

## **Music preferences in casual restaurants: Guest responses to music characteristics and cuisine**

*Robert Harrington (University of Arkansas, USA), Michael Ottenbacher (Heilbronn University, Germany), and Ryan Muniz (University of Arkansas, USA)*

### **Abstract**

This research project utilized two studies to assist in understanding the impact of music and menu type on perceptions of congruence and dining behaviors. Research questions were asked in distinctly different ways and centered on how comfortable the music made patrons feel, how they perceived the influence of music (positive or negative) and the music preferences based on cuisine treatments. The role of these elements was assessed for the impact on dining time, food spending and beverage spending. This assessment was further separated by meal period (lunch and dinner) and patron age. This research supports the notion that music type and menu type congruence leads to positive dining behaviors and diner satisfaction. These relationships were greatly impacted by diner age, meal period and music preferences. Important considerations provided from this study for practitioners include considering meal period, patron age and Western diner music preferences.

**Key words:** Music, Ethnic cuisine, Dining behaviors, Casual restaurants, Music preferences.

### **Introduction**

The modern foodservice experience represents a collection of tangible and intangible attributes that contribute to perceptions of quality and enjoyment based on emotional, physiological and cognitive responses (Bitner 1992; Ryu and Kim 2011). Recent foodservice studies have considered consumers' interpretation of the dining experience based on the physical environment (Ryu and Han 2011), atmospherics (Liu and Jang 2009), and servicescape (Kim and Moon 2009). Of particular interest in the current study are the atmospherics and the impact on consumer responses. Specifically, the interest and purpose of this research project is to investigate relationships between the dining experience and music selections representing a

desire for or sense of 'fit' as well as the impact of music fit perceptions on consumer responses such as spending patterns and dining time.

## **Background**

The literature on the relationship between music and a dining experience encompasses several areas: 1) consideration of the restaurant servicescape (e.g., Kim and Moon 2009; Liu and Yang 2009; Ryu and Han 2010; 2011), 2) music and food or beverage relationships (e.g., Crisinel et al. 2012), 3) music characteristics effects in foodservice experiences (e.g., Caldwell and Hibbert 2002; North et al. 2003), and 4) the role of music in other service settings (Oakes 2000).

Studies considering the impact of music characteristics demonstrate the potential for music to have multiple effects on patron perceptions and behaviors. The research to date in foodservice settings assessed four compositional attributes of music: music tempo (Caldwell and Hibbert 2002; Milliman 1986), music type (Magnini and Thelen 2008; North et al. 2003; Wilson 2003), music complexity (North and Hargreaves 1996), and music volume (Guéguen et al. 2004; 2008). Oakes (2000) used a synthesis of existing literature to create a musicscape framework of music and consumer behavior relationships in retail settings. The framework model highlighted the interdependence of key music attributes, valence moderators and resulting cognitive, behavioral and emotional effects. While very little testing has been done using the musicscape model (Harrington et al. 2014), chefs and restaurateurs are experimenting with sound and other sensory elements of the dining experience to influence emotional perceptions of food (Edwards-Stuart 2012).

While sensory testing is not a new phenomenon, most research on specific sound elements on food and beverage have been done in artificial lab settings (Crisinel et al. 2012; Herrington et al. 1996; Holt-Hansen 1968). While lab research provides greater control, many times it lacks realism (particularly) given the more holistic nature of the restaurant experience. Field research in an actual restaurant setting appears more relevant when the objective of the research is to increase external validity and when trying to determine parameter estimates of a population (Dobbins et al. 1988). Further, studies completed to date in foodservice settings provide only equivocal findings given numerous situational factors, context issues and weaknesses in the research design.

Many studies have demonstrated the impact of sound or music on consumer behaviors. Thus, music has been shown to impact the sensory perceptions of a dining experience providing positive and negative responses. For instance, congruent music and food selections have been shown to enhance food desire and quality perceptions (Seo and Hummel 2011) as well as to enhance a sense of authenticity (Spence et al. 2011). Yet, there are a number of variables inherent in sound that can impact avoidance or attraction in customer behaviors including tempo, volume, complexity, genre, etc. (Oakes 2000).

More recent research suggests that congruent and incongruent music choices can affect food liking and perceptions quite differently. For example, Fiegel et al. (2015) found that emotional and non-emotional foods impacted the relationship and liking levels with various music genres. Muniz (2013) determined that ethnic music congruency (with food) impacted the frequency of ethnic food choices when comparing Italian and Thai food/music with restaurant sounds as a control variable.

The current study takes a different approach to assess the relationships among music styles, consumer behaviors and food type. Specifically, the research design incorporated two studies in realistic restaurant settings to ask the following research questions: 1) What is the relationship between perceived music influence and comfort level with consumer spending and actual dining time? 2) What is the relationship between food type and preferred music type?

## **Methods**

This study utilized two separate studies to assess the posed research questions. Study #1 took place in an actual operating casual dining restaurant in Germany. Study #2 took place in a simulated restaurant setting that was a student-run restaurant operation integrated into a hospitality curriculum in the U.S.A.

**Study #1.** This study was conducted during 25 meal periods (lunch and dinner) at a casual restaurant in Germany. The selected restaurant had a broad range of customers and offered a wide range of food and beverages. The music in the study featured playlists of pop and rock music that could generally be described as ‘top forty’ hits. Tempo ranged from 83 to 172 bpm; volume ranged from 55 to 80 dB(a).

All guests entering the defined area in the restaurant were observed. The length of stay was recorded in minutes and the printed sales slip enabled verification of spending per person. After

the guests finished their meals, the observer approached each table and asked them to complete a survey. Some guests declined to participate in the study; the resulting respondents during the dinner meal periods totaled 340 guests (82.7% response rate).

The survey instrument was developed synthesizing earlier research on the role of music in food and beverage or restaurant settings (Caldwell and Hibbert 2002; Magnini and Thelen 2008; Gueguen et al. 2004; 2008; Wilson 2003). Participants in the study ranged in age from 17 to 77 years old; the mean was 38.56 years and median was 37 years. Age was included as a control variable to partial out its effects from music influence-based effects. The participants in the study were 48.7% female and 51.3% male.

**Study #1 measures.** The survey instrument and observation were used to collect data on demographic information, cognitive effects on quality perceptions and to quantify behavioral variables. For this study, two atmospheric items (level of music influence on the dining experience and comfort level of music treatment) were assessed to determine the potential impact on three consumer responses (dining time, food spending in Euros, and beverage spending in Euros). The dining time ranged from 17 to 219 minutes across both meal periods. Total spending was calculated in Euros based on the actual guest check per person and included both food and beverage. The mean was 10.97 Euros and median was 10.50 Euros. Per person spending ranged from 2.40 to 26.50 Euros with a standard deviation of 4.27 Euros. Food and beverage spending was calculated separately for the analysis.

**Study #2.** This study was conducted for the duration of two weeks in a casual simulated restaurant that was ran by students as part of a hospitality management program in the USA. Reservations were taken and walk-ins were welcomed provided there was room available for the one time seating at 12-noon. The prepared meals consisted of Italian and Asian cuisines. Guests that were dining were asked to fill out the preset survey during the course of their meal. The survey consisted of an assessment of dining behaviors, acceptance of music genres, preference for music when dining, and satisfaction ratings of the simulated restaurant experience.

There were 71 participants (59% response rate) in this study. The mean age of participants who had the Asian cuisine treatment was 42.74 with a SD of 20.26 and the mean age for those who had the Italian cuisine treatment was 44.09 with a SD of 16.09. The participants in this study were 80% female and 20% male.

## Data Analysis

The results were tested using regression and binomial analysis to test the overall study research questions. SPSS version 20.0 was used in all tests.

To test the impact of perceived music influence and comfort level in study #1, hierarchical regression analysis was performed in which age was entered first into the regression (Step 1) followed by perceived music influence and comfort level (Step 2). Table 1 presents the results of the regression analyses.

To test results from study #2, binomial analysis was used to assess significant differences between ethnic menu treatments based on the frequency of selections of music type in each treatment. Nonparametric tests are used to analyze data that do not meet the assumptions of parametric tests. In this case, the data categorical in nature (yes = 1 [the music type was selected] and no = 0 [the music type was not selected]) and, therefore, are not normally distributed. Nonparametric tests are less powerful than parametric tests but can be used for both nominal and ordinal data types. The binomial test procedure compares observed frequencies of two categories of a dichotomous variable to the frequencies that are expected under a binomial distribution with a specified probability parameter (Vogt 1999). The specified parameter in test in this study was the frequency of each music type selected a particular ethnic menu treatment compared its frequency in other ethnic menu treatments. Ethnic menu treatments included Italian and Asian. The music type choices included: Rock, Country, Blues, R&B, Hip Hop, Pop, Classical, Italian, Thai, Reggae, Folk, French, Indian, Greek, Japanese, Other.

## Results

**Study #1 results.** In Table 1, results for six linear regression tests are provided. Results were separated between lunch and dinner to control for differences in dining time and spending patterns resulting from differences in meal period norms. Therefore, three regression tests were run for each meal period. Each test had a separate DV which included dining time, food spending in Euros and beverage spending in Euros.

In the first set of tests (the dinner meal period), there was no significant direct relationship between consumer age and dining time as the DV. In Step 2 with age partialled out, higher comfort levels provided by the music had a significant positive relationship on dining

time ( $\beta = .23$ ,  $p < .05$ ); perceived benefits of music influence had a positive impact but only at the  $p < .10$  ( $\beta = .16$ ).

**Table 1**  
**Hierarchical Multiple Regression Analysis: Dining Time, Food Spending and Beverage Spending**

Meal Period	DV	Variable	Step 1	Step 2
Dinner	Dining Time	Age	.04	-.11
		Comfortable Music		<b>.23*</b>
		Perceived Music Influence		.16 <sup>+</sup>
		R <sup>2</sup>	.00	.07
		$\Delta R^2$		.07
		F (df)	.20 (1, 122)	3.21* (3, 120)
Dinner	Food Spending	Age	<b>.18*</b>	<b>.27**</b>
		Comfortable Music		<b>.22*</b>
		Perceived Music Influence		.08
		R <sup>2</sup>	.03	.07
		$\Delta R^2$		.04
		F (df)	3.90* (1, 116)	2.87* (3, 114)
Dinner	Beverage Spending	Age	<b>.18*</b>	.19 <sup>+</sup>
		Comfortable Music		-.03
		Perceived Music Influence		.05
		R <sup>2</sup>	.03	.04
		$\Delta R^2$		.01
		F (df)	3.97* (1, 115)	1.42 (3, 113)
Lunch	Dining Time	Age	.12 <sup>+</sup>	.06
		Comfortable Music		-.05
		Perceived Music Influence		<b>.20*</b>
		R <sup>2</sup>	.02	.04
		$\Delta R^2$		.02
		F (df)	3.26 <sup>+</sup> (1, 212)	3.12* (3, 210)
Lunch	Food Spending	Age	.05	-.03
		Comfortable Music		.02
		Perceived Music Influence		.13
		R <sup>2</sup>	.00	.02
		$\Delta R^2$		.02
		F (df)	.45 (1, 212)	1.14 (3, 210)
Lunch	Beverage Spending	Age	.09	-.07
		Comfortable Music		.15 <sup>+</sup>
		Perceived Music Influence		.06 <sup>+</sup>
		R <sup>2</sup>	.01	.03
		$\Delta R^2$		.02
		F (df)	1.59 (1, 212)	3.42 (3, 210)

\*\*p < 0.01; \*p < 0.05; <sup>+</sup>p < 0.10 (2-tailed). All Betas are standardized

In step 1 with food spending as the DV, age was a significant and positive predictor of spending level ( $\beta = .18, p < .05$ ). In step 2, age was still significant ( $\beta = .23, p < .01$ ) and music perceived as providing a higher comfort level was also significant ( $\beta = .22, p < .05$ ). The overall perception of music's influence was non-significant on food spending.

For tests using beverage spending level as the DV during the dinner meal period, age was the only significant predictor for beverage spending ( $\beta = .18, p < .05$ ). Higher comfort levels and perceived music influence did not impact dinner meal period beverage spending in this context.

In the second set of regression tests (the lunch meal period), there was no significant direct relationship between consumer age with dining time as the DV but age as a predictor was approaching significance at  $p < .10$ . In Step 2 with age partialled out, higher comfort levels was non-significant but perceived music influence positively impacted lunch dining time ( $\beta = .18, p < .05$ ).

In step 1 and 2 with food spending as the DV, age, comfort levels and music influence were all non-significant predictors of food spending at lunch. For tests using beverage spending level as the DV during the lunch meal period, age was non-significant but higher comfort levels and perceived music influence approach significance at the  $p < .10$  level ( $\beta = .15$  and  $\beta = .06$ , respectively).

**Study #2 results.** In Table 2, frequencies and results for significant differences are provided from the binomial analysis. Results compared diners in two ethnic food treatments: Italian and Asian. After the dining experience, diners were asked to provide music genres that they believed would be the good fit with the meal; they were allowed to select multiple responses. The analysis indicated four significant differences between diners in the Italian treatment compared to the Asian menu treatment.

Overall (in both treatments), classical music and jazz were selected consistently by the patrons indicating that (regardless of cuisine type) these music genres were well received by a relatively high proportion of diners. Interestingly, country music was the next highest overall followed by rock, folk and pop genres.

Once ethnic menu treatments were included, several significant differences emerged indicating a fit or congruence between the cuisine type and music type. In comparing the Italian vs Asian treatments, rock music, Italian music, Thai music and Japanese music were all significantly different. Rock music was selected 15.6% of the time by diners in the Italian

treatment vs. 6.3% in the Asian treatment ( $p < .10$ ). The highest selection in the Italian treatment was Italian music (43.8%) vs. only 3.1% in the Asian treatment ( $p < .001$ ). Thai and Japanese music were selected more frequently in the Asian treatment with no patrons selecting these music genres in the Italian treatment (9.4% vs. 0% and 12.8% vs. 0%, respectively). While French music was selected in the Italian treatment and not selected in the Asian treatment, a frequency of 3.1% was not significantly different than 0% in the Asian treatment.

**Table 2**  
**Frequencies of music preferences in each menu treatment<sup>1</sup>, binomial analysis comparing frequencies between treatments.**

<b>Music Type</b>	<b>Italian</b>	<b>Asian</b>	<b>P</b>
Rock	<b>15.6</b>	<b>6.3</b>	<b>&lt; .10</b>
Country	15.6	12.8	
Blues	9.4	3.1	
RandB	6.3	3.1	
Pop	6.3	7.7	
Classical	31.3	31.2	
Jazz	21.9	25.0	
Italian	<b>43.8</b>	<b>3.1</b>	<b>&lt; .001</b>
Thai	<b>0.0</b>	<b>9.4</b>	<b>&lt; .001</b>
Reggae	6.3	2.6	
Folk	9.4	6.3	
French	3.1	0.0	
Japanese	<b>0.0</b>	<b>12.8</b>	<b>&lt; .001</b>
Other	3.1	2.6	

1. The music genres of hip hop, electronic, Indian and Greek were also included in the survey but were not selected by participants in either menu treatment.

## **Discussion**

This research project utilized two studies to assist our understanding of the role and impact of music and restaurant or menu type on perceptions of congruence and ultimately dining behaviors. As with other studies, this research indicates that sound or music ‘matters’ and a perceived fit between the menu and music genre impacts behaviors.

These questions were asked in this research in two distinctly different ways. First, patrons assessed the role of perceptions of how comfortable the music made them feel and how they perceived the influence of music (positive or negative). After patrons assessed the impact of music, the researchers tested whether or not these explicit perceptions impacted dining time,



food spending and beverage spending in a casual dining setting. This assessment was further separated by meal period (lunch and dinner) and patron age to control for alternative explanations due to demographics and purpose / timing of visit. Second, patrons were asked after a dining experience with two possible cuisine treatments which music genres would they prefer with the particular ethnic cuisine.

The type of music in study #1 was 'top 40' type hits in this casual restaurant setting; the tests of the role of music on dining behaviors provided several interesting effects. First, these effects were different for dinner and lunch (even though this casual restaurant used the same menu for both meal periods). In terms of dinner dining time, age had no impact but the perceived comfort level of the music and perceived influence of music positively impacted the average duration of stay. During the lunch meal period, only perceived influence of music positively impacted the average dining time or duration of stay. Food spending during the dinner meal period was positively impacted by age and the perceived comfort level of the 'top forty' music type. Interestingly, food spending during the lunch period was not impacted by age or music; this finding highlights the role of meal period with differing norms for spending and purpose of the visit. Beverage spending (alcoholic) was positively impacted by diner age during dinner and approached a positive relationship with perceived comfort and perceived influence provided by music during lunch.

In terms of congruence between ethnic menus and music genres, the study in a causal restaurant setting highlighted the value of classical or jazz regardless of menu type for the largest group of patrons. It was also interesting that country music was the third most frequently selected music genre when not controlling for menu type; this finding may in part be due to the geographic location of this study from the mid-south in the US.

Interestingly, in the Italian menu treatment, Italian music was the most frequently selected music type (even above classical or jazz). But, in the Asian menu treatment, the Asian music choices (Thai and Japanese) accounted for a much smaller percentage than the Italian-Italian selection even though Asian music choices were significantly more frequent in the Asian menu situation as a whole. This finding may, in part, be due to a Western music bias or preference by US diners regardless of menu type.

## **Conclusions**

This research supports the notion that music type and restaurant or menu type congruence leads to positive dining behaviors and diner satisfaction. The combination of these two studies supports the congruence concept with Western diners preferring Western music genres regardless of menu type. When music was perceived as congruent with the dining experience, it led to increased dining time and spending. But, these relationships were greatly impacted by diner age, meal period and (presumably) music preferences.

These findings provide several implications for practitioners and future research. Practitioners that create a 'fit' among the music selections with menu type, atmosphere, restaurant segment and diner demographics are likely to enhance the dining experience and enhance the bottom line through increased sales, dining time and satisfaction. Important considerations provided from this study for practitioners include considering meal period, patron age and Western diner music preferences.

Future research is needed to further assess the impact of music and food congruence-incongruence on quality perceptions, satisfaction, consumption patterns and whether or not earlier findings in lab settings hold when placed into more realistic restaurant situations. Further, researchers should control for a variety of mediating or moderating elements including diner music preferences, purpose of visit to a restaurant, and the use of sound to achieve revenue management goals in a variety of foodservice settings.

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