0.73	0.53
Interdependent Self-Construal	-0.03	-0.01	0.20	-0.14	.887	-0.43	0.37
Independent Self-Construal	0.06	0.02	0.18	0.34	.734	-0.29	0.42
Age	-0.04	-0.05	0.05	-0.84	.404	-0.13	0.05
Gender	0.11	0.03	0.22	0.48	.633	-0.33	0.54
Education	0.08	0.02	0.20	0.41	.681	-0.30	0.46
Musical Expertise	**0.02**	**0.13**	**0.01**	**2.09**	**.038***	**0.00**	**0.03**
				Negative General Emotions			
Country 1 (China-UK)	-0.45	-0.20	0.37	-1.23	.218	-1.17	.027
Country 2 (Singapore-UK)	**0.76**	**0.33**	**0.32**	**2.37**	**.019***	**0.13**	**1.39**
Interdependent Self-Construal	0.36	0.10	0.20	1.78	.076	-0.04	0.76
Independent Self-Construal	-0.27	-0.08	0.18	-1.49	.136	-0.63	0.09
Age	**0.12**	**0.16**	**0.05**	**2.68**	**.008****	**0.03**	**0.22**
Gender	0.36	0.09	0.22	1.61	.109	-0.08	0.79
Education	-0.10	-0.03	0.20	-0.53	.597	-0.49	0.28
Musical Expertise	-0.01	-0.06	0.01	-0.86	.391	-0.02	0.01

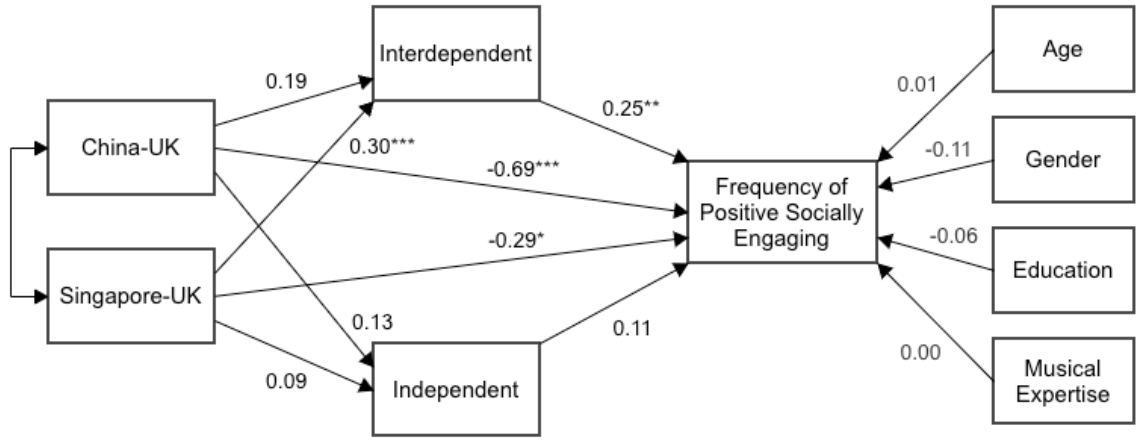
Note. CI = confidence interval; LL = lower limit; UL = upper limit. Bold values indicate statistical significance.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix M

Full Mediation Analysis Diagrams (Felt Emotions)

Figure M1a

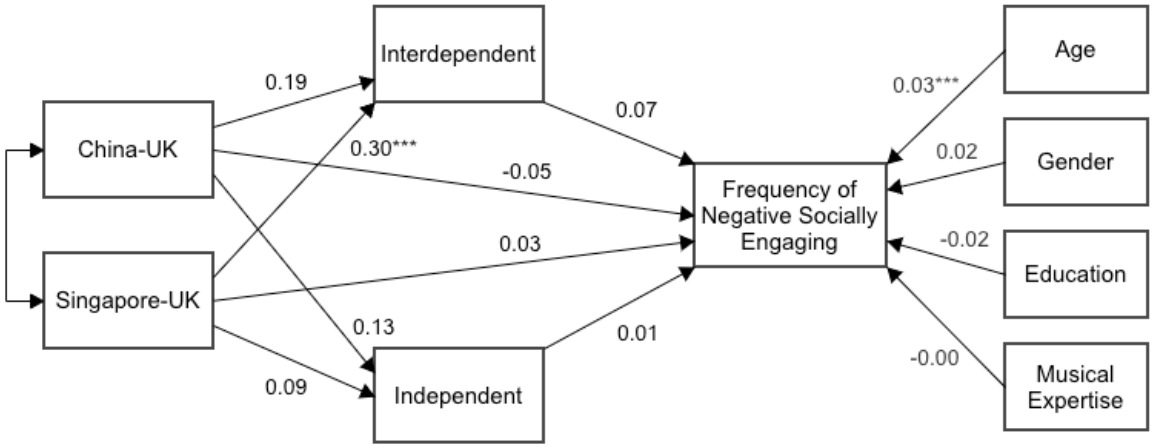
Frequency of Positive Socially Engaging Emotions



* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure M1b

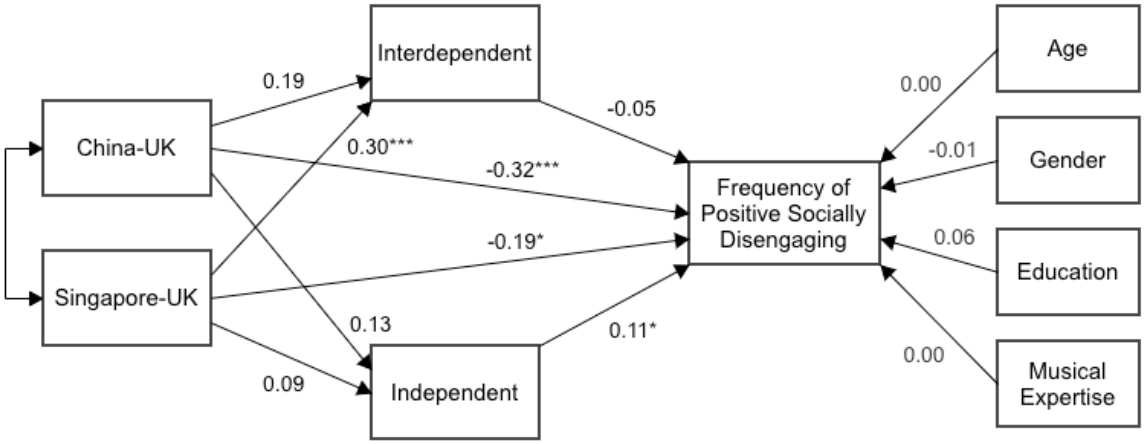
Frequency of Negative Socially Engaging Emotions



*** $p < .001$.

Figure M1c

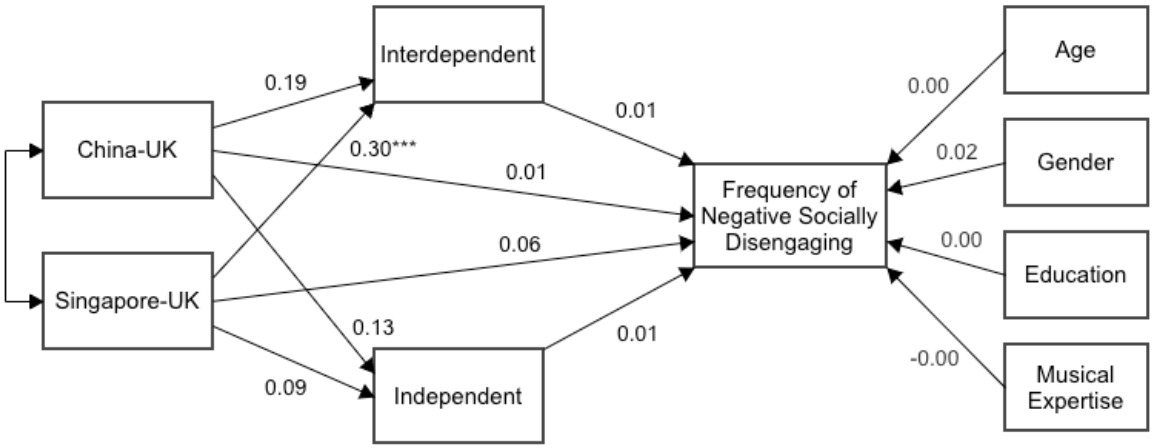
Frequency of Positive Socially Disengaging Emotions



* $p < .05$, *** $p < .001$.

Figure M1d

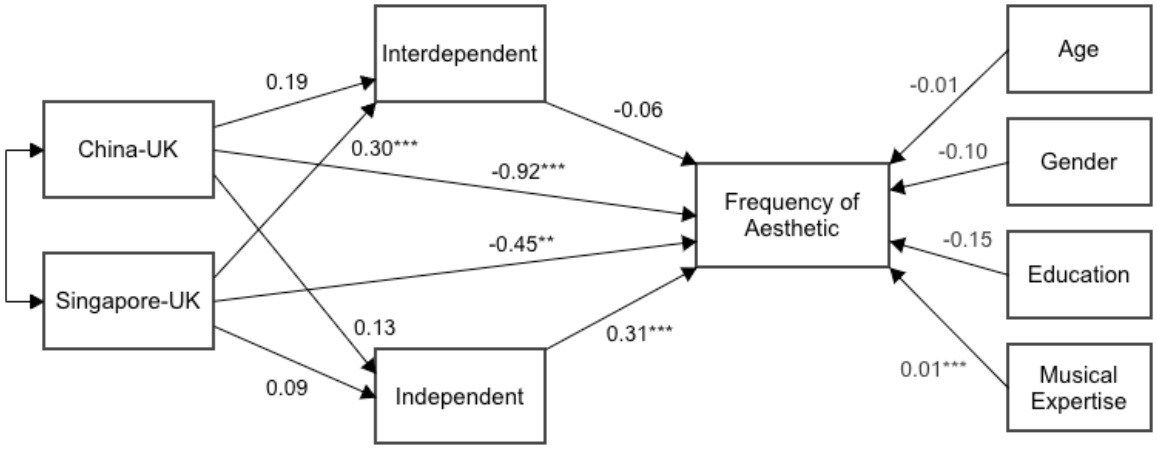
Frequency of Negative Socially Disengaging Emotions



*** $p < .001$.

Figure M1e

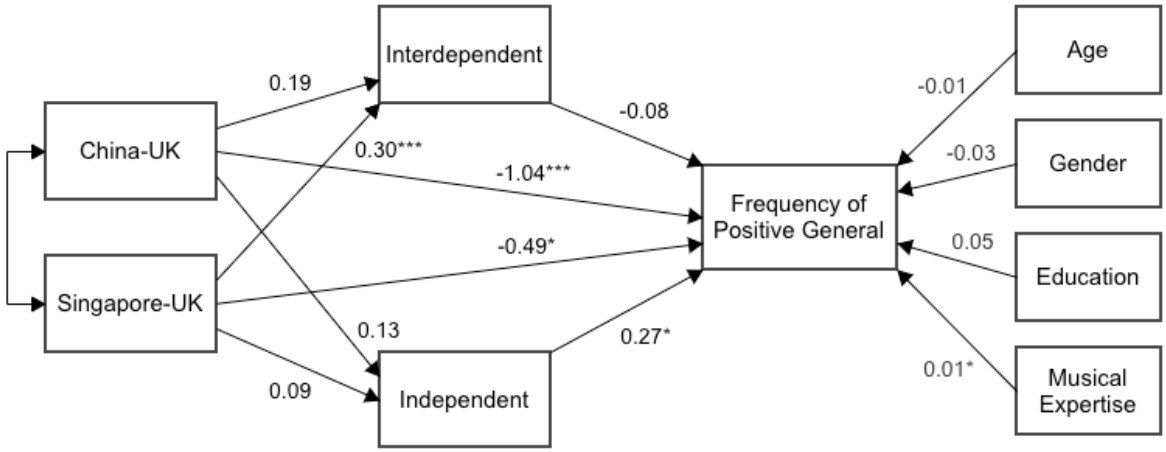
Frequency of Aesthetic Emotions



** $p < .01$, *** $p < .001$.

Figure M1f

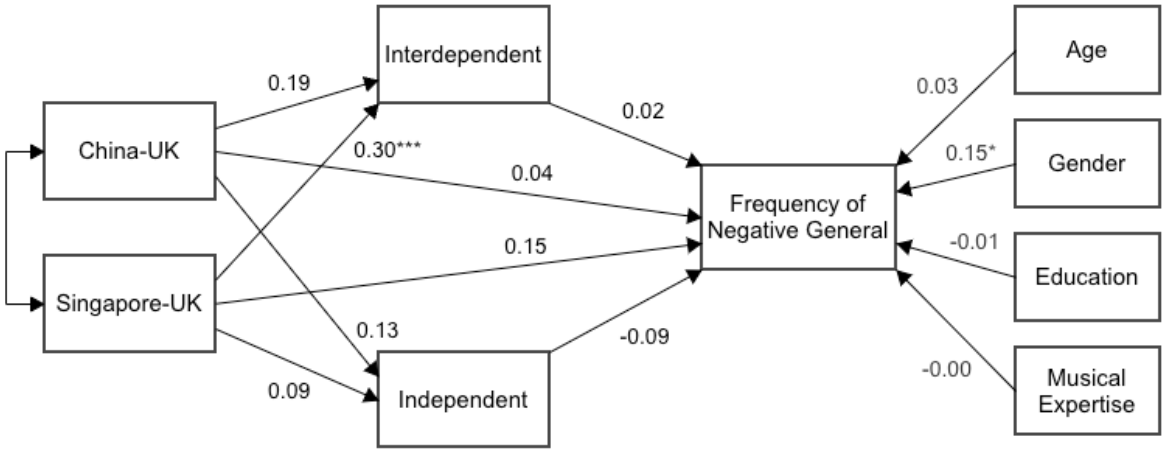
Frequency of Positive General Emotions



* $p < .05$, *** $p < .001$.

Figure M1g

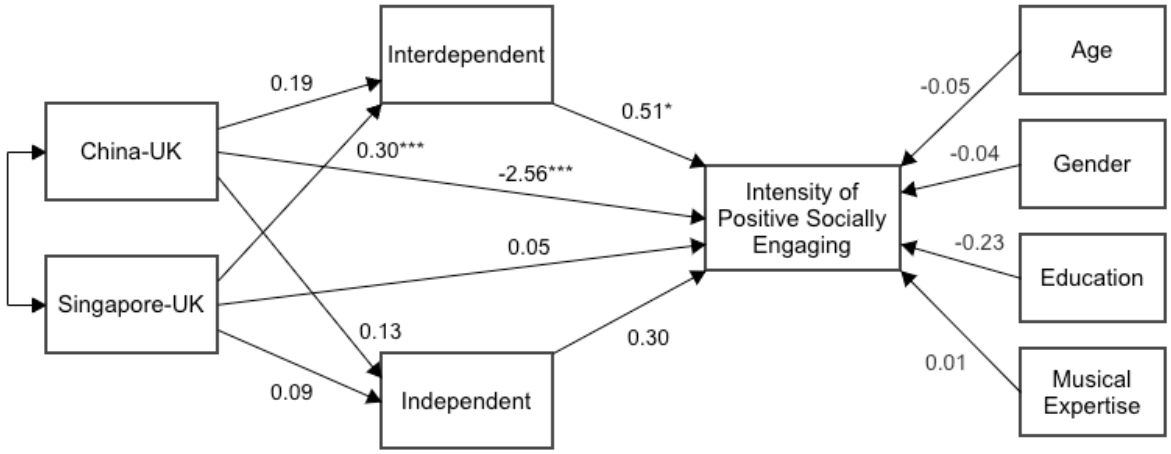
Frequency of Negative General Emotions



* $p < .05$, *** $p < .001$.

Figure M2a

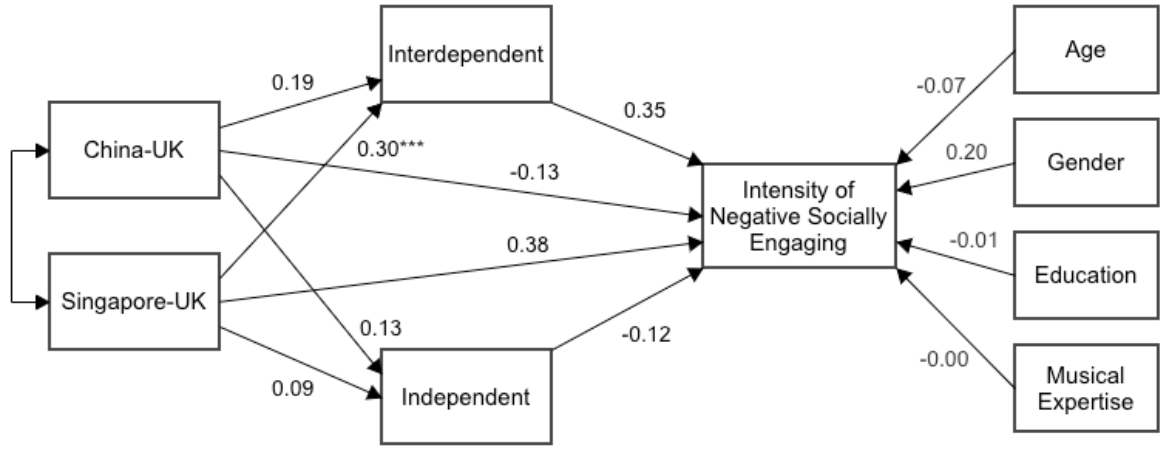
Intensity of Positive Socially Engaging Emotions



* $p < .05$, *** $p < .001$.

Figure M2b

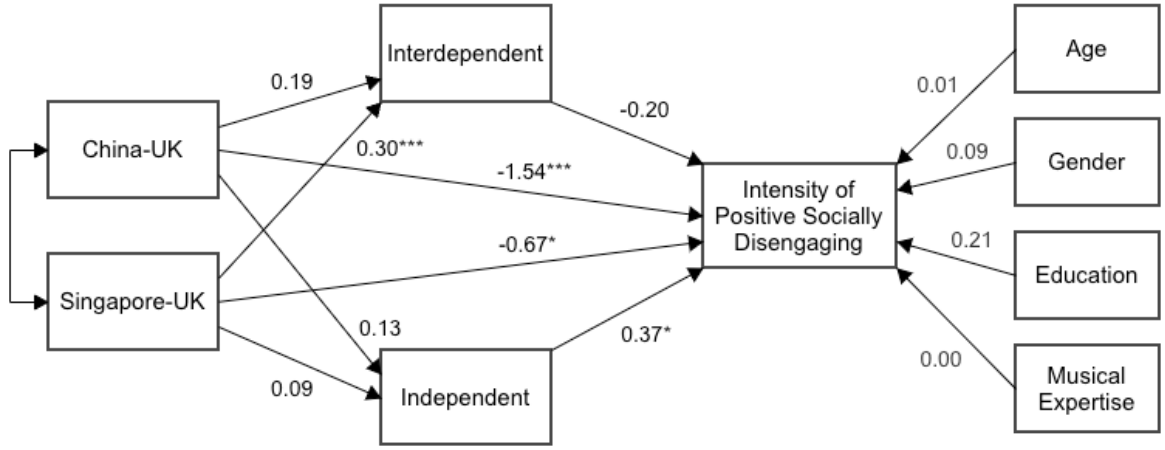
Intensity of Negative Socially Engaging Emotions



*** $p < .001$.

Figure M2c

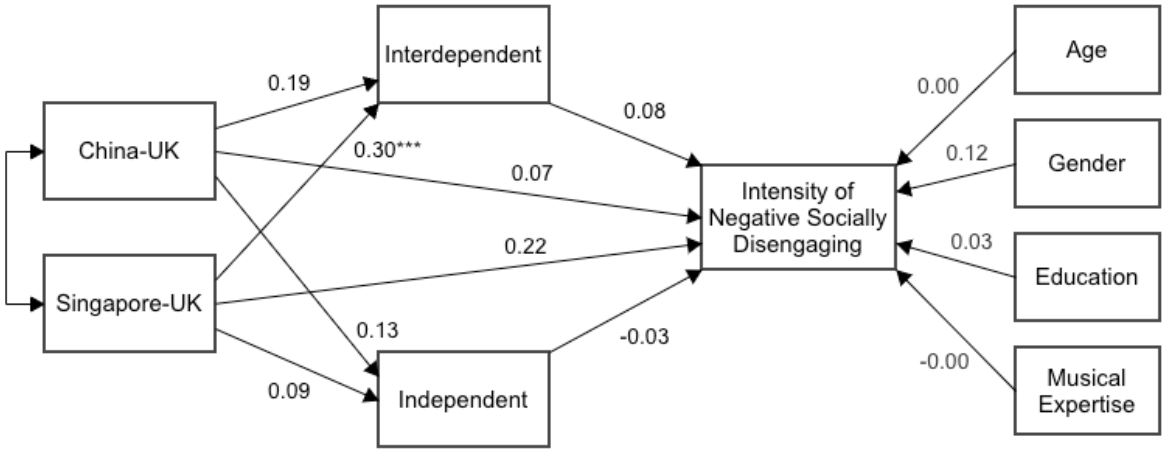
Intensity of Positive Socially Disengaging Emotions



* $p < .05$, *** $p < .001$.

Figure M2d

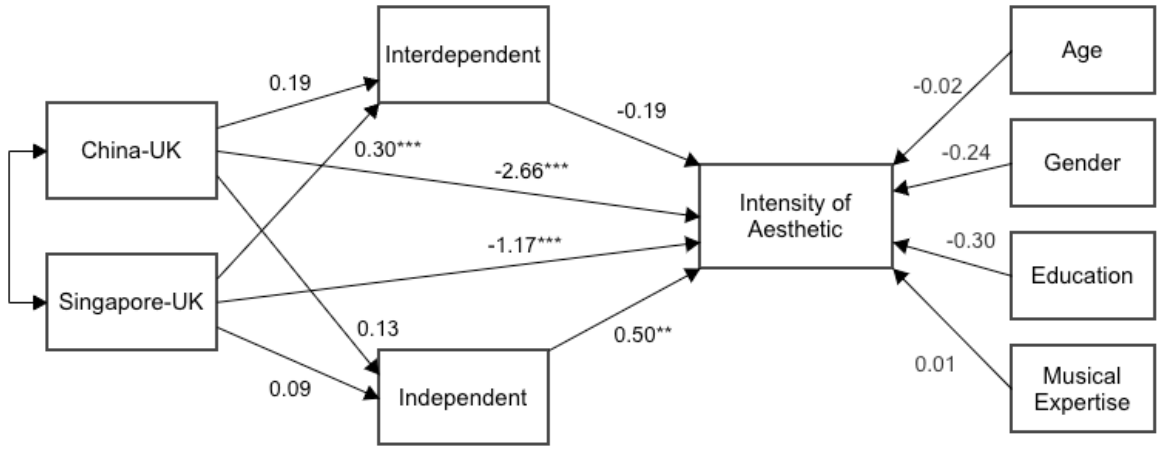
Intensity of Negative Socially Disengaging Emotions



*** $p < .001$.

Figure M2e

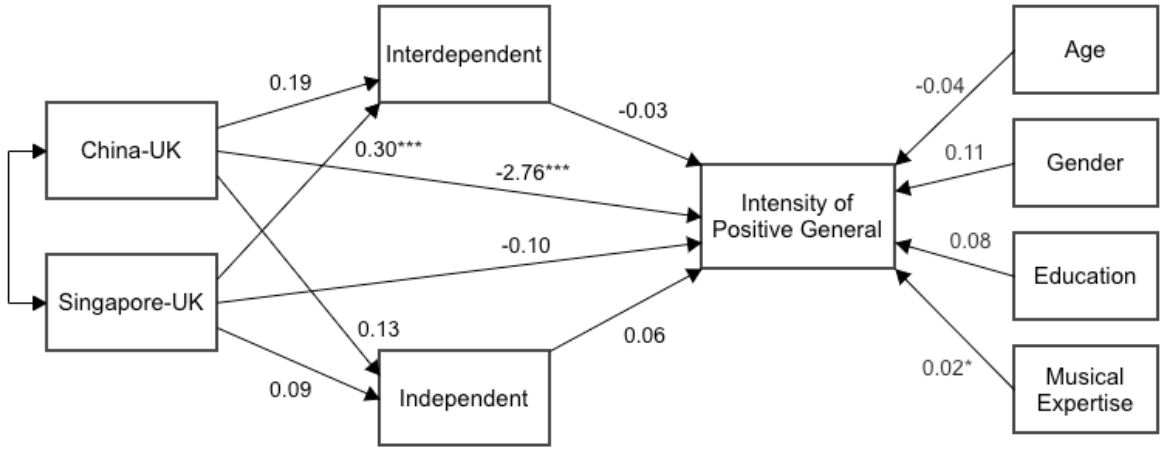
Intensity of Aesthetic Emotions



** $p < .01$, *** $p < .001$.

Figure M2f

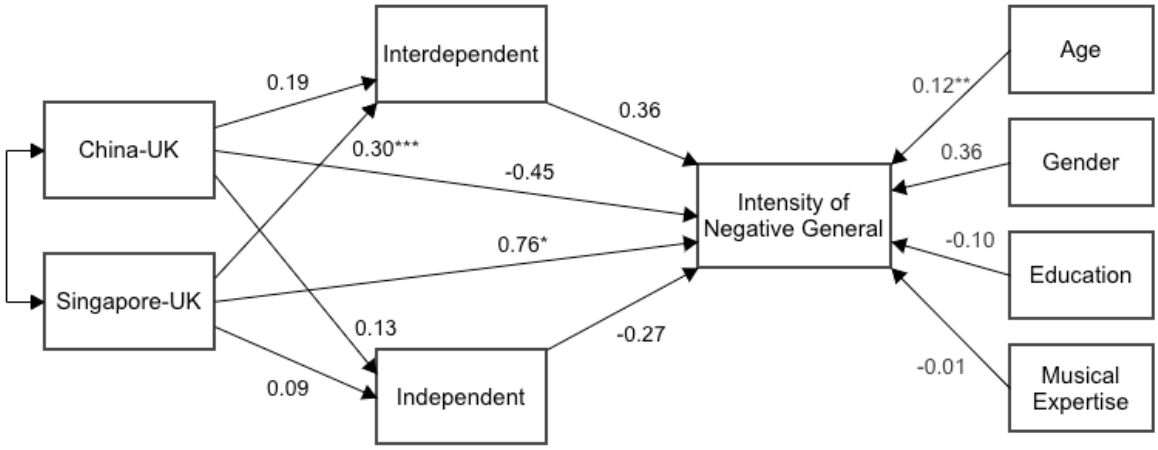
Intensity of Positive General Emotions



* $p < .05$, *** $p < .001$.

Figure M2g

Intensity of Negative General Emotions



** $p < .01$, *** $p < .001$.

Appendix N

MANCOVA Results

Table N1

MANCOVA Results for Social Reward

	Mean Square	*F*(1,393)	Sig.	*η2*
Age	82.83	10.93	.001	.027
Education	1.37	0.18	.671	.000
Musical Expertise	89.45	11.81	<.001	.029
Personality				
Extraversion	211.62	27.94	< .001	.066
Agreeableness	154.19	20.36	< .001	.049
Conscientiousness	16.37	2.16	.142	.005
Neuroticism	0.15	0.02	.890	.000
Openness	10.42	1.38	.242	.003
Groups	3.39	0.45	.504	.001

Table N2

MANCOVA Results for Musical Seeking

	Mean Square	*F*(1,393)	Sig.	*η2*
Age	124.59	19.30	< .001	.047
Education	1.20	0.19	.667	.000
Musical Expertise	27.73	4.30	.039	.011
Personality				
Extraversion	48.02	7.44	.007	.019
Agreeableness	35.93	5.56	.019	.014
Conscientiousness	13.30	2.06	.152	.005
Neuroticism	8.87	1.37	.242	.003
Openness	122.43	18.96	< .001	.046
Groups	0.04	0.01	.942	.000

Table N3

MANCOVA Results for Emotion Evocation

	Mean Square	*F*(1,393)	Sig.	*η2*
Age	0.10	0.01	.906	.000
Education	12.97	1.85	.175	.005
Musical Expertise	2.32	0.33	.566	.001
Personality				
Extraversion	19.17	2.73	.099	.007
Agreeableness	47.71	6.80	.009	.017
Conscientiousness	5.64	0.80	.371	.002
Neuroticism	20.18	2.87	.091	.007
Openness	55.31	7.88	.005	.020
Groups	2.39	0.34	.560	.001

Table N4

MANCOVA Results for Mood Regulation

	Mean Square	*F*(1,393)	Sig.	*η2*
Age	0.02	.00	.947	.000
Education	11.50	2.43	.120	.006
Musical Expertise	1.03	0.22	.641	.001
Personality				
Extraversion	9.64	2.03	.155	.005
Agreeableness	18.47	3.90	.049	.010
Conscientiousness	20.18	4.26	.040	.011
Neuroticism	21.09	4.45	.036	.011
Openness	18.20	3.84	.051	.010
Groups	8.88	1.87	.172	.005

Table N5

MANCOVA Results for Sensory-Motor

	Mean Square	*F*(1,393)	Sig.	*η2*
Age	12.28	1.31	.253	.003
Education	2.03	0.22	.641	.001
Musical Expertise	0.30	0.03	.859	.000
Personality				
Extraversion	245.32	26.22	< .001	.063
Agreeableness	1.14	0.12	.728	.000
Conscientiousness	17.88	1.91	.168	.005
Neuroticism	9.25	0.99	.321	.003
Openness	49.96	5.34	.021	.013
Groups	5.51	0.59	.443	.001

Appendix O

Piloting Music Stimuli

Table O1

Music List

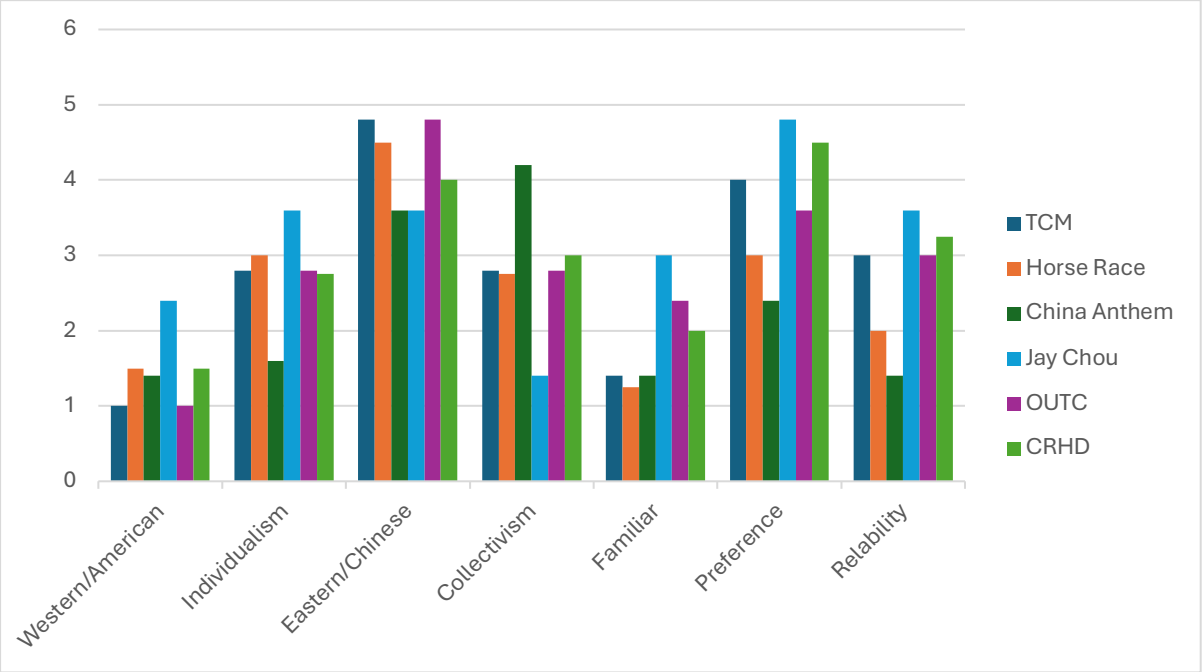
Culture	Music	Genre
Chinese	Traditional Chinese Music	Classical music
	赛马 (Sai Ma) Horse Race	Classical music
	China National Anthem	National anthem
	“晴天 (Qing Tian) Sunny Day”, 周杰伦 Jay Chou	Mandopop
	Once Upon a Time in China (Instrumental)	Soundtrack
	“The Eternal Vow” from Crouching Tiger, Hidden Dragon	Soundtrack
Western	Mozart String Serenade no. 13 in G	Classical music
	Beethoven Symphony no. 7 in A major op. 92	Classical music
	USA National Anthem	National anthem
	“Love Story”, Taylor Swift	American Pop
	The Good, the Bad and the Ugly Main Theme	Soundtrack
	“Poland, 1944” from X-Men	Soundtrack

Appendix P

Pilot Music Stimuli Ratings

Figure P1

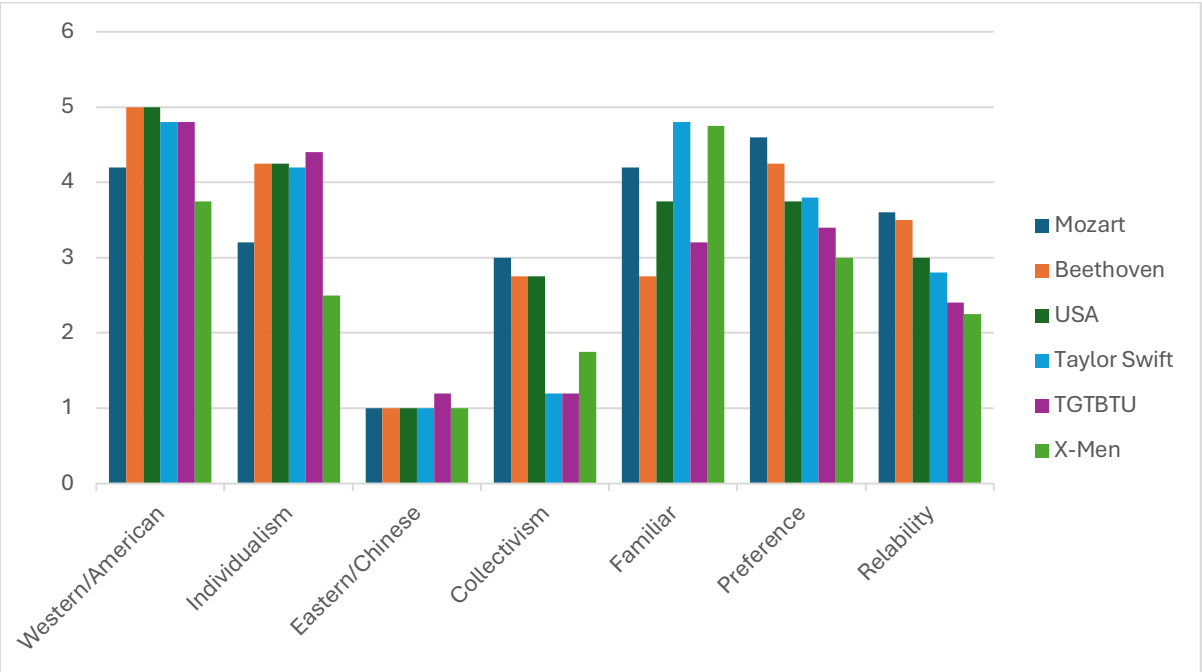
Ratings of Chinese Music Stimuli



Note. TCM, Traditional Chinese Music; OUTC, Once Upon a Time in China (Instrumental); CRHD, Crouching Tiger, Hidden Dragon.

Figure P2

Ratings of Western Music Stimuli



Note. TGTBTU, The Good, the Bad and the Ugly.

Appendix Q

Final Music Stimuli

Table Q1

Music List

Condition	Music Stimuli
Control	Silence
	Brown noise
Chinese Prime	China National Anthem
	Once Upon a Time in China (Instrumental)
Western Prime	Love Story, Taylor Swift
	The Good, the Bad and the Ugly Main Theme

Appendix R

Non-Significant Mixed-Model ANOVA Results

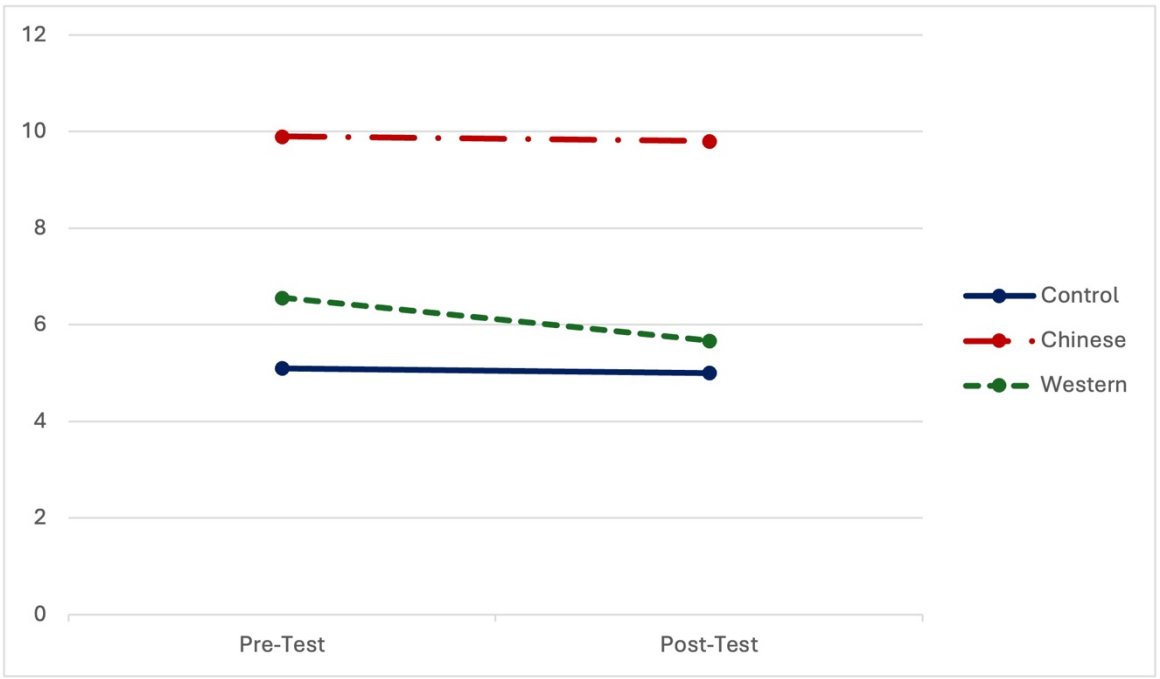
Twenty Statements Test (TST)

Interdependent Self-Descriptions

The main effect of the music prime condition was not significant, $F(2, 26) = 2.49$, $p = .103$, partial $\eta^2 = .161$, indicating no significant differences in interdependent self-descriptions between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 26) = 0.21$, $p = .652$, partial $\eta^2 = .008$, indicating no significant differences in interdependent self-descriptions between pre-test and post-test. The interaction effect was also not significant, $F(2, 26) = 0.11$, $p = .900$, partial $\eta^2 = .008$, indicating that the differences in music conditions did not influence changes in interdependent self-descriptions between pre-test and post-test (see Figure R1a).

Figure R1a

Pre-Test and Post-Test Scores: TST Interdependent Self-Descriptions

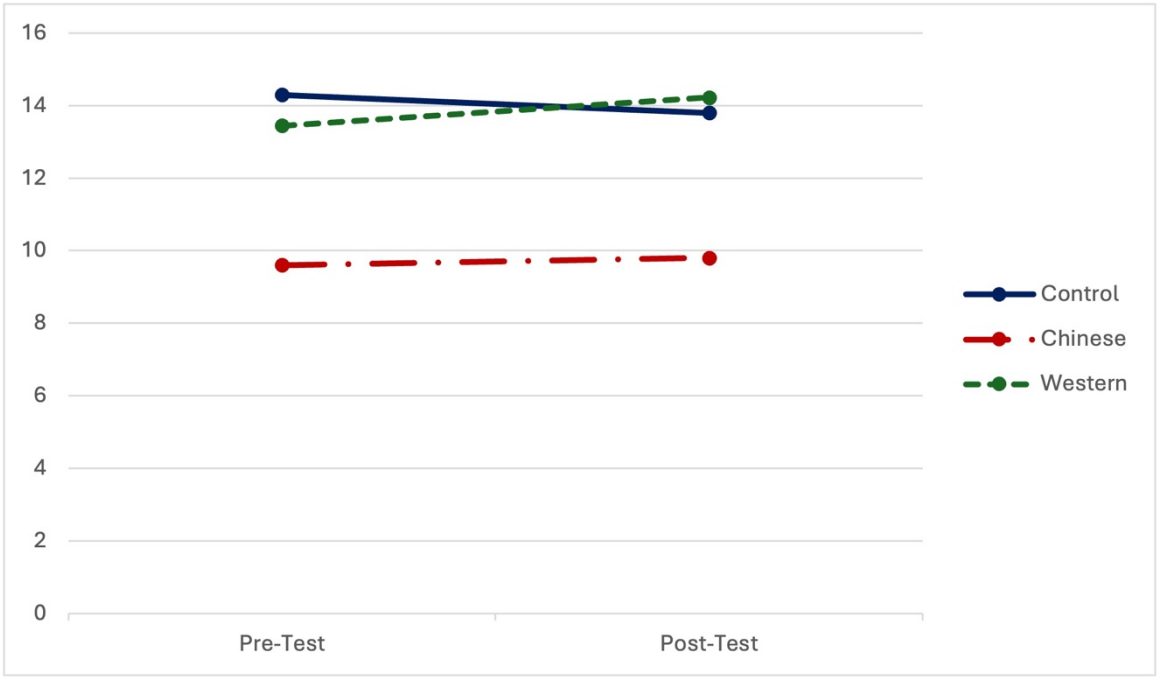


Independent Self-Descriptions

The main effect of the music prime condition was not significant, $F(2, 26) = 2.26$, $p = .124$, partial $\eta^2 = .148$, indicating no significant differences in independent self-descriptions between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 26) = 0.04$, $p = .843$, partial $\eta^2 = .002$, indicating no significant differences in independent self-descriptions between pre-test and post-test. The interaction effect was also not significant, $F(2, 26) = 0.21$, $p = .810$, partial $\eta^2 = .016$, indicating that the differences in music conditions did not influence changes in independent self-descriptions between pre-test and post-test (see Figure R1b).

Figure R1b

Pre-Test and Post-Test Scores: TST Interdependent Self-Descriptions



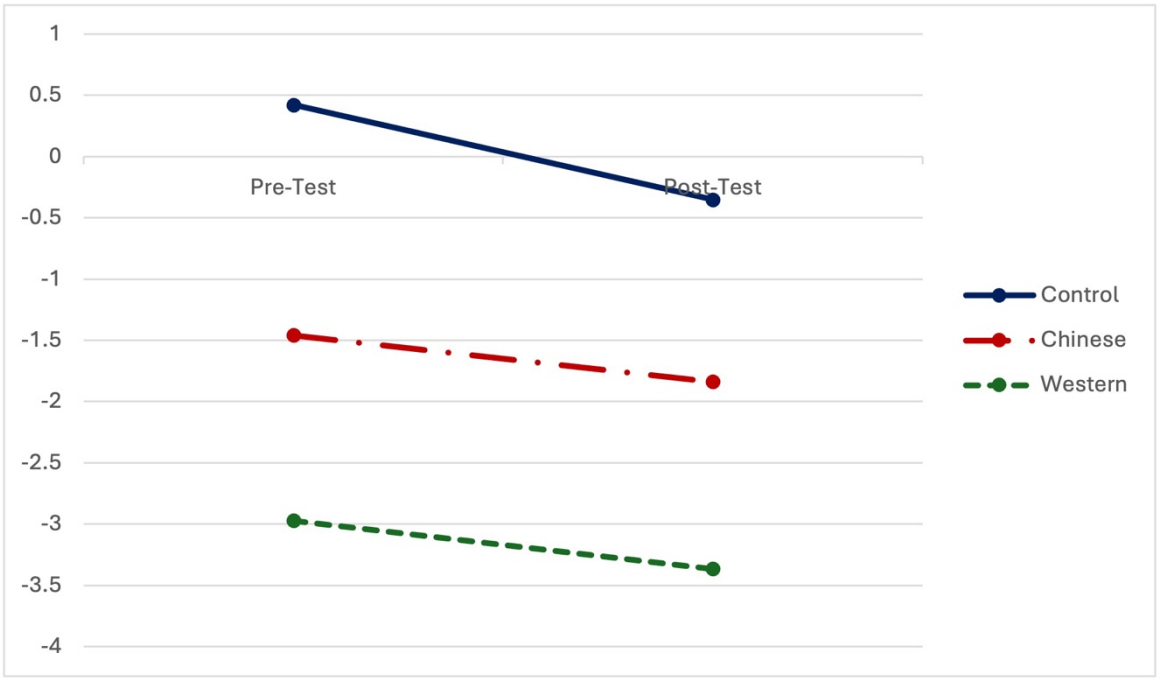
Yang's (2017) Self-Construal Scale (Y-SCS)

Difference vs. Similar to Others

The main effect of the music prime condition was not significant, $F(2, 27) = 1.67$, $p = .207$, partial $\eta^2 = .110$, indicating no significant differences in the difference vs. similar to others factor between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 27) = 0.75$, $p = .396$, partial $\eta^2 = .027$, indicating no significant differences in the difference vs. similar to others factor between pre-test and post-test. The interaction effect was also not significant, $F(2, 27) = 0.05$, $p = .954$, partial $\eta^2 = .003$, indicating that the differences in music conditions did not influence changes in the difference vs. similar to others factor between pre-test and post-test (see Figure R2a).

Figure R2a

Pre-Test and Post-Test Scores: Difference vs. Similar to Others

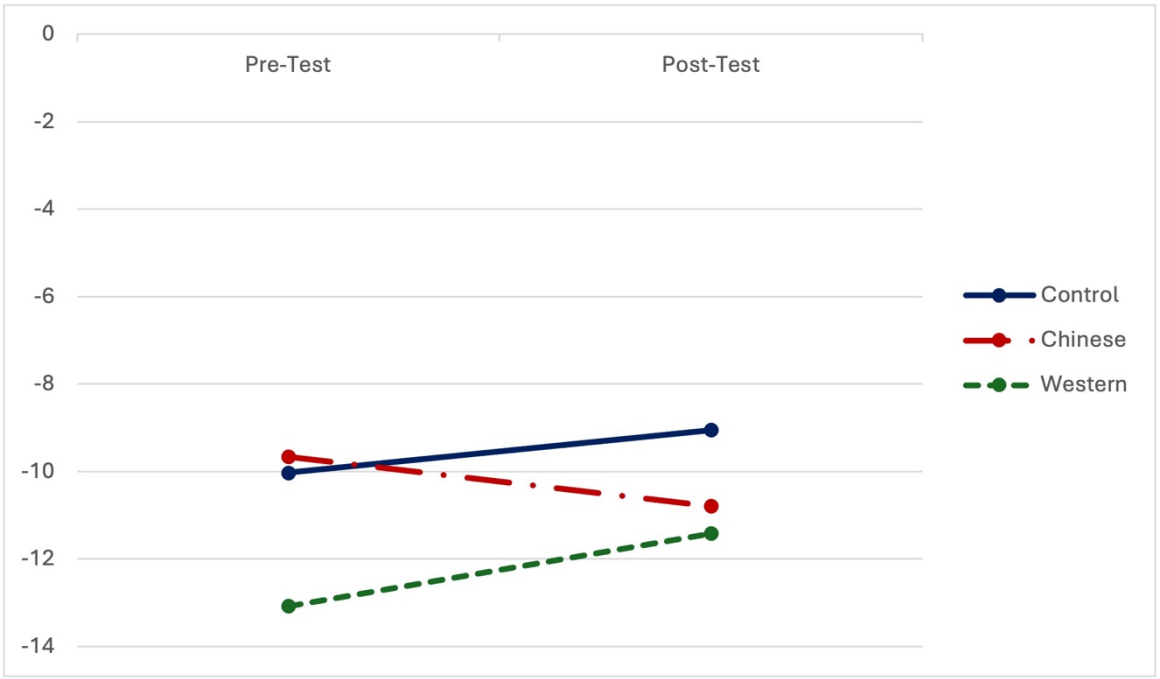


Self-Containment vs. Connectedness to Others

The main effect of the music prime condition was not significant, $F(2, 27) = .76$, $p = .478$, partial $\eta^2 = .053$, indicating no significant differences in the self-containment vs. connectedness to others factor between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 27) = 0.70$, $p = .411$, partial $\eta^2 = .025$, indicating no significant differences in the self-containment vs. connectedness to others factor between pre-test and post-test. The interaction effect was also not significant, $F(2, 27) = 1.94$, $p = .163$, partial $\eta^2 = .126$, indicating that the differences in music conditions did not influence changes in the self-containment vs. connectedness to others factor between pre-test and post-test (see Figure R2b).

Figure R2b

Pre-Test and Post-Test Scores: Self-Containment vs. Connectedness to Others



Self-Expression vs. Harmony

The main effect of the music prime condition was not significant, $F(2, 27) = 2.06$, $p = .147$, partial $\eta^2 = .133$, indicating no significant differences in the self-expression vs. harmony factor between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 27) = 0.07$, $p = .795$, partial $\eta^2 = .003$, indicating no significant differences in the self-expression vs. harmony factor between pre-test and post-test. The interaction effect was also not significant, $F(2, 27) = 0.26$, $p = .777$, partial $\eta^2 = .019$, indicating that the differences in music conditions did not influence changes in the self-expression vs. harmony factor between pre-test and post-test (see Figure R2c).

Figure R2c

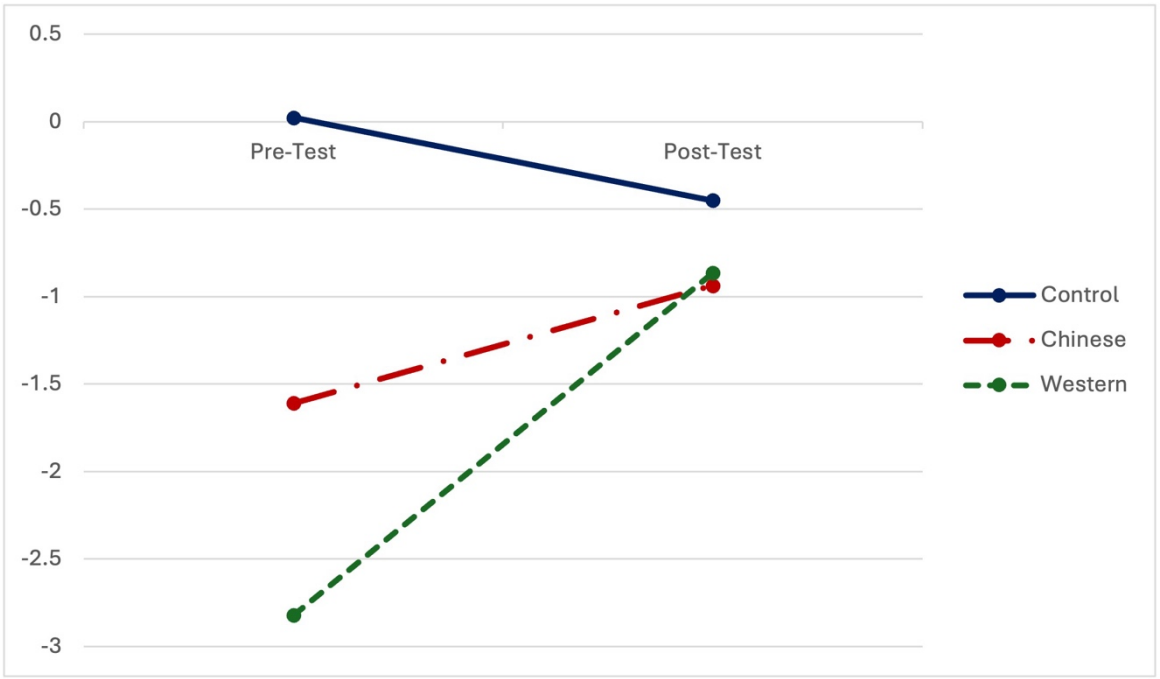
Pre-Test and Post-Test Scores: Self-Expression vs. Harmony

Decontextualized vs. contextualized Self

The main effect of the music prime condition was not significant, $F(2, 27) = 0.35$, $p = .707$, partial $\eta^2 = .025$, indicating no significant differences in the decontextualized vs. contextualized self factor between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 27) = 1.18$, $p = .287$, partial $\eta^2 = .042$, indicating no significant differences in the decontextualized vs. contextualized self factor between pre-test and post-test. The interaction effect was also not significant, $F(2, 27) = 1.12$, $p = .340$, partial $\eta^2 = .077$, indicating that the differences in music conditions did not influence changes in the decontextualized vs. contextualized factor between pre-test and post-test (see Figure R2d).

Figure R2d

Pre-Test and Post-Test Scores: decontextualized vs. contextualized Self

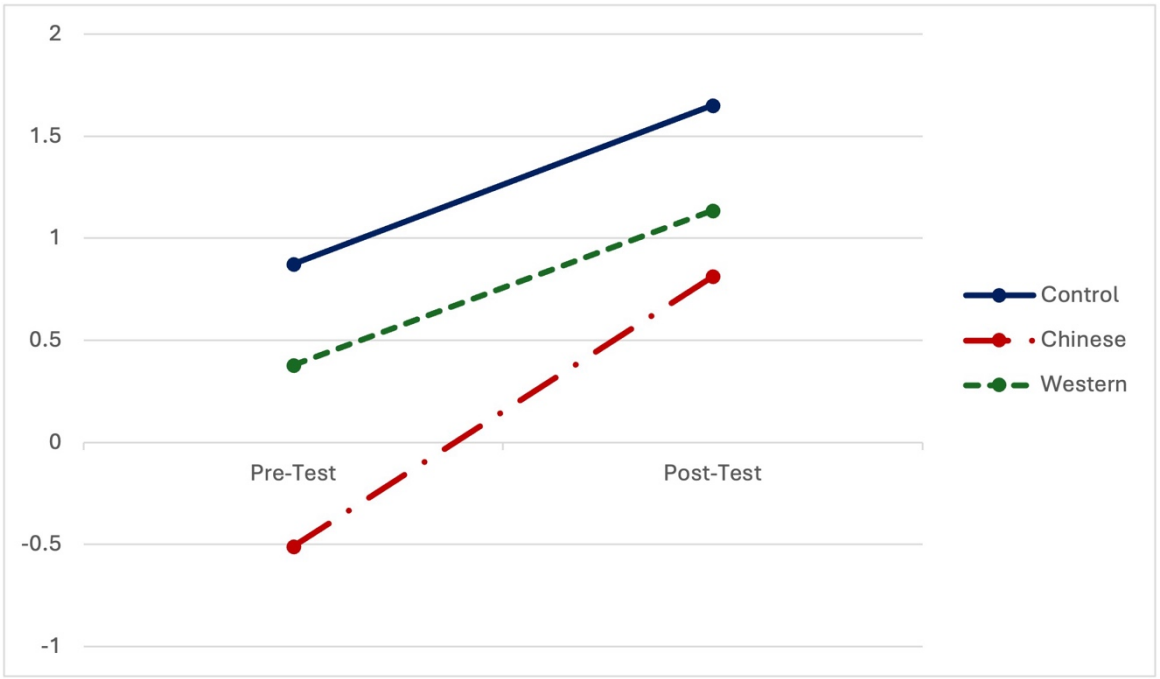


Self-Reliance vs. Dependence on Others

The main effect of the music prime condition was not significant, $F(2, 27) = 0.20$, $p = .822$, partial $\eta^2 = .014$, indicating no significant differences in the self-reliance vs. dependence on others factor between the music conditions. The main effect for the within-subjects factor was not significant, $F(1, 27) = 3.65$, $p = .067$, partial $\eta^2 = .119$, indicating no significant differences in the self-reliance vs. dependence on others factor between pre-test and post-test. The interaction effect was also not significant, $F(2, 27) = 0.14$, $p = .872$, partial $\eta^2 = .010$, indicating that the differences in music conditions did not influence changes in the self-reliance vs. dependence on others factor between pre-test and post-test (see Figure R2e).

Figure R2e

Pre-Test and Post-Test Scores: Self-Reliance vs. Dependence on Others



Appendix S

Table S1

Other-Directed Functions of Music

Theme	Description	Significant Quotes
Social entertainment	Using music actively or passively within social settings.	"It's fun the song in the car, everyone loves it when you sing it at karaoke." "While drinking coffee in the morning with my boyfriend." "To jam out in the car with my friends." "I can karaoke with my friends and family."
Reminiscing about others	Using music to evoke positive and negative memories of loved ones, shared experiences, or significant relationships.	"It strongly reminds me of the trip with my children. We shared a moment and began a memory from it." "Every time I hear this, it takes me back to a time with my soulmate and spouse of 43 years who passed away a few years ago." "This song allows me to reconnect to the singing I did at church and school assemblies."
Connecting with others	Using music to foster a sense of connection with specific people, social groups, or cultural identities.	"I listen to this as if my husband is speaking to me and the love of God I feel through him." "It makes me feel connected to both music and my heritage, both of which I have a deep love for." "I like to listen to it to connect with my significant other. We love singing this song together. It helps us bond and feel close." "I listen to this so I stay connected to the modern culture that my people believe in."
Evoking socially engaging emotions	Using music to evoke emotions that promote social bonding.	"To create a sense of belonging as the song is written about his feelings and I feel that I can connect with the emotions being expressed and feel comforted by knowing that it's ok to feel this way and I'm not the only person that feels like this sometimes." "Usually to feel comradery on days that aren't going so well." "Evokes a certain feeling of wanting to light a bonfire/campfire and dance with strangers."
Conveying social stories	Using music to communicate social, cultural, or societal narratives and stories, reflecting relationships, social groups, or broader societal issues.	"This music talks about how precious a mother is regardless of any indifference between the mother and her son." "This piece encompass the human race evolution and struggle with technology… This song makes me think deeply about these subjects, and its necessary in our era." "Music describes how the black community is neglected and used by the elites in the society. Therefore, it's an eye opener on the special difference between the elites in the society and the poor and how the elite manipulates the poor in the system."

Table S2

Self-Directed Functions of Music

Theme	Description	Significant Quotes
Entertainment	Listening to music passively for enjoyment, often in the background.	"To pass time while I'm driving or running." "I usually listen to music as I want something to listen to in the background whilst I work or drive etc." "I usually listen to his songs in the evening when I am just chilling out or doing housework."
Reminiscence	Using music to recall personal memories and past experiences, both positive and negative.	"I've listened to this song many many times and it reminds me of many moments in my life." "To reminisce about my youth and times I spent practicing and performing the piece." "To refresh my memory of such great movies in the 70s."
Self-reflection	Listening to music to reflect on one's identity, past actions, and personal growth, often serving as a form of introspection.	"It's to feel my pain or explain why I feel this way. I always cried when I hear this song because it represented me too much." "It helps me remember my past so I don't make the same mistakes." "I usually tune in to relax, gain inner peace, contemplate a situation/problem, find myself. I often listen in order to tune out others." "I listen to this music to reinforce things in my life, choices that I have made and the knowledge that I made myself this way."
Emotion evocation	Using music to evoke a wide array of emotions, including both positive and negative feelings.	"I listen to this music to evoke emotions. It makes me feel happy." "When I am sad and down to evoke negative emotions." "It's a great song to get you going and evokes a sense of freedom and fierceness. I feel empowered and strong listening to it." "It also helps me evoke sadness (a feeling I tend to default to) when I'm feeling very empty."
Regulation	Using music to manage and regulate emotions.	"When I'm upset or frustrated, I'd listen to this song to make me feel happy because it reminds me of how this movie has a happy ending." "To catch my breath (or have it taken), to feel all my stresses disappear." "I usually listen to this song when I am in a bad mood as it is a nice piece to use as a way to let out my frustration." "It's therapeutic listening to this song while observing the hectic and chaotic world we live in."
Motivation	Using music to boost energy, focus, or drive for completing tasks.	"I listen to this music when I need inspiration." "Boost my mood, provide motivation, and increase willingness to complete tasks." "It kind of gets me amped up and prepared for what is ahead of me."

Appreciation	Enjoying music for its artistic qualities, composition, and performance, focusing on the craft and technical skill of the music.	"I like how much dread and awe is expressed in this music and how it builds up step by step. It's something I really appreciate." "I love listening to this song to appreciate it and to appreciate the lyrics in particular." "Simply to appreciate the song itself, it's meaning and composition and how I genuinely do love the song." "It showcases Elton John's voice and piano skills very well. I love the melody and the lyrics."
Education or work	Using music for educational purposes and/or professional work.	"For tuning my sound equipments." "I'm a Japanese music blogger." "To analyze the instrumental approaches." "I listen to this piece of music to practice the guitar or drums to." "Practice my pronunciation."
Self-expression	Using music as a creative outlet for personal expression.	"I listen to this song when I want to sing along to something because it is one of my favourite songs to sing to." "I listen to this a lot of time to put me in the right mood for writing my own music, as I like the tone of it, the instruments used, and it inspires me to be creative." "It makes me feel like I can actually sing the song when I indeed cannot."
Transpersonal	Using music to transport oneself to different physical, emotional, or spiritual realms.	"It gives me the opportunity to explore and briefly immerse myself in the spiritual world of the self." "Pretend I am a drag queen lipsyncing for my life on RuPaul's drag race." "It feels dreamy, allows me to relax and imagine that I'm somewhere else." "Able to be transported to another place just by listening to lyrics, and imagine being there."