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Background music as a cultural cue in ethnic restaurants: Evidence from different restaurant contexts

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ABSTRACT

Background music is a prominent element of restaurant atmospherics, yet its role in shaping customer evaluations in ethnic restaurant settings remains underexplored. Drawing on a schema congruity perspective, this study examines how music type influences dining quality and value for money through perceived music–setting congruency. Two complementary studies were conducted: an online scenario-based experiment in Italian and Korean restaurant settings, and an on-site quasi-experiment in French and Chinese restaurants. Across both studies, culturally aligned background music increased music–setting congruency, which enhanced dining quality and value for money. Cross-context analyses further showed that the effect of music type on music–setting congruency varied across restaurant settings rooted in different cultural traditions, with stronger effects observed in Western-origin than in Eastern-origin restaurants. These findings extend understanding of how background music operates as a cultural cue in ethnic restaurant environments, providing practical guidance for designing restaurant atmospheres for favorable customer evaluations.

1. Introduction

Background music is an important component of the restaurant servicescape and can shape how customers interpret and evaluate their dining experience. As part of the broader sensory environment, music operates alongside décor, lighting, and other atmospheric cues to influence perceptions of ambience, comfort, and value (Chen et al., 2022; Wen et al., 2020; Oakes, 2000). Prior research has also shown that background music can affect emotional responses, behavioral intentions, and service evaluations in hospitality and retail settings (Michel et al., 2017; Morrison et al., 2011; Malcman et al., 2024).

Its role may be especially salient in ethnic restaurants, where customers encounter multiple sensory and symbolic cues that collectively communicate a cultural theme. Cuisine, service style, décor, language, and music interact to shape customers' interpretations of the dining environment and influence whether the setting is perceived as coherent and appropriate (Liebman et al., 2019; Muniz et al., 2017; Kuo and Helm, 2025). In this context, background music may function not only as an atmospheric cue, but also as a cultural cue that reinforces or weakens the perceived fit among elements of the restaurant environment. Customers are therefore likely to evaluate music in relation to the wider

symbolic meaning of the setting rather than in isolation (Demoulin, 2011).

Although background music has been widely examined, much of the literature has focused on musical characteristics such as tempo, volume, genre, arousal, and pleasantness (Choo et al., 2021; Sunaga et al., 2020; Szakál et al., 2023). Comparatively less attention has been given to how music contributes to the broader cultural congruency of ethnic restaurant environments. Existing studies suggest that congruent environmental cues can strengthen customer evaluations (North et al., 2016; Roschk et al., 2017), yet the role of background music in shaping cultural congruency, dining quality, and value for money in ethnic restaurant settings, remains underexplored (Wen et al., 2020; Szakál et al., 2023).

To address this gap, the present study examines how background music functions as a cultural cue in ethnic restaurants, and how its alignment with the restaurant setting relates to customers' evaluations of dining quality and value for money. Rather than treating music congruency as an end in itself, this study focuses on cultural congruency, defined here as the extent to which sensory and symbolic cues within a restaurant setting are perceived as fitting together in a culturally coherent manner (Oakes, 2000; Roschk et al., 2017; Helmefalk and

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Hultén, 2017).

The study is grounded in a schema congruity perspective, which suggests that consumers respond more favorably when environmental cues are consistent with the expectations activated by a particular setting. When background music aligns with other restaurant cues, the setting is more likely to be perceived as coherent and appropriate, thereby supporting more favorable judgments of quality and value (MacInnis and Park, 1991; North et al., 2016; Meyers-Levy and Tybout, 1989).

The study compares Italian, French, Korean, and Chinese restaurant settings, allowing examination of whether the role of background music varies across Eastern-origin and Western-origin restaurant contexts. However, the focus remains on differences between restaurant settings, rather than customers' personal cultural backgrounds. By combining a scenario-based online experiment with a field-based quasi-experiment, this research extends understanding of how background music contributes to cultural congruency in ethnic restaurants (Lynch, 1982).

2. Literature review

2.1. Background music and congruency in restaurant environments

Background music has long been recognized as an influential element of the service environment. In hospitality settings, music is not merely a decorative feature, but a cue that can shape customers' emotional, cognitive, and behavioral responses to a service encounter (Oakes, 2000; Michel et al., 2017; Morrison et al., 2011). Prior research has shown that background music can affect perceived atmosphere, time spent, arousal, and overall evaluations of hospitality and retail environments (Malcman et al., 2024). In restaurant contexts, music can therefore contribute to how customers interpret the dining experience and form judgments about the setting. Beyond its general atmospheric role, the effectiveness of background music also depends on whether it is perceived as congruent with the surrounding environment. Research on music congruency suggests that music is more likely to produce favorable responses when it fits the broader service context, such as the brand image, service style, or physical setting (Demoulin, 2011; North et al., 2016). When music is congruent with other environmental cues, it can strengthen positive emotional and cognitive responses, whereas incongruent music may weaken the perceived harmony of the setting (Roschk et al., 2017). In restaurant environments, this implies that music should be understood not only in terms of its intrinsic characteristics, but also in relation to how well it fits the overall dining context (Demoulin, 2011).

2.2. Cultural congruency in ethnic restaurant settings

The issue of congruency becomes more complex in ethnic restaurant settings, where customers encounter multiple sensory and symbolic cues that collectively communicate a cultural theme (Liebman et al., 2019; Muniz et al., 2017; Kuo and Helm, 2025). In such environments, cuisine, décor, language, service style, and music interact to shape how the restaurant setting is interpreted. As a result, the effect of background music is unlikely to depend solely on whether the music is liked or judged as appropriate in a narrow sense. Rather, its influence is more likely to depend on how well it aligns with the wider cultural meaning of the dining environment (Wen et al., 2020; Demoulin, 2011). For this reason, the present study adopts the concept of cultural congruency. Cultural congruency refers to the extent to which the sensory and symbolic cues within a restaurant setting are perceived as fitting together in a culturally coherent manner (Helmefalk and Hultén, 2017). This concept provides a broader lens than music congruency, because it captures the coherence of the dining environment as a whole rather than focusing on the appropriateness of a single auditory cue. Within ethnic restaurants, background music is therefore treated as one important cultural cue, the effect of which depends on how well it supports the overall cultural expression of the setting. When music aligns with other

elements of the restaurant environment, it may strengthen perceptions of coherence; when it is misaligned, it may weaken the fit among environmental cues (Wen et al., 2020; Helmefalk and Hultén, 2017). Accordingly, the following hypothesis is proposed:

H1. Background music that is culturally aligned with the restaurant setting is associated with higher perceived music–setting congruency than music that is not aligned.

2.3. Schema congruity perspective

To explain why cultural congruency should matter for customer evaluation, this study draws on schema congruity theory. Schema congruity theory suggests that consumers respond more favorably when the cues they encounter are consistent with the expectations activated by a particular setting (Meyers-Levy and Tybout, 1989; MacInnis and Park, 1991). When environmental cues align, the setting is easier to interpret and more likely to be perceived as coherent, appropriate, and meaningful. In contrast, inconsistency among cues may weaken the perceived fit of the environment and reduce the favorability of customer evaluations (Meyers-Levy and Tybout, 1989; Helmefalk and Hultén, 2017). This perspective is particularly relevant to ethnic restaurant settings, where the environment is organized around a recognizable cultural theme. Customers are likely to hold expectations regarding how such a setting should look, sound, and feel. Background music is interpreted together with other cues, such as cuisine, décor, and service style. When these elements align, they may reinforce the expectations associated with the restaurant setting and strengthen perceptions of cultural congruency (Demoulin, 2011; Wen et al., 2020). Schema congruity therefore provides a more precise explanation for the role of background music than broader atmospheric frameworks, because it directly addresses how cue alignment shapes customer interpretation of the dining environment (Meyers-Levy and Tybout, 1989; MacInnis and Park, 1991).

2.4. Dining quality and value for money

Within restaurant settings, evaluative judgments are formed through the total experience rather than through food and service attributes alone (Heung and Gu, 2012; Wu and Liang, 2009). Research on restaurant atmospherics and service experiences indicates that customers' responses are shaped by the broader dining environment and that atmospheric and experiential cues influence satisfaction and evaluation (Heung and Gu, 2012; Wu and Liang, 2009). When the sensory and symbolic elements of a restaurant are perceived as fitting together coherently, customers may be more likely to interpret the setting as appropriate, integrated, and well designed, which can provide a basis for more favorable judgments of the dining experience (Yrjölä et al., 2019; Heung and Gu, 2012). One important outcome is dining quality, which reflects customers' overall assessment of the dining experience. In restaurant contexts, such judgments are shaped by the combined experience rather than by isolated attributes alone, and atmospheric cues can contribute to those evaluations (Heung and Gu, 2012; Wu and Liang, 2009). When a restaurant setting is perceived as culturally congruent, the internal consistency of the environment may reinforce positive interpretations of the dining encounter and support stronger perceptions of dining quality. Accordingly, the following hypothesis is proposed:

H2. Perceived music–setting congruency is positively associated with dining quality.

A second important outcome is value for money, which refers to customers' assessment of whether the dining experience is worth the price paid. In hospitality settings, value judgments are commonly informed by customers' evaluation of the overall experience received relative to what is given, rather than by price alone (Yrjölä et al., 2019; Ashton et al., 2010). When the restaurant setting is perceived as

culturally coherent and complete, it may therefore contribute directly to stronger value-for-money judgments. Accordingly, the following hypothesis is proposed:

H3. Perceived music–setting congruency is positively associated with value for money.

Perceived dining quality is also likely to contribute to value-for-money judgments. Prior hospitality research consistently shows that service quality and experiential quality are positively related to perceived value, suggesting that experiences judged as higher in quality are more likely to be regarded as worth the price paid (Tuncer et al., 2021; Yrjölä et al., 2019). Accordingly, the following hypothesis is proposed:

H4. Perceived dining quality is positively associated with value for money.

2.5. Variation across restaurant settings

The present study also considers whether the effect of music type varies across restaurant settings rooted in different cultural traditions. This comparison is important as background music does not operate independently of the broader dining environment. Rather, its influence is embedded within a configuration of sensory and symbolic cues that together shape the restaurant's cultural expression (Helmefalk and Hultén, 2017; Wen et al., 2020). Because restaurant settings may differ in how these cues are organized, the influence of culturally aligned versus non-aligned background music on perceived music–setting congruency may also vary across contexts (Demoulin, 2011; Wen et al., 2020).

Specifically, the study includes Italian, French, Korean, and Chinese restaurant contexts, allowing comparison across Eastern-origin and Western-origin restaurant settings. The focus is on differences between restaurant environments, rather than customers' personal cultural backgrounds. From the perspective adopted here, any variation is interpreted as reflecting differences in the symbolic and sensory structure of the restaurant setting, which may condition how strongly music type influences perceived music–setting congruency (Helmefalk and Hultén, 2017; Wen et al., 2020). Accordingly, the following hypothesis is proposed:

H5. The effect of music type on perceived music–setting congruency varies across restaurant settings rooted in different cultural traditions.

As illustrated in Fig. 1, background music functions as a cultural cue that influences dining quality and value for money through perceived music–setting congruency. The model also allows for variation across restaurant settings in the effect of music type on perceived music–setting congruency.

3. Overview of research design

This research employed two complementary studies to examine the role of background music in ethnic restaurant settings. Study 1 used an online scenario-based experiment in Italian and Korean restaurants to test the proposed relationships under controlled conditions. Study 2 used an on-site quasi-experiment in French and Chinese restaurant settings to examine whether similar patterns emerged in naturally occurring dining environments. Together, the two studies provided a stronger empirical basis for assessing the effects of culturally aligned and non-aligned background music across different restaurant contexts. Both studies adopted a between-subjects structure, such that each participant was exposed to only one music condition. This design helped minimize carry-over effects and allowed the influence of background music to be examined more clearly.

3.1. Measures

The measurement framework was kept consistent across the two studies to ensure comparability of results. Each questionnaire contained manipulation-check items, measures of the core constructs, and questions on participant characteristics and prior dining or music experience. All attitudinal items were measured using a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

While the study is conceptually grounded in the broader notion of cultural congruency, the focal perceptual construct was operationalized as perceived music–setting congruency, reflecting participants' judgments of how well the background music fit the restaurant setting. Perceived music–setting congruency was measured using four items adapted from Wen et al. (2020). Dining quality was assessed using four items adapted from Mathur and Gupta (2019) and Ha and Jang (2010a). Value for money was measured using four items adapted from Jang et al. (2012). The wording of these items was adjusted slightly to fit the specific restaurant context while maintaining conceptual consistency across the four settings. The same core measures were used in both studies.

4. Study 1

4.1. Method

Study 1 employed a scenario-based online experiment to examine the effect of background music in ethnic restaurant settings. The study focused on two restaurant contexts, Italian and Korean, each presented under two music conditions: a culturally aligned music condition and a non-aligned music condition. Participants were randomly assigned to one of the two music conditions within the relevant restaurant setting.

The experiment was conducted using high-resolution 60-second

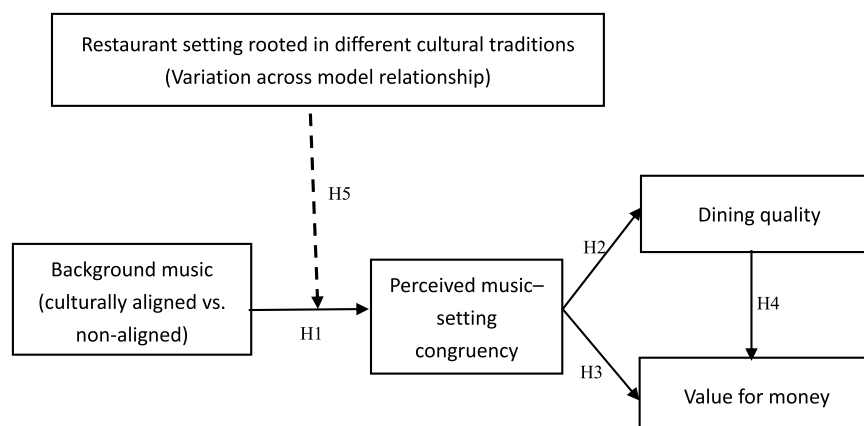


Fig. 1. Conceptual framework.

restaurant videos. Within each restaurant setting, visual elements such as décor, lighting, and table arrangement were held constant across conditions, while the background music varied according to the experimental manipulation. Participants were instructed to watch the video carefully, imagine themselves dining in the restaurant, and then complete the questionnaire. This procedure was adapted from prior scenario-based hospitality studies and was intended to maximise control over the focal sensory cue while minimising the influence of extraneous factors.

4.1.1. Participants

A total of 713 responses were initially collected for Study 1. After data screening, 515 responses were retained as valid for analysis, including 251 responses from the Italian restaurant setting and 264 responses from the Korean restaurant setting. The final sample provided sufficient variation in participant characteristics and prior dining experience to support the subsequent analyses. Detailed descriptive information is reported in the Study 1 results section and Appendix A.

4.2. Results

4.2.1. Sample profile and descriptive statistics

The Study 1 sample showed a relatively balanced gender distribution, with 55.1% male participants, 44.7% female participants, and one respondent identifying as other. The majority of respondents were between 21 and 40 years old. Participants also reported moderate prior engagement with the focal restaurant contexts and music types. Table 1 presents the descriptive profile of the Study 1 sample.

4.2.2. Manipulation check

To verify that the music manipulation was perceived as intended, participants in Study 1 were asked to identify the language of the background music and to indicate whether the music was culturally associated with the restaurant setting.

In the Italian restaurant setting, 135 valid responses were collected under the culturally aligned music condition, and 95.6% of participants correctly identified the song as Italian. In the non-aligned condition, 116 valid responses were collected, and 86.2% correctly identified the song as English.

A similar pattern was observed in the Korean restaurant setting. Under the culturally aligned music condition, 134 valid responses were collected, and 97.0% of participants identified the song as Korean. Under the non-aligned condition, 130 valid responses were collected, and 97.7% correctly identified the song as English.

Taken together, these results indicate that participants clearly recognized whether or not the background music was culturally aligned with the restaurant context, thereby confirming the effectiveness of the manipulation.

Table 1
Sample profile of the Study 1 participants.

Characteristic	Italian setting	Korean setting	Combined Study 1
Valid responses	251	264	515
Male	140 (55.8%)	144 (54.5%)	284 (55.1%)
Female	110 (43.8%)	120 (45.5%)	230 (44.7%)
Other gender	1 (0.4%)	0 (0.0%)	1 (0.2%)
Aged 21–40 years	166 (66.1%)	140 (53.0%)	306 (59.4%)
Dined at focal restaurant type 2–3 times/month	124 (49.4%)	104 (39.4%)	228 (44.3%)
Listened to focal music at least monthly	211 (84.1%)	191 (72.3%)	402 (78.1%)

4.2.3. Reliability and correlations

Reliability analysis was conducted to assess the internal consistency of the multi-item scales used in Study 1. The results indicated good reliability for perceived music–setting congruency ($\alpha = .850$), dining quality ($\alpha = .834$), and value for money ($\alpha = .843$), suggesting that all three constructs demonstrated satisfactory internal consistency.

Descriptive statistics indicated that the mean score for perceived music–setting congruency was 4.84 (SD = 1.291), while the mean scores for dining quality and value for money were 5.41 (SD = 1.009) and 5.10 (SD = 0.940), respectively. Correlation analysis further showed that perceived music–setting congruency was positively associated with dining quality ($r = .449$, $p < .001$) and value for money ($r = .412$, $p < .001$). Dining quality was also positively associated with value for money ($r = .694$, $p < .001$). These results provide preliminary support for the proposed positive relationships among the core variables in Study 1. Table 2 presents the means, standard deviations, reliability coefficients, and correlations among the core constructs.

4.2.4. Group equivalence / variance checks

Preliminary group-equivalence tests were conducted separately for the Italian and Korean restaurant settings to assess whether the aligned and non-aligned music conditions differed significantly in key participant characteristics.

In the Italian restaurant setting, gender distribution did not differ significantly between the popular-music and culturally aligned music conditions, $\chi^2(2) = 5.777$, $p = .056$. Dining frequency also did not differ significantly between the two conditions, $\chi^2(4) = 1.504$, $p = .826$. Similarly, self-reported frequency of listening to Italian music did not differ significantly between conditions, $\chi^2(4) = 8.789$, $p = .067$.

In the Korean restaurant setting, gender distribution did not differ significantly between the popular-music and culturally aligned music conditions, $\chi^2(1) = 0.517$, $p = .472$. Dining frequency also did not differ significantly between the two conditions, $\chi^2(4) = 3.659$, $p = .454$. Likewise, self-reported frequency of listening to Korean music did not differ significantly between conditions, $\chi^2(4) = 5.271$, $p = .261$.

Taken together, these results suggest that the aligned and non-aligned groups in Study 1 were broadly comparable across both restaurant settings.

4.2.5. Hypothesis test

Hypothesis 1 was examined separately within each restaurant setting by comparing perceived music–setting congruency between the culturally aligned and non-aligned music conditions.

In the Italian restaurant setting, participants exposed to culturally aligned background music reported significantly higher perceived music–setting congruency ($M = 5.43$) than those exposed to non-aligned music ($M = 4.19$), $F(1, 249) = 51.15$, $p < .001$.

In the Korean restaurant setting, participants who heard culturally aligned music likewise reported greater perceived music–setting congruency ($M = 5.21$) than those exposed to non-aligned music ($M = 4.89$), $F(1, 262) = 5.01$, $p < .05$.

These findings indicate that culturally aligned background music enhanced participants' perceptions of fit between the music and the restaurant setting in both restaurant contexts. Accordingly, Hypothesis 1 was supported in Study 1.

Table 2
Means, standard deviations, reliability coefficients, and correlations for Study 1.

Variable	M	SD	1	2	3
1. Perceived music–setting congruency	4.84	1.291	(.850)		
2. Dining quality	5.41	1.009	.449***	(.834)	
3. Value for money	5.10	0.940	.412***	.694***	(.843)

Note. N = 515. *** $p < .001$.

4.2.6. Regression analyses

Linear regression analyses were conducted separately for the Italian and Korean restaurant settings to test the proposed relationships among perceived music–setting congruency, dining quality, and value for money.

In the Italian restaurant setting, perceived music–setting congruency positively predicted dining quality ($\beta = 0.57$, $p < .01$) and value for money ($\beta = 0.68$, $p < .01$). Dining quality also had a significant positive effect on value for money ($\beta = 0.43$, $p < .01$).

In the Korean restaurant setting, perceived music–setting congruency significantly predicted dining quality ($\beta = 0.47$, $p < .01$) and value for money ($\beta = 0.47$, $p < .01$). Dining quality also exerted a strong positive effect on value for money ($\beta = 0.71$, $p < .01$).

Taken together, these results indicate that perceived music–setting congruency was positively associated with both dining quality and value for money, and that dining quality was positively associated with value for money. Accordingly, H2, H3, and H4 were supported in Study 1. Table 3 summarizes the regression results.

5. Study 2

5.1. Method

5.1.1. Design and procedure

Study 2 employed a field-based quasi-experiment to extend the findings of Study 1 to real restaurant environments. The study was conducted in two restaurant contexts, French and Chinese, each presented under two music conditions: a culturally aligned music condition and a non-aligned music condition. In the aligned condition, French background music was played in the French restaurant and Chinese background music was played in the Chinese restaurant. In the non-aligned condition, popular English-language music was used.

Data were collected in operational restaurant settings in Auckland, New Zealand. Customers were invited to participate voluntarily while dining, and each dining table displayed a QR code linking to the questionnaire. After completing their meal, customers could scan the QR code and complete the survey anonymously using their mobile devices. This procedure enabled the study to capture customer responses in naturally occurring dining environments and thereby enhanced the ecological validity of the findings.

5.1.2. Participants

A total of 608 responses were initially collected for Study 2. After data screening, 425 responses were retained as valid for analysis, including 214 responses from the French restaurant setting and 211 responses from the Chinese restaurant setting. The final sample provided sufficient variation in participant characteristics and prior dining experience to support the subsequent analyses. Detailed descriptive information is reported in the Study 2 results section and Appendix B.

5.2. Results

5.2.1. Sample profile and descriptive statistics

The Study 2 sample showed a relatively balanced gender distribution, with 48.9% male participants, 50.6% female participants, and two

respondents identifying as other. The majority of respondents were between 21 and 50 years old. Participants also reported moderate prior engagement with the focal restaurant contexts and music types. Table 4 presents the descriptive profile of the Study 2 sample.

5.2.2. Manipulation check

To verify that the music manipulation was perceived as intended, participants in Study 2 were asked to identify the language of the background music, and to indicate whether or not the music was culturally associated with the restaurant setting.

In the French restaurant setting, 109 valid responses were collected under the culturally aligned music condition, and 94.5% of participants correctly identified the song as French. In the non-aligned condition, 105 valid responses were collected, and 95.2% correctly identified the song as English.

A similar pattern was observed in the Chinese restaurant setting. Under the culturally aligned music condition, 107 valid responses were collected, and 92.5% of participants identified the song as Chinese. Under the non-aligned condition, 104 valid responses were collected, and 97.1% correctly identified the song as English.

Taken together, these results indicate that participants clearly recognized whether or not the background music was culturally aligned with the restaurant context, thereby confirming the effectiveness of the manipulation.

5.2.3. Reliability and correlations

Reliability analysis was conducted to assess the internal consistency of the multi-item scales used in Study 2. The results indicated satisfactory reliability for perceived music–setting congruency ($\alpha = 0.901$), dining quality ($\alpha = 0.942$), and value for money ($\alpha = 0.860$), suggesting that all three constructs demonstrated acceptable internal consistency.

Descriptive statistics indicated that the mean score for perceived music–setting congruency was 4.53 ($SD = 1.328$), while the mean scores for dining quality and value for money were 4.90 ($SD = 1.363$) and 4.20 ($SD = 1.102$), respectively. Correlation analysis further showed that perceived music–setting congruency was positively associated with dining quality ($r = .714$, $p < .001$) and value for money ($r = .633$, $p < .001$). Dining quality was also positively associated with value for money ($r = .719$, $p < .001$). These results provide preliminary support for the proposed positive relationships among the core variables in Study 2. Table 5 presents the means, standard deviations, reliability coefficients, and correlations among the core constructs.

5.2.4. Group equivalence / variance checks

Preliminary group-equivalence tests were conducted separately for the French and Chinese restaurant settings to assess whether the aligned and non-aligned music conditions differed significantly in key participant characteristics.

In the French restaurant setting, gender distribution did not differ significantly between the popular-music and culturally aligned music

Table 3
Results of Regression analyses of Study 1.

Dependent variable	Predictor	Italian restaurant β	Korean restaurant β
Dining quality	Perceived music–setting congruency	.57**	.47**
Value for money	Perceived music–setting congruency	.68**	.47**
Value for money	Dining quality	.43**	.71**

** $p < .01$.

Table 4
Sample profile of the Study 2 participants.

Characteristic	French setting	Chinese setting	Combined Study 2
Valid responses	214	211	425
Male	106 (49.5%)	102 (48.3%)	208 (48.9%)
Female	108 (50.5%)	107 (50.7%)	215 (50.6%)
Other gender	0 (0.0%)	2 (0.9%)	2 (0.5%)
Aged 21–50 years	156 (73.0%)	127 (60.2%)	283 (66.6%)
Dined at focal restaurant type 2–3 times/month	63 (29.4%)	77 (36.5%)	140 (32.9%)
Listened to focal music at least monthly	160 (74.8%)	163 (77.2%)	323 (76.0%)

Table 5

Means, standard deviations, reliability coefficients, and correlations for Study 2.

Variable	M	SD	1	2	3
1. Perceived music–setting congruency	4.53	1.328	(0.901)		
2. Dining quality	4.90	1.363	.714***	(0.942)	
3. Value for money	4.20	1.102	.633***	.719***	(0.860)

Note. N = 425. *** $p < .001$.

conditions, $\chi^2(1) = 0.000$, $p = .998$. Dining frequency also did not differ significantly between the two conditions, $\chi^2(4) = 4.638$, $p = .326$. Similarly, self-reported frequency of listening to French music did not differ significantly between conditions, $\chi^2(4) = 5.932$, $p = .204$.

In the Chinese restaurant setting, gender distribution likewise did not differ significantly between the popular-music and culturally aligned music conditions, $\chi^2(2) = 0.041$, $p = .979$. Self-reported frequency of listening to Chinese music also did not differ significantly between conditions, $\chi^2(4) = 3.097$, $p = .542$. However, dining frequency differed significantly between the two conditions, $\chi^2(4) = 16.849$, $p = .002$.

Taken together, these results suggest that the French-setting groups were broadly comparable across conditions, whereas in the Chinese setting, the aligned and non-aligned groups differed in prior dining frequency.

5.2.5. Hypothesis test

Hypothesis 1. was examined separately within each restaurant setting by comparing perceived music–setting congruency between the culturally aligned and non-aligned music conditions.

In the French restaurant setting, customers exposed to culturally aligned background music reported significantly higher perceived music–setting congruency ($M = 5.18$) than those exposed to non-aligned music ($M = 3.43$), $F(1, 212) = 137.27$, $p < .01$.

In the Chinese restaurant setting, customers who heard culturally aligned music likewise reported greater perceived music–setting congruency ($M = 5.54$) than those exposed to non-aligned music ($M = 4.00$), $F(1, 209) = 102.98$, $p < .01$.

These findings indicate that culturally aligned background music enhanced participants' perceptions of fit between the music and the restaurant setting in both restaurant contexts. Accordingly, [Hypothesis 1](#) was supported in Study 2.

5.2.6. Regression analyses

Linear regression analyses were conducted separately for the French and Chinese restaurant settings to test the proposed relationships among perceived music–setting congruency, dining quality, and value for money.

In the French restaurant setting, perceived music–setting congruency positively predicted dining quality ($\beta = 0.69$, $p < .01$) and value for money ($\beta = 0.70$, $p < .01$). Dining quality also had a significant positive effect on value for money ($\beta = 0.79$, $p < .01$).

In the Chinese restaurant setting, perceived music–setting congruency positively predicted dining quality ($\beta = 0.63$, $p < .01$) and value for money ($\beta = 0.76$, $p < .01$). Dining quality also exerted a strong positive effect on value for money ($\beta = 0.73$, $p < .01$).

Taken together, these results indicate that perceived music–setting congruency was positively associated with both dining quality and value for money, and that dining quality was positively associated with value for money. Accordingly, H2, H3, and H4 were supported in Study 2. [Table 6](#) summarises the regression results.

6. Cross-context moderation analysis

To further examine H5, a supplementary moderation analysis was conducted using Hayes's PROCESS macro (Model 1) to assess whether

Table 6

Results of regression analyses of Study 2.

Dependent variable	Predictor	French restaurant β	Chinese restaurant β
Dining quality	Perceived music–setting congruency	.69**	.63**
Value for money	Perceived music–setting congruency	.70**	.76**
Value for money	Dining quality	.79**	.73**

** $p < .01$.

the restaurant-origin group moderated the effect of music type on perceived music–setting congruency. The Italian and French settings were grouped as 'Western-origin', and the Korean and Chinese settings were grouped as 'Eastern-origin'.

The results ([Table 7](#)) showed that the interaction between music type and the restaurant-origin group was significant ($b = -0.6706$, $SE = 0.1573$, $t = -4.2628$, $p < .001$, 95% CI $[-0.9793, -0.3618]$), indicating that the effect of music type on perceived music–setting congruency differed across restaurant-setting origins. Conditional effects further showed that music type had a stronger positive effect on perceived music–setting congruency in Western-origin restaurant settings (Effect = 1.4829, $SE = 0.1119$, $t = 13.2540$, $p < .001$, 95% CI $[1.2633, 1.7025]$) than it did in Eastern-origin restaurant settings (Effect = 0.8123, $SE = 0.1106$, $t = 7.3465$, $p < .001$, 95% CI $[0.5953, 1.0293]$).

These findings indicate that the positive effect of culturally aligned versus non-aligned music on perceived music–setting congruency was significantly stronger in Western-origin than in Eastern-origin restaurant settings. Accordingly, H5 was supported.

7. Discussion

7.1. Theoretical implications

This study examined how background music functions as a cultural cue in ethnic restaurant settings, and how music type influences customer evaluations through perceived music–setting congruency. Across both the scenario- and the field-based quasi-experiments, culturally aligned background music increased perceived music–setting congruency, which in turn was positively associated with both dining quality and value for money. These findings were observed across all four restaurant settings, indicating that the fit between background music and the restaurant environment plays an important role in shaping customer responses. Supplementary cross-context analysis further showed that the effect of music type on perceived music–setting congruency varied across restaurant settings rooted in different cultural traditions, with stronger effects observed in Western-origin than in Eastern-origin settings.

The findings make the following theoretical contributions. First, the study extends prior research on restaurant atmospherics and music by

Table 7

Moderation analysis.

Effect	b	SE	t	p	95% CI
Music type × Restaurant-origin group	−0.6706	0.1573	−4.2628	< .001	[−0.9793, −0.3618]
Conditional effect: Western-origin restaurant settings	1.4829	0.1119	13.2540	< .001	[1.2633, 1.7025]
Conditional effect: Eastern-origin restaurant settings	0.8123	0.1106	7.3465	< .001	[0.5953, 1.0293]

Note. Western-origin restaurant settings comprise the Italian and French contexts, and Eastern-origin restaurant settings comprise the Korean and Chinese contexts.

showing that background music should not be understood only as a general mood-setting stimulus, but also as a cultural cue whose effect depends on its perceived fit with the restaurant setting (Oakes, 2000; Demoulin, 2011; Wen et al., 2020). Previous research has established that music can influence atmosphere, affect, time perception, and overall service evaluation in hospitality contexts (Morrison et al., 2011; Michel et al., 2017). The present study adds to this literature by showing that, in ethnic restaurant environments, the evaluative role of music is closely tied to whether customers perceive the music as fitting the restaurant's cultural theme. In this sense, background music appears to operate not simply as a general atmospheric feature, but as a cue that helps customers interpret the coherence of the dining environment.

Second, the results support the usefulness of a schema congruity perspective for explaining how background music influences customer evaluations in ethnic restaurant contexts (Meyers-Levy and Tybout, 1989; MacInnis and Park, 1991). Rather than assuming that customers respond positively to ethnic music in all circumstances, the findings suggest that music is evaluated in relation to the expectations activated by the restaurant setting. When the music is aligned with the broader setting, customers are more likely to perceive the environment as coherent and appropriate, which in turn is associated with more favorable evaluations of dining quality and value for money. This interpretation is consistent with research showing that congruent cues strengthen consumers' interpretations of service environments by making them easier to process and more meaningful (Demoulin, 2011; Helmefalk and Hultén, 2017). The study therefore refines earlier work on music congruity by showing that the relevant mechanism is not simply whether the music is pleasant or familiar, but whether it is perceived as fitting the restaurant setting.

In addition, the cross-context findings suggest that the effect of music type on perceived music-setting congruity is not uniform across restaurant settings. The supplementary moderation analysis showed that the influence of culturally aligned versus non-aligned music on perceived music-setting congruity was stronger in Western-origin than in Eastern-origin restaurant settings. This result indicates that the same manipulation may operate differently depending on the symbolic and sensory structure of the restaurant environment. Importantly, this variation should be interpreted at the level of the restaurant setting, not at the level of customers' personal cultural backgrounds. In other words, the findings do not suggest that diners from one cultural group are inherently more responsive than others. Rather, they indicate that the role of music as a congruent cultural cue may be more pronounced in some restaurant environments than in others. This contributes to the literature by showing that the effectiveness of background music depends not only on the cue itself, but also on the context in which that cue is embedded (Helmefalk and Hultén, 2017; Wen et al., 2020).

7.2. Managerial implications

The findings carry important managerial implications for ethnic restaurant operators. First, the results suggest that background music should be selected as part of the restaurant's overall cultural presentation, rather than treated as a purely decorative atmospheric feature. Managers should consider whether the music reinforces the expectations created by the restaurant's cuisine, décor, and service style. When the music is culturally aligned with the setting, customers are more likely to

perceive a stronger fit between auditory cues and the restaurant environment, and this is associated with more favorable evaluations of dining quality and value for money.

In addition, the results suggest that careful music selection may be especially valuable in contexts where the restaurant's cultural theme relies strongly on coherent symbolic presentation. In such cases, background music may play an important role in strengthening the overall clarity of the customer experience. More broadly, the study suggests that managers should treat background music as part of the strategic design of the restaurant environment, rather than as a secondary operational decision.

7.3. Limitations and future research

Several limitations should be acknowledged. First, although the study is conceptually grounded in the broader notion of cultural congruity, the focal perceptual mechanism was operationalized as perceived music-setting congruity. The study therefore captures customers' judgments of how well the background music fits the restaurant setting, rather than measuring the broader coherence of the entire servicescape. Future research could extend this work by developing and validating a more comprehensive measure of cultural congruity at the overall environmental level. Second, the study examined four restaurant settings only—Italian, Korean, French, and Chinese—and grouped them into Eastern-origin and Western-origin restaurant settings in the supplementary moderation analysis. Although this approach was useful for identifying contextual variation, it necessarily simplifies the diversity of ethnic restaurant environments. Future studies could examine a broader range of restaurant settings and test whether similar patterns hold, in other cultural and geographic contexts.

Third, the two studies used different methodological formats—an online scenario-based, and an on-site field-based quasi-experiment. While this combination strengthened the overall research design by improving both internal and external validity, future research could further test the robustness of the findings using additional field-based experiments or longitudinal designs. Finally, although value for money was positively associated with perceived music-setting congruity and dining quality across both studies, customer evaluations of value are likely to be influenced by other factors beyond background music, such as price expectations, food quality, and service performance. Future research could therefore examine how music-related congruity interacts with these additional determinants of value.

CRedit authorship contribution statement

Hongyang Bi: Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Warren Goodsir:** Writing – review & editing, Supervision, Investigation, Conceptualization. **Peter B. Kim:** Writing – original draft, Validation, Supervision, Methodology, Investigation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A

Demographic Information (scenario-based online experiment)

Italian restaurant settings				Korean restaurant settings			
Items		Frequency	Percentage (%)	Items		Frequency	Percentage (%)
Age	18–20 years	10	4.0	Age	18–20 years	8	3.0
	21–30 years	85	33.9		21–30 years	61	23.1
	31–40 years	81	32.3		31–40 years	79	29.9
	41–50 years	46	18.3		41–50 years	66	25.0
	51–60 years	22	8.8		51–60 years	37	14.0
	> 60 years	7	2.7		> 60 years	13	4.9
Gender	Male	140	55.8	Gender	Male	144	54.5
	Female	110	43.8		Female	120	45.5
	Other	1	0.4		Other	0	0.0
Frequency of dining in Italian restaurants	A few times per year	17	6.8	Frequency of dining in Korean restaurants	A few times per year	38	14.4
	1 time per month	65	25.9		1 time per month	64	24.2
	2–3 times per month	124	49.9		2–3 times per month	104	39.4
	1 time per week	40	15.9		1 time per week	37	14.0
	3 or more times per week	5	2.0		3 or more times per week	21	8.0
Frequency of listening to Italian music	Never	7	2.8	Frequency of listening to Korean music	Never	7	2.7
	A few times per year	33	13.1		A few times per year	66	25.0
	A few times per month	82	32.7		A few times per month	78	29.5
	A few times per week	78	31.1		A few times per week	56	21.2
	Almost everyday	51	20.3		Almost everyday	57	21.6

Appendix B

Demographic Information (field quasi-experiment)

French restaurant settings				Chinese restaurant settings			
Items		Frequency	Percentage (%)	Items		Frequency	Percentage (%)
Age	18–20 years	12	5.6	Age	18–20 years	19	9.0
	21–30 years	64	30.0		21–30 years	38	18.0
	31–40 years	43	20.1		31–40 years	58	27.5
	41–50 years	49	22.9		41–50 years	31	14.7
	51–60 years	27	12.0		51–60 years	44	20.8
	> 60 years	19	8.9		> 60 years	21	10.0
Gender	Male	106	49.5	Gender	Male	102	48.3
	Female	108	50.5		Female	107	50.7
	Other	0	0.0		Other	2	0.9
Frequency of dining in French restaurants	A few times per year	19	8.9	Frequency of dining in Chinese restaurants	A few times per year	11	5.2
	1 time per month	57	26.6		1 time per month	43	20.4
	2–3 times per month	63	29.4		2–3 times per month	77	36.5
	1 time per week	56	26.2		1 time per week	39	18.5
	3 or more times per week	19	8.9		3 or more times per week	41	19.4
Frequency of listening to French music	Never	13	6.1	Frequency of listening to Chinese music	Never	5	2.4
	A few times per year	41	19.2		A few times per year	43	20.4
	A few times per month	70	32.7		A few times per month	47	22.3
	A few times per week	62	29.0		A few times per week	37	17.5
	Almost everyday	28	13.1		Almost everyday	79	37.4

Appendix C: The Measurement Scale for Manipulation Checks (scenario-based online experiment)

Items
M1 What language is the background music of the restaurant sung? (English vs. Italian or English vs. Korean)
M2 I think even people from a non-Italian (or non-Korean, based on the scenario) cultural background should be familiar with this song.
M3 I think the background music played in this restaurant is a popular song rather than ethnic music from a particular cultural group.

The Measurement Scale for Manipulation Check (field quasi-experiment)

Items
M1 What language is the background music of the restaurant sung? (English vs. French or English vs. Chinese)
M2 I think French (or Chinese, based on the scenario) people should be familiar with the background music played in this restaurant.
M3 I think the background music played in this restaurant are French (or Chinese, based on the scenario) ethnic music.

The Measurement Perceived Music-setting Congruency

Items
PMC1 I am not surprised to hear this background music in this restaurant.
PMC2 The background music played in this restaurant met my expectations.
PMC3 The background music played matched with the restaurant theme.
PMC4 For this restaurant, the broadcast background music suits well.

The Measurement Scale for Dining Quality

Items
DQ1 I feel the Italian (or Korean, French, Chinese, based on the scenario) food in this restaurant are tasty.
DQ2 I feel the restaurant offers a variety of Italian (or Korean, French, Chinese, based on the scenario) food choices.
DQ3 I feel the waiting staff in this restaurant provide prompt and quick Italian (or Korean, French, Chinese, based on the scenario) style service.
DQ4 I feel the waiting staff in this restaurant can answer my questions about Italian (or Korean, French, Chinese, based on the scenario) food well.

The Measurement Scale for Value For Money

Items
VFM 1 I feel I would get my money's worth with the food at this restaurant
VFM 2 I feel I would get my money's worth with the service at this restaurant
VFM 3 I feel the dining experience is a good value for the money I paid at this restaurant.
VFM 4 I feel having dinner at this restaurant is a good deal.

Data availability

The data that has been used is confidential.

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