

Research Article

A Cross-cultural Comparison of Chinese and Western Listeners' Expectation of Musical Emotions in Different Daily Scenes: Happiness, Sadness, and Anger

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Abstract

This study investigated the cultural background effect on the expected emotional intensity of listeners in music for 3 basic emotions (happiness, sadness, anger) and 10 daily listening scenes. 127 subjects received a fully factorial questionnaire (2 [Culture: Chinese vs. Western] \times 3 [Emotion] \times 10 [Scene]). A significant Culture \times Emotion \times Scene interaction indicated that cultural difference manifests in specific emotion-scene pairs. The subsequent analyses indicated that Western listeners rated happiness more than Chinese listeners in move, social activity, housework, and party scenes, and rated anger more than Chinese listeners in exercise and coping with emotion scenes. Secondary two-way analyses also once more confirmed Western participants consistently anticipating more anger and happiness intensity than Chinese participants, with no group differences in sadness—highlighting cross-cultural universality in sad music experience. Culture \times Scene analysis also identified stronger emotional expectations in Western listeners in move, study/work, exercise, coping with emotion, and pure music listening scenes. Overall, Westerners are more likely to anticipate high-arousal or functional states, i.e., strong emotions, while sadness elicits comparable expectations across both cultures. These findings demonstrate cross-cultural music-emotion theory by revealing conditional modulation of emotional expectations by culture. Follow-up research could employ actual musical pieces in conjunction with physiological or psychological measures to deconstruct the mechanisms of the culture-emotion-scene interactions.

Keywords

Music, Emotional Expectation, Cross-culture, Emotion, Listening Scenes

1. Introduction

Music serves as a powerful medium for intercultural emotional expression, functioning as both an art form and a source of emotional stimulation across history and media. Studies have shown that listeners of different cultural backgrounds may show similar trends in certain physiological responses or subjective arousal levels. For example, when

listening to high awakening music, physiological indicators such as heart rate and skin conductivity generally rise (Egermann et al., 2015) [1]. However, their specific interpretations of emotional types and emotional valence in music often have differences, especially in real life scenes (Celen, E. 2025) [2]. These studies show that musical emotional

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expectation is not a process independently driven by music ontology, but a process influenced by multiple interactions in culture, scene and individual experience. To understand this complex process more systematically, Juslin and Västfjäll (2008) proposed the BRECVEMA model, a theory of emotion mechanisms widely adopted in the field of music psychology [3]. The model integrates eight psychological paths for music to trigger emotions, including brainstem reflex, rhythm synchronization, emotional infection, evaluation conditioning, episodic memory, visual imagery, music expectation and aesthetic judgment, emphasizing that emotional experience originates from the interaction between music attributes and listeners' subjective experience. Although this model has not been uniformly applied to all cross-cultural research, but subsequent studies have provided indirect support for this multi-mechanism model by showing that in daily life, emotional responses to music often arise through specific psychological pathways such as emotional contagion and episodic memory, depending on the listener's goals and the listening scenes (Liljeström et al., 2013) [4]. On this basis, Barradas (2017) also confirmed that although the correlation and activation degree of different mechanisms vary among different cultures [5]. The overall framework of the BRECVEMA model still has wide applicability among multicultural populations. For example, Western listeners are more likely to rely on the "music expectation" mechanism, while East Asian listeners show stronger emotional responses in mechanisms such as "situational memory" or "aesthetic judgment" shaped by culture. This cross-cultural tunability suggests that the BRECVEMA model provides a promising theoretical structure for exploring how different groups perceive and experience musical emotions in real life scenes. Based on the above theoretical and empirical background, this study aims to further examine the differences in musical emotional responses among Chinese and Western listeners, focusing specifically on cross-cultural differences in the expectation of three basic emotions — happiness, sadness, and anger in a variety of listening scenes such as social, housework, exercise and emotional regulation.

1.1. Cultural Differences

The expectation of musical emotions is not only dependent on its acoustic characteristics, but is also significantly influenced by the audience's cultural background. Juslin, P. N. (2012) pointed out that although some musical cues such as tempo and loudness may lead to a certain degree of cross-cultural similarity, the diversity of musical surface features and the complexity of emotional expression show that emotional responses in different cultures are not constant [6]. For example, minor keys are often associated with sadness in Western music, but in other musical traditions, this association may not necessarily hold. This difference highlights the role of cultural learning and exposure experience

in shaping musical emotional responses. In comparison between Chinese and Western cultures, musical emotional expectations show obvious differences. Research has found that Chinese listeners are usually more sensitive to emotions such as happiness and sadness, while Western listeners have a higher ability to recognize fear-like emotions (Lyu & Egermann, 2024) [7]. Li, M (2025)'s recent research results further support this cross-cultural difference, they demonstrate that Western listeners exhibit significantly higher accuracy and perceived intensity in identifying happiness and sadness in Western classical music compared to traditional Chinese music [8]. Instead, they show higher sensitivity to excitement when listening to Chinese music. These results show that emotional perception in music is not only regulated by the structural characteristics of the music itself, but also influenced by cultural familiarity. This cultural bias emphasizes the importance of considering both universal and specificity in intercultural music perception research. In addition, the norms of emotional expression by different cultures will also indirectly affect the way musical emotions are perceived. Matsumoto (1990) pointed out that different cultures use "emotional expression rules" to specify which emotions are suitable for expression, and this norm can lead to differences in the expression and perception of emotions [9]. Safdar et al. (2009) further illustrates that culture can influence the intensity and suitability of emotional expression in different contexts and communication modes [10]. Although the research object is interpersonal emotional expression, the differences in cultural norms reflected are of great significance to the study of interpreting cross-cultural musical emotions.

1.2. Listening Scenes

The listening scenes in which music is located plays another key role in shaping the audience's emotional responses. Situational characteristics such as the current activities of the listener, where he is located, and social environment will significantly affect how people perceive music and the types of emotions that music triggers. Egermann et al. (2011) found that listening to music in a social scene triggers different physiological and psychological emotional responses than listening alone [11]. Schäfer et al. (2013) further found that the function of music listening is often closely related to the listener's current needs and scenes [12]. Taking these findings into account the inclusion of contextual variables in the study is crucial to understanding the interaction between music and emotions. Boer and Abubakar (2014) revealed that in different cultures, family and peers' music listening scenes not only regulate emotional intensity, but also affect social and emotional connections [13]. Greb et al. (2018) further confirmed that scenario factors are more explanatory in predicting the purpose of music use compared to individual characteristics, indicating that scenes should be valued in musical sentiment research [14]. Based on these

findings, this study adopted a contextual classification studied by Greb et al. (2018), whose questionnaire allowed participants to describe self-selected, ecologically effective environments, such as listening while doing housework, exercising, socializing, or coping with emotions, rather than relying on categories defined or artificially designed by the experimenter [14]. This design is consistent with the research objectives in two key aspects: first, it captures a high degree of ecological validity by expressing common, spontaneous music participation scenes; second, it enables us to examine how different individuals respond to music differ in scenes of cultural significance and psychological differences.

1.3. Basic Emotions

The three basic emotions that this study focuses on - happiness, sadness and anger - have important theoretical representation and practical research value in musical emotions research. They not only appear frequently in daily music experiences, but are often used as a typical emotion category widely used in musical emotion research. According to the circumplex model of affect proposed by Russell (1980), these three emotions are usually positioned on three typical combinations of dimensions: happiness (pleasant and high arousal), sadness (unpleasant and low arousal), and anger (unpleasant but high arousal), providing a theoretical basis for comparing the differences in expectations of different cultures for emotional nature and intensity [15]. In addition, these three emotions usually have relatively clear acoustic expression characteristics in music. For example, happy music is often manifested as fast rhythm and major structure, sad music is mostly used for slow rhythm and minor keys, while angry music often has strong rhythmic impact and dynamic contrast. Studies have shown that these clear acoustic features tend to show relatively consistent expression trends in different cultures (e.g., Balkwill & Thompson, 1999) [16], providing structurally stable emotional cues for cross-cultural comparisons; but at the same time, listeners in different cultural contexts may form differentiated expectations of the emotional meanings conveyed by these cues based on their respective social-emotion norms and emotional preferences (Susino & Schubert, 2019) [17]. Therefore, these three emotions not only provide a clear logical starting point, but also constitute a key analytical framework for comparing the differences in emotional expectations among Chinese and Western listeners. This study does not presuppose that these emotions have a completely consistent way of understanding in different cultures; on the contrary, the study uses its clear structure and clear theoretical characteristics as the entry point for observing cultural differences. By comparing the expectations of these three types of musical emotions in various life scenes of Chinese and Western listeners, it further explores how cultural background affects people's understanding and expectations

of musical emotions.

1.4. Research Purpose

This study aims to explore how cultural background and listening scenes interact to influence listeners' expectation of basic emotions in music. Specifically, the research focuses on the following two issues: (1) Are there any differences in the expectation of musical emotions among listeners from different cultural backgrounds in different listening scenes? (2) Are there some "emotion \times scene" combinations more likely to have significant differences in cultural expectation? The results of the study show that cultural differences are not prevalent in all emotions and scenes, but are concentrated in certain combinations, such as the expectation of happiness in social scenes. This study deepens the understanding of how musical emotional meaning is constructed by cultural context and realistic listening scenes. By revealing the interweaving relationship between "universality" and "cultural particularity" in musical emotional expectation, research provides theoretical support for the fields of music education, music therapy and cross-cultural communication, and emphasizes that when studying musical emotional response, the importance of both culture and scenario variables must be considered at the same time.

2. Materials and Methods

2.1. Participants

A total of 127 participants took part in the study, including 63 Chinese and 64 Western individuals. The Western group was defined based on participants' national affiliation with countries commonly categorized as part of the Western cultural sphere, including the United Kingdom, United States, Australia, France, and Poland (Inglehart & Welzel, 2005) [18]. The sample consisted of 75 females (54.7%), including 36 Chinese and 39 Western participants; 56 males (40.9%), including 26 Chinese and 30 Western participants; and 4 non-binary individuals, comprising 1 Chinese and 3 Western participants. Two individuals preferred not to disclose their gender. Participants were primarily undergraduate or graduate students recruited via social media and snowball sampling coordinated by the research team. The age range was 18-43 years ($M = 23.0$, $SD = 3.89$), and all participants reported having normal hearing and no known neurological or psychiatric conditions. Regarding musical background, 32.1% of participants had never received any form of music training, while 67.9% had some level of musical experience. Among those with training, 22.6% had received more than six years of formal instruction. Informed consent was obtained prior to participation, and ethical approval was granted by the Ethics Committee at the University of Sheffield (Supplementary Material 1).

2.2. Materials

A self-developed questionnaire was administered online to measure participants' expectations of the emotional appropriateness of different music types in daily listening scenes, requiring approximately 8 minutes to complete.

The questionnaire comprised 10 items in total, including background demographics and emotion-scene rating items. The first section collected participant information including gender, age, nationality, cultural identity (Chinese, Western, or bicultural), and musical training experience (e.g., no training, self-taught, or years of formal instruction).

Each item followed a fixed sentence structure presented in plain English: "How appropriate is [emotion] music for [scene]?" The second section consisted of 30 rating items created through a full factorial combination of three core emotional categories—happy, sad, and angry—and ten common listening scenarios: being on the move, working/studying, relaxing/falling asleep, exercising, party, coping with emotions, social activity, housework, making music, and pure music listening.

These ten scenes were adapted from the ecologically grounded classification proposed by Greb et al. (2018) [14], who identified 11 typical music listening scenes based on open-ended responses from a large sample ($N = 1,761$). In the present study, the "Other" category was excluded, resulting in ten fixed scenes.

For each item, participants rated how appropriate they preferred a particular emotional music type to be in a given scene, using a 7-point Likert scale (1 = Strongly dislike, 7 = Strongly like). They were instructed to make their ratings based on their internal representations and culturally shaped associations with each emotional music type. A complete version of the questionnaire is provided in Supplementary Material 2.

2.3. Procedure

Participants accessed the survey via a secure online link and were first presented with an information sheet and informed consent. And then, they filled out the questionnaire. The results will be uploaded automatically.

2.4. Data Analysis

All statistical analyses were conducted using Jamovi (2.6.26). A three-way repeated-measures ANOVA was performed with Culture (Chinese vs. Western) as a between-subjects factor and Emotion (happy, sad, angry) and Scene (10 scenes) as within-subjects factors. This model was used to examine main effects and two-way and three-way interactions on perceived emotional appropriateness. Prior to conducting repeated-measures ANOVA, Mauchly's test of sphericity was applied to all within-subject factors. The results revealed violations of the sphericity assumption for

emotion, scene, and the emotion \times scene interaction (all $ps < .05$). Therefore, degrees of freedom were corrected using the Greenhouse-Geisser epsilon values for these factors to ensure the robustness of the F-tests.

3. Results

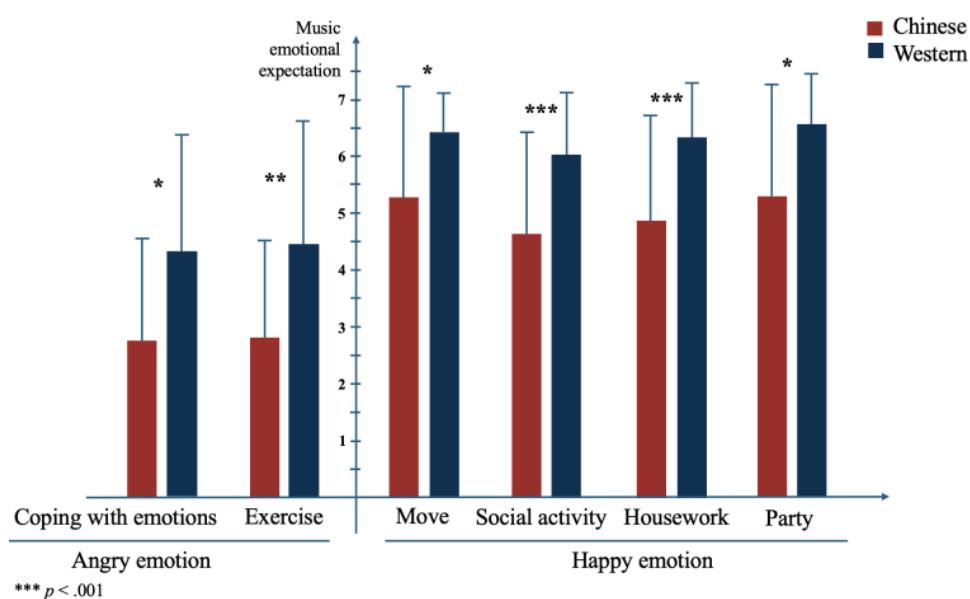
Repeated-measure ANOVA on a 2 (culture) \times 3 (emotion) \times 10 (listening scenes) model was conducted to examine the participants' music emotion perception. Mauchly's test indicated violations of sphericity for Emotion ($W = .93286$, $p = .013$, $\epsilon_{GG} = .937$), Scene ($W = .25602$, $p < .001$, $\epsilon_{GG} = .752$), and the interaction ($W = .00575$, $p < .001$, $\epsilon_{GG} = .562$). Accordingly, all within - subject effects were adjusted using Greenhouse-Geisser ϵ . The results showed (see Table 1) that the main effect of culture was significant, $F(1, 125) = 19.80$, $p < 0.001$, $\eta_p^2 = 0.137$; the main effect of emotion was significant, $F(1.87, 234.25) = 104.04$, $p < 0.001$, $\eta_p^2 = 0.454$; the main effect of listening scenes was significant, $F(6.77, 845.00) = 25.48$, $p < 0.001$, $\eta_p^2 = 0.169$; the interaction effect of culture and emotion was significant, $F(1.87, 234.25) = 44.60$, $p = 0.05$, $\eta_p^2 = 0.024$; the interaction effect of culture and listening scenes was significant, $F(6.77, 845.00) = 5.46$, $p < 0.001$, $\eta_p^2 = 0.042$; the interaction effect of emotion and listening scenes was significant, $F(10.12, 1264.50) = 41.87$, $p < 0.001$, $\eta_p^2 = 0.251$; the third-order interaction for culture, emotion and listening scenes was significant, $F(10.12, 1264.50) = 10.14$, $p < 0.001$, $\eta_p^2 = 0.075$;

Pairwise comparisons revealed significant cultural differences in happiness ratings across multiple daily listening scenes (see Figure 1). In the *move* scene, Western participants reported higher happiness ($M = 6.42$, $SD = 0.66$) than Chinese participants ($M = 5.27$, $SD = 1.94$). In the *social activity* scene, Western participants reported higher happiness ($M = 6.06$, $SD = 1.10$) than Chinese participants ($M = 4.63$, $SD = 1.79$). In the *housework* scene, Western participants reported higher happiness ($M = 6.31$, $SD = 0.99$) than Chinese participants ($M = 4.87$, $SD = 1.90$). In the *party* scene, Western participants reported higher happiness ($M = 6.55$, $SD = 0.93$) than Chinese participants ($M = 5.29$, $SD = 1.97$). In all cases, Western participants rated happiness significantly higher than their Chinese counterparts (all $ps < .05$).

For anger, significant group differences were also observed. In the coping with emotions scene, Western participants reported higher anger ($M = 4.30$, $SD = 2.06$) than Chinese participants ($M = 2.73$, $SD = 1.66$). In the exercise scene, Western participants reported higher anger ($M = 4.47$, $SD = 2.16$) than Chinese participants ($M = 2.79$, $SD = 1.73$). No significant cultural differences were observed in sadness ratings across any scene.

Table 1. Summary of ANOVA results for main effects and interactions on music emotional expectation.

Effect	df	F	p	η_p^2
Culture	1.00,125.00	19.80	< 0.001	0.137
Emotion	1.87,234.25	104.04	< 0.001	0.454
Listening Scenes	6.77,845.00	25.48	< 0.001	0.169
Culture * Emotion	1.87,234.25	2.60	0.051	0.024
Culture * Listing Scenes	6.77,845.00	5.46	< 0.001	0.420
Emotion * Listing Scene	10.12,1264.50	41.87	< 0.001	0.251
Culture * Emotion * Listing Scenes	10.12,1264.50	10.14	< 0.001	0.075

**Figure 1.** Cultural differences in emotional expectations across music listening scenes.

To further examine overall cultural differences across emotional and contextual dimensions, two two-way ANOVAs were conducted: one with Culture \times Emotion, and another with Culture \times Scene, averaging across the other factor.

A significant interaction between culture and emotion was observed, $F(1.87, 234.25) = 3.02, p = .051, \eta^2 = .024$, indicating that group differences varied across emotional categories (see Figure 2). Pairwise comparisons revealed that for happiness, Western participants ($M = 5.68, SD = 1.44$) scored significantly higher than Chinese participants ($M = 4.70, SD = 1.92$); for anger, Western participants ($M = 3.47, SD = 1.96$) also rated higher than their Chinese counterparts ($M = 2.53, SD = 1.57$). No significant group difference was found in sadness ratings. This pattern is consistent with the

results found in the three-way interaction analysis.

The Culture \times Scene interaction was also significant, $F(6.77, 845.00) = 5.46, p < .001, \eta^2 = .042$. Pairwise comparisons revealed that cultural differences were most pronounced in the following scenes: *Move* (Chinese: $M = 3.90, SD = 2.15$; Western: $M = 5.07, SD = 1.92$), *Working and study* (Chinese: $M = 3.15, SD = 1.93$; Western: $M = 4.27, SD = 1.92$), *Exercise* (Chinese: $M = 3.71, SD = 2.06$; Western: $M = 4.51, SD = 2.51$), *Coping with emotions* (Chinese: $M = 3.82, SD = 1.97$; Western: $M = 4.74, SD = 1.91$), and *Pure music* (Chinese: $M = 3.81, SD = 1.94$; Western: $M = 4.91, SD = 1.84$). In each case, Western participants reported significantly higher emotional expectations than Chinese participants (all $ps < .01$).

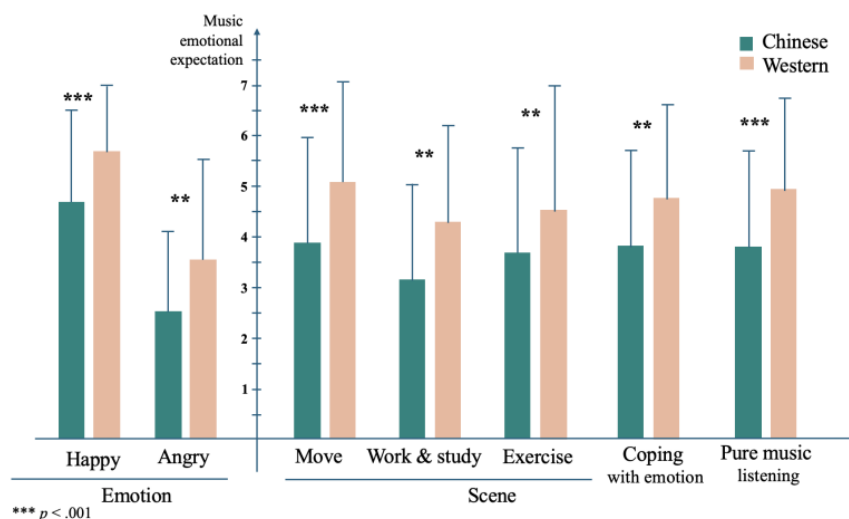


Figure 2. Cultural differences in emotional expectations across emotions and scenes.

4. Discussion

This study aimed to explore how cultural backgrounds shape listeners' emotional expectations in music across different daily scenes, focusing on three core emotions—happiness, sadness, and anger. A 2 (culture) \times 3 (emotion) \times 10 (scene) repeated-measures ANOVA was conducted to examine both simple and interactive effects. The results revealed not only robust main effects of culture, emotion, and scene, but also significant interactions, including a three-way interaction among culture, emotion, and scene. This suggests that music's emotional expectations rely on an intricate balance between cultural convention and the particular emotional and contextual needs of a situation. Notably, Western listeners showed much greater expectation of happiness and anger across various listening scenes, with no cultural difference found in the comprehension of sadness. These patterns were especially pronounced in social interaction, emotional control, and bodily exertion situations, which highlighted the culturally situated characteristics of musical emotional expectancies. The findings necessitate closer examination of how cultural norms, emotion regulation norms, and daily musical practices can act together to shape listeners' emotional expectancies in specific scenes.

This research reveals a main effect of cultural influence to be significant, whereby Western listeners consistently discovered greater emotional expectancy ratings in making judgments about music, irrespective of the category of emotion or particular daily scene. This result is consistent with previous research. For example, Tsai (2007) revealed that Western cultures value freedom for the individual and the expression of emotions, which leads individuals to pursue, express, and engage in high-arousal emotional experiences actively [19]. The inclination towards a "high-arousal emotion culture" has the potential to establish increased

motivations for the control of emotions within daily life, hence elevating the expectations of the emotional support and responsiveness that music may provide. That is, emotional expectancy is not built in isolation, but rather is placed in a culturally fashioned "structure of emotional needs." The roles anticipated of music emphasize the way in which culturally founded emotional values are translated into tangible approaches employed on a daily basis.

In Western cultures, music is not just an aesthetic commodity but also a readily available resource to be utilized for emotional management. It has been indicated through past studies that individuals in the West use music in daily life as a way of regulating mood, managing stress, and creating social connections (Lonsdale & North, 2011; Saarikallio, 2011) [20, 21]. It is this well-defined emotional function that generates strong emotional expectation for music. In this view, the emotional utility of music and the motivation for its use are not autonomous phenomena but constitute a culturally embedded function-expectancy complex. Conversely, East Asian cultural models prefer the overall harmony of emotions, with the implication that individual emotional expression ought to be directed towards creating group cohesion as opposed to prioritizing individual needs (Ip et al., 2020) [22]. This cultural perspective does not represent a lack of necessity for control of emotions, but instead reflects a desire for internalized, self-directed approaches (Kwon et al., 2013) [23]. In terms of music consumption, the Chinese exhibit a greater tendency to consume music in a passive manner, very often as background noise or as accompaniment to some other activity, such as work or transportation, but not necessarily looking for a change in emotional state through musical engagement. As such, when "emotional expectancy toward music" is measured using questionnaires, East Asian subjects will have lower scores on explicit regulatory intention measures. Note that this kind of primary cultural influence does not reflect perceptual ability differences, contrary to the distinction in socially constructed

music functions. As opposed to the Western cultures, which are prone to assigning emotional and functional significance to music, the Eastern cultures appear to integrate it more naturally into the daily life scene. These varying functions are a signature of the work of culture in interpreting music and the emotional value attached to it.

The first cultural difference provides the groundwork for the more intricate analyses of interactions to follow. The subsequent discussions concentrate on how cultural background continues to influence individuals' emotional expectations of music on various emotional continua (e.g., happiness and anger) and in various daily life situations. The step-by-step analysis endeavors to enhance knowledge of the cultural motivational structures behind emotional expectations of music.

4.1. Happiness

Results from the three-way interaction revealed significant cultural differences in the happiness dimension across several daily life scenes, specifically including on the move, social activity, housework, and party. In these scenes, Western participants consistently reported higher emotional expectancy ratings for happiness-related music compared to Chinese participants. This translates to Western listeners being more likely to pursue positive emotional experiences through music in such settings. Though they vary in their overt manifestations, these scenes have one thing in common: they all describe moderately stimulating habitual scenes where the dominant function of music is to complement, provide atmosphere, and add emotional resonance. For instance, while traveling or walking, music helps people cope with feelings of isolation and quietness; when doing chores, it dispels boredom and heightens enjoyment; and in socializing or partying, it is often used to elevate moods and facilitate interaction. In such situations that have "low-intensity emotional scenes," people are not typically experiencing intense emotional pain, but are instead in an open state where positive emotional experience can be enhanced by outside stimuli. As a result, the expectation of happiness becomes the major emotional goal.

The emotional expectation cultural diversity that was found is closely intertwined with contrasting preferences for "ideal affect" between cultures. As hypothesized in Tsai's (2007) affect valuation theory, Western cultures cherish high-arousal positive states of joy, excitement, and enthusiasm and consider these emotional experiences as the optimal psychological consequences, which represent vitality, autonomy, and well-being [19]. As a result, individuals in Western cultures are more likely to actively promote or maintain some feelings in their daily life, and music is an essential means of promoting this goal. This focus on emotional ends creates high expectation regarding the effect activation potential of music. Chinese culture is more likely to explain the ideal effect in terms of low-arousal and emo-

tionally stable conditions denoted by serenity, satisfaction, and harmony. Emotion regulation is then not so much a task aimed at increasing emotional intensity, but more a process of ensuring internal stability and avoiding emotional excess. Under these cultural circumstances, music is less likely to be used as a direct stimulus for eliciting enhanced positive experience, and more likely to assume a supporting or moderating function in emotion regulation. Thus, while Chinese listeners experience music in the same daily scenes, the prevailing motive is one of stabilization, not intensification, of emotions. Accordingly, they register lower levels of happiness-related emotional expectancy in survey measures. One should note that this relatively "lower" expectancy is not to be interpreted as an indication of reduced musical efficacy but as a reflection of cultural variation in the conceptualization and prioritization of music's function. Moreover, the Western cultural focus on extroversion, socializing, and self-disclosure enhances the public or semi-public valuation of happiness. In social settings such as parties, urban space, or collective gatherings, music is not only used for individual emotion management but is also frequently employed as a means to establish a general emotional ambiance. Music has been described by research as an "emotional transmission device" in Western societies with the potential to transmit good messages and bring about emotional responses in shared settings (North & Hargreaves, 2008) [24]. From this socio-behavioral cultural background, individuals have high expectations regarding music's capability to produce happiness in such ordinary scenes.

In summary, the cultural differences observed in the happiness dimension reflect distinct emphases on the emotional functions of music across cultural contexts. Western cultures tend to perceive music as a tool for emotional activation, whereas Eastern cultures are more inclined to view it as a means of emotional stabilization. This divergence does not stem from inherent properties of music itself, but rather from culturally constructed models of emotional value. The degree to which happiness is expected in daily life is continually reinforced within these culturally shaped affective frameworks.

4.2. Anger

In the anger dimension, the three-way interaction revealed pronounced cultural differences primarily in two specific scenes: coping with emotions and exercise. In both scenes, Western participants reported significantly higher emotional expectancy scores for anger-related music compared to their Chinese counterparts. This finding suggests that when dealing with emotional turbulence or physiological arousal, Western listeners are more inclined to use music as a means to evoke, express, or channel anger, with the goal of emotional regulation or catharsis.

Although these two scenes differ in their external behaviors, they share a common feature: individuals are in a state of high

arousal, emotional instability, or psychological stress activation. In the exercise scene, listeners often require intense and powerful music to maintain bodily rhythm, enhance motivation, or push through physical fatigue. In such cases, anger-related music—with its strong rhythm and high emotional intensity—closely aligns with the need for heightened arousal. Prior research has identified “energizing” as one of the core functional uses of music (Saarikallio, 2011) [21], with aggressive and high-intensity music playing a central role in fulfilling this function.

In the coping with emotions scene, individuals typically face some form of emotional distress or internal conflict. In Western cultures, anger is not only seen as an acceptable way of emotional expression but is actually accorded regulatory status. For instance, in the case of stress, frustration, or helplessness situations, the arousal or resonance with anger facilitated by music can be a source of “vicarious catharsis.” This culturally guided emotional externalization process promotes the tendency to externalize emotions and engage with external media as vehicles for emotional release, allowing psychological self-regulation (Koole & Tschacher, 2016) [25]. Therefore, in conflict situations such as these, Western listeners anticipate more from the anger-inducing role of music.

By contrast, Chinese culture has long been shaped by social norms of emotional restraint and harmony prioritization, particularly when it comes to expressing negative emotions (Matsumoto, 1990; Wierzbicka, 1999) [9, 26]. Within this cultural framework, anger is typically viewed as a relationship-threatening, conflict-inducing emotion and is therefore discouraged in overt expression. Individuals are more likely to regulate such emotions through suppression, neutralization, or downplaying strategies (Butler et al., 2007) [27]. As a result, even in scenes like exercise or emotional coping, Chinese listeners may prefer soothing music to restore emotional balance rather than intense music to reinforce anger.

It is important to note, however, that cultural differences in expectations for anger were no longer apparent in every scene. This phenomenon may be closely tied to functional specificity and social acceptability in the emotion of anger. Anger does not have a well-defined functional goal in many situations in daily life and can be viewed as an inappropriate emotion. Because of this, cultural differences in expectations are more readily apparent mostly only in scenes that openly permit or invite the expression of high-arousal emotion.

Therefore, the cultural differences observed in the anger dimension reflect not only divergent norms of emotional expression but also culturally specific functional attributions of music in high-tension contexts. Western cultures, by assigning music a cathartic and activating role, integrate anger into the anticipated emotional experience of music. In contrast, Eastern cultures place greater emphasis on emotional harmony and containment, thereby marginalizing the functional expectancy of anger in musical contexts. These contrasting cultural attitudes toward the instrumentalization of

negative emotions are central to the cross-cultural differences in anger expectancy identified in this study.

4.3. Sadness

In the three-way interaction analysis conducted in this study, the sadness dimension did not exhibit significant cultural differences across various daily life contexts. Although this result lacks statistical significance, it may nonetheless suggest the presence of a cross-cultural commonality in how music relates to sadness. This potential universality may be attributed both to the inherent emotional characteristics of sadness and to the functional role music plays in emotional regulation.

First, sadness has long been regarded as having a unique emotional affinity with music. Regardless of cultural background, individuals experiencing loss, loneliness, or emotional downturns often voluntarily choose to listen to music with a melancholic tone. For example, Chinese listeners frequently seek sentimental songs in scenarios related to breakups, nostalgia, or pressure as a means of emotional expression. Likewise, individuals in Western cultures use sad music as an emotional expression and mood regulation tool when they are grieving (Vuoskoski & Eerola, 2017) [28]. The common inclination indicates that sad music, as an empathic tool for emotional regulation, is highly culturally adaptable and universal. Its use is quite consistent across cultures. Previous studies have shown that music of a melancholic nature not only generates sadness but, more importantly, induces positive experiences during negative emotions, such as feelings of being understood, emotional resonance, and psychological relief (Larsen & Stastny, 2011) [29]. This observation explains why people who are sad are drawn to gloomy music—not to worsen their negative mood, but to achieve emotional validation, transformation, and reconciliation within a safe musical context. This complex psychological mechanism might be the underlying reason for both Western and Eastern listeners to have similarly high degrees of emotional expectancy when listening to music that is sad.

Moreover, it is important to note that most of the scenes included in this study—such as exercise, socializing, work, and housework—are not prototypical domains for the experience or expression of sadness. These daily activities do not normally call for or induce sorrow. The most common roles of music in these scenes are usually linked with energization, companionship, or atmosphere manipulation, but not with emotional expression facilitation. As it is, though various individuals from different cultures may share the same opinion regarding melancholic music, their expectation for sorrow-associated melodies in such incongruent settings is basically lowered, thereby restricting the development of substantial cultural variation.

In summary, the absence of significant cultural differences in the sadness dimension does not imply that music has lost

its emotional regulatory function. Rather, it reflects a potential cross-cultural consistency in the mechanisms by which music regulates sadness. Music may, to some extent, neutralize or override culturally embedded differences in the perception of sadness, leading to convergence at the level of emotional regulation and expectancy. This finding offers valuable insights for future cross-cultural applications of music in psychological interventions and emotional therapy: rather than focusing primarily on the listener's cultural background, it may be more effective to consider the emotional type, intensity, and regulatory intent conveyed by the music itself.

4.4. Theoretical Contributions

This study provides a new theoretical perspective for the field of intercultural musical emotional expectation by constructing an interactive structure model that simultaneously considers “emotion type \times listening scene \times cultural background”. Previous studies have often used “culture” as the main effect variable or moderating variable to deal with emotional identification differences (such as: Balkwill & Thompson, 1999; Fritz et al., 2009) [16, 30], or examine the functions and scenes of music use alone (such as: Schäfer et al., 2013; Greb et al., 2018) [12, 14], without systematically combining emotions, scenes and culture in a structure for analysis. This study breaks the design limitations of the univariate or two-factor framework and proposes a three-factor interaction model to make the musical mood expectation research closer to the real scene and more culturally sensitive. Importantly, the findings show that cultural differences are not universal across all emotion dimensions, but are concentrated in the combination of high arousal emotions (e.g., happiness vs. anger) and high activation scenes (e.g., social, exercise, emotion regulation). This finding supports and extends Tsai et al.'s (2006) [31] Affect Valuation Theory, which suggests that cultural emotional norms do not operate at all times, but rather are conditionally activated when both emotional and scenario cues are congruent with cultural preferences. In contrast, for low arousal emotions such as sadness, there were fewer differences in ratings between cultures, suggesting that arousal may play a more critical role than the valence dimension in cultural regulatory mechanisms.

4.5. Practical Implications

The findings of this study provide several practical implications for the design of music application in cross-cultural context. First, in music recommendation systems for emotional regulation or activity-oriented playback scenes, cultural adaptation is particularly critical when it comes to high arousal emotional content. The research shows that in high-activation situations such as exercise or social, Western listeners showed significantly higher emo-

tional matching scores for music related to high arousal emotions such as happiness and anger, compared with the overall lower scores for Chinese listeners. Therefore, recommendation algorithms for Western users can prioritize music with high arousal, fast tempo, and major key structure, while for Chinese users, it is more appropriate to adopt a cautious and diversified recommendation strategy, such as introducing neutral or low arousal music, and providing contextual selection cues rather than fixed playlists, to enhance acceptance and fit. Zangerle, E., Pichl, M., & Schedl, M. (2020) [32] also proposed to combine users' music preferences with cultural background to improve the performance of music recommendation systems. In the field of music therapy, there is a remarkable consistency in the pattern of bodily sensations that listeners experience when listening to sad music, even when there are differences in cultural contexts, and sad music consistently induces similar subjective and physiological responses in both Western and Chinese cultures (Putkinen et al., 2024) [33]. Given that grief shows small perceived differences among cultures, it can serve as a safe and effective intervention option to guide emotional catharsis, inspire empathy, or promote self-reflection. For example, using sad music in scenes such as tranquil care or grief support can help avoid disruptions caused by differences in cultural and emotional norms. Finally, in the functional design of music platforms or therapy tools, cultural adaptation logic can be integrated into the playlist generation module, especially in high activation scenes such as "party", "sports" or "emotional coping". By embedding the user's cultural preferences and awakening level, emotional resonance and user satisfaction can be further improved.

4.6. Limitations and Future Directions

Although this study has systematically revealed the three-way Culture-Emotion-Scene interaction effects, its ecological validity and methodology can be further enhanced.

First, all questionnaire items were presented in a fixed matrix order, with participants rating each emotion across ten listening scenes. While this structure ensured clarity and efficiency, it may have introduced subtle positional effects related to the sequential arrangement of scenes. For example, participants' ratings for later scenes could have been unconsciously influenced by prior responses within the same matrix row, potentially leading to response anchoring or contrast effects. This is particularly relevant in scenes that are emotionally adjacent or socially related (e.g., party vs. social activity). Future research can try to make local order adjustment without affecting the operability of the questionnaire. For example, changing the order of the scenes between different participants, or randomizing part of the scene order, can be used to detect possible anchoring or contrasting effects. This will help to control for potential

scoring bias while controlling the burden of experimentation, and will also help to more accurately assess the actual impact of cultural factors on the perception of musical emotion.

Second, given that all Chinese and some Western participants in this study were international students, their emotion regulation tendencies may have been shaped, at least to some extent, by prior or ongoing cross-cultural experiences. Therefore, they should not be viewed as fully representative of individuals from purely domestic cultural contexts. As such, the generalizability of the findings to the broader Chinese and Western populations remains limited. Moreover, the definition of “Western” participants encompassed several nations (e.g., the UK, US, France, Australia), but cultural subgroups and sociolinguistic environments were not further differentiated. Emotional expectations influenced by American pop culture or East Asian K-pop fandoms may differ significantly from those of traditional British listeners, yet such intra-cultural variability was not examined (Celen et al., 2025) [2]. Future research can adopt a more nuanced cultural sampling method by distinguishing subcultural identities and regional relations among Chinese and Western populations. For example, comparing mainland Chinese participants with overseas-born Chinese can reveal how cultural acculturation and cultural acculturation shapes emotional expectations of music. Likewise, dividing Western participants into listeners in the UK, the US, or continental Europe may help clarify whether emotional responses are more affected by language, media exposure, or the national education system. And future research may consider hybrid designs while comparing intercultural and intracultural variability. By integrating measures to identify cultural identity, acculturation levels or global media consumption, researchers can better understand the dynamics and stratifications of music and emotions in an increasingly global society (Demorest et al., 2016; Celen et al., 2025) [34, 2].

In addition, this study used a self-administered questionnaire and neglect physiological indicators as supporting evidence. Future research can be further expanded to neuroscience, using techniques such as EEG (electroencephalography) and fMRI (functional magnetic resonance imaging) to explore the neural processing patterns of listeners in specific musical contexts in different cultural contexts. Gong et al. (2023) used EEG and eye tracking data to classify cross-cultural emotional states, and found that frontal and temporal lobe activities reflect cultural commonalities and differences [35]; Koelsch et al. (2021) confirmed the role of regions such as the anterior cingulate gyrus and insular lobe in the emotional experience of music by fMRI [36]. With the help of these tools, future cross-cultural research can not only obtain more objective physiological indicators in addition to subjective scores, but also further explain how cultural experience affects the neural construction process of musical emotions, thereby enriching the existing theoretical framework of “emotion × scene × culture”.

The integration of these methodological and design innovations will not only advance mechanistic insights into cross - cultural music - emotion experiences but also drive the development of precision music therapy, personalized recommendation algorithms, and culturally informed music education practices.

5. Conclusions

The study provides the first systematic evidence for culture-emotion-context interactions in music emotion expectations: Westerners anticipate stronger emotional experiences for high-arousal emotions (happiness and anger) and functionally driven contexts (e.g., movement, exercise, emotion regulation), whereas sadness produces equivalent expectations across cultural groups, supporting its cross-cultural universality. The findings inform cross-cultural music-emotion theory and offer empirical guidance for culturally sensitive music recommendation, emotion-regulation interventions, and educational practice. Future research must involve actual music samples with brain or physical measures to help shed more light on the biological and mental processes that underlie such interactions.

Supplementary Material

The supplementary material can be accessed at <https://doi.org/10.11648/j.xxxx.2024xxxx.xx>

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Conflicts of Interest

The authors declare no conflicts of interest.

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