The effect of music on perceived atmosphere and purchase intentions in a restaurant

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ABSTRACT Extending research by North and Hargreaves (1998), this study investigated the effect of music on perceived atmosphere and purchase intentions in a restaurant. Four musical styles (jazz, popular, easy listening and classical) and no music were played in a restaurant over two consecutive weeks. Results indicated that different types of music had different effects on perceived atmosphere and the amount patrons were prepared to spend. Classical, jazz and popular music were associated with patrons being prepared to spend the most on their main meal. This value was found to be significantly lower in the absence of music and when easy listening was played. There was some evidence that the type of music also had an effect on the amount of money patrons actually spent in the restaurant. Overall, the study contributes to the development of a model that seeks to account for the relationship between music and consumer behaviour.

KEYWORDS: *consumer behaviour, listening, music psychology, perceived atmosphere, restaurant*

Introduction

Despite the amount of money spent on music-related resources in the commercial sector, research which investigates relationships between music and consumer behaviour is relatively sparse. Studies in social psychology have demonstrated a range of interactions between music and the social context in which it is heard (Fried and Berkowitz, 1979; Stratton and Zalanowski, 1984; Zillmann and Bhatia, 1989; Bleich et al., 1991; Zullow, 1991; Stack and Gunlach, 1992; Standley, 1995). Few studies, however, have considered the influence of music in everyday commercial environments such as restaurants and other retail outlets. Research in this area has the potential to provide commercial practitioners with guidelines regarding how to enhance

business and increase sales through the use of music, in addition to making a contribution to an important area of social psychology.

THE EFFECT OF MUSIC ON PERCEIVED ATMOSPHERE

In 1996, North and Hargreaves studied the effect of music on atmosphere in a university cafeteria (North and Hargreaves, 1996). Results suggested that customers' 'liking' of the cafeteria increased with their 'liking' for the music played within it. In a follow-up study, North and Hargreaves (1998) investigated whether affective responses to music of different styles could influence the perceived characteristics of a commercial environment. Results suggested that different musical conditions influenced subjects' perceptions about the cafeteria. Furthermore, the nature of subjects' perceptions of the cafeteria showed a relationship to their perception of the music.

North and Hargreaves (1998) stated that the implications of their study needed to be validated by future research. In response, the present study explores the effect of music on perceived atmosphere and purchase intentions in a restaurant. While the methodology employed in the North and Hargreaves study is maintained to a large extent, the present research design has been expanded to incorporate a broader range of musical conditions. Further, as suggested by North and Hargreaves, the present study utilizes a non-student subject sample.

THE EFFECT OF MUSIC ON PRODUCT CHOICE AND PURCHASE INTENTIONS

A number of studies suggest that music has the potential to influence product choice (Alpert and Alpert, 1990; Areni and Kim, 1993). The idea that music conveys and triggers relevant information that may prime consumers' beliefs about a product has been described as musical 'fit'. Areni and Kim (1993) applied the idea of musical 'fit' to shopping behaviour by playing classical music and Top-40 music in a wine store. The results showed that classical music led to consumers purchasing more expensive wine. These results support MacInnis and Park's (1991) notion that persuasion is enhanced when the music is appropriate for the context in which it is played, and Yalch and Spangenberg's (1990) suggestion that classical music is associated with the perception of higher-priced store items.

The effect of musical tempo on the speed of consumer behaviour and the amount of money spent has also been investigated. For example, Milliman (1982) found that slower music was associated with a slower shopping pace, and increased gross sales. In a further study, Milliman (1986) tested the effect of fast and slow music in an 'upscale' restaurant. The results showed that diners ate more quickly when fast music was playing (see also Robally et al., 1985). On the nights when slow music was playing, customers spent significantly more time in the restaurant and more money on alcoholic beverages.

Bruner (1990) suggests that the *style* of music played is likely to have a more significant effect on customers' perceptions and choices. This is

supported by Yalch and Spangenberg (1990), who investigated the influence of different styles of music on customers' estimates of the amount of time they spent shopping. The study suggested that consumers who are exposed to 'non-typical' stimuli in the environment (for example, younger customers encountering easy listening music) tend to overestimate time durations.

Several studies of in-store music have drawn on an environmental psychology model proposed by Mehrabian and Russel (1974). This model states that people respond to environments according to two primary factors: pleasure and arousal. In a more pleasurable environment consumers are more likely to demonstrate 'approach behaviours' towards it. In turn, an environment with arousal-evoking qualities is likely to enhance the effects of pleasure. Dube et al. (1995) demonstrated the effect of pleasure and arousal induced by music on consumers' desire to engage in buyer–seller interactions in a bank. Similarly, North and Hargreaves (1996) found that 'liked' music was positively related to patrons' willingness to return to a dining area, and their willingness to interact with others.

The literature reviewed above provides evidence that music can influence factors such as the speed of consumer activity, product choice, customers' desire to affiliate, and their estimation of time. One area that has been given comparatively little attention in the literature is the extent to which music might actually influence the amount of money patrons are prepared to spend. Introductory evidence has been provided by North and Hargreaves (1998), who found that the type of music played in a cafeteria influenced the amount of money patrons were prepared to spend. In addition, they found that sales figures for the cafeteria were significantly higher when classical and popular music were played.

AWARENESS AND APPROPRIATENESS

It has been suggested that people are likely to spend more time and money in a restaurant or retail environment if the music being played is considered appropriate (Radocy and Boyle, 1997). Therefore, patrons in the present study were asked to indicate whether they thought the music being played in the restaurant was appropriate. Responses are considered in terms of patrons' perception of atmosphere and the amount of money they are willing to spend. Patrons were also asked to rate their level of awareness of the music being played. Based on the characteristics of *stimulative* and *sedative* music described by Radocy and Boyle (1997), it was predicted that subjects' awareness of the music would be greater in the popular, jazz and control conditions.

Aim

To extend the literature on perceived atmosphere and purchase intentions in the commercial environment, the present study has four aims:

1. To investigate the extent to which the type of music being played influences patrons' perception of a restaurant environment;
2. To examine the influence of different musical styles on the amount of money patrons are prepared to spend, and the amount of money they actually spend;
3. To investigate interactive effects between music, perceived atmosphere and a range of other variables such as the number of people dining, the number of times patrons have been to the restaurant before, the amount of alcohol consumed and patrons' perception of the quality of food and service; and
4. To examine whether the appropriateness of the music influences patrons' perception of the restaurant and the amount of money they spend.

Method

PARTICIPANTS

All patrons present in the restaurant during the testing period were eligible for the study. The sample comprised 300 subjects, that is, a total of 50 subjects for each condition over the 12-day testing period. Testing was carried out between 7.30 pm and 11.30 pm from Monday to Saturday over the two weeks. Of the 300 subjects, 45.4 percent were male and 54.6 percent were female. The distribution of participants according to gender and age is presented in Figure 1. As shown, the majority of subjects were aged between 20 and 39 years.

Patrons were approached at their tables at the end of their meal and asked to

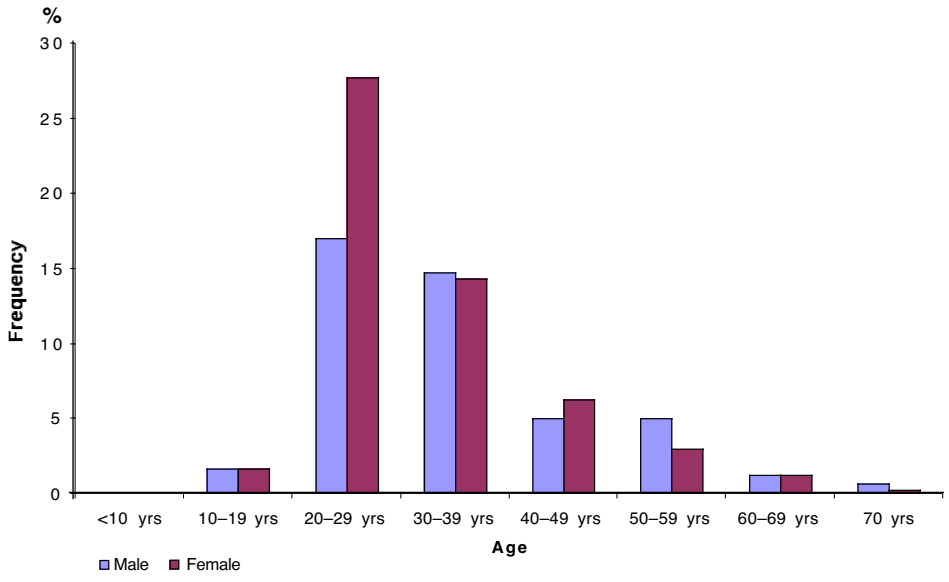

FIGURE 1 *Distribution of participants by age and gender.*

complete a questionnaire about the restaurant. The first questionnaire of the evening was not administered until the music had been playing for at least 30 minutes to ensure that participants had sufficient exposure before responding.

DESIGN

The experiment was conducted at *Out Of Africa*, a popular Sydney restaurant. The choice of restaurant was governed by the following criteria: (a) seating capacity >100; (b) high-quality stereo system and speakers; (c) close competitors with other restaurants in the area; and (d) a diverse range of clientele. In week one the presentation of conditions occurred in the following order: jazz, no music, classical, easy listening, control and popular. This order was changed in the second week (classical, jazz, popular, control, no music, easy listening) to reduce the effect associated with day of the week.

The experiment was based on a time series design with the aim of examining the intervention of a series of conditions. As shown, a control group was incorporated by administering questionnaires under 'normal conditions' on two nights during the testing period (where restaurant owners would play the music they would normally play). The control condition comprised a mixture of world music (played on CD), and live music (a 3-piece African band). While the live music component may be seen as reducing the homogeneity of the control as a single condition, its inclusion was viewed as providing a more balanced and accurate representation of what was normally played (and experienced) in the restaurant.

MATERIALS

With the exception of the 'no-music' condition and the non-intervention control, each condition employed several hours of music that was previously recorded onto a series of CDs (see Appendix). The four musical styles presented included classical, popular, easy listening and jazz. Following North and Hargreaves (1998), the pieces selected for the study were typical examples of the style.

On each night during the study, the music was played on a high-quality CD player through four speakers that were suspended in each corner of the restaurant. The volume of the music was held constant, and at a level where it was clearly audible while still allowing patrons to talk over it comfortably.

QUESTIONNAIRES

Two separate questionnaires were designed for the study. The first, completed by restaurant management prior to testing, was designed to collect information about the type of music typically played, and details of the consistency of other factors in the restaurant (for example, lighting, decor, service, menu) which might influence the results of the study. The second questionnaire, described below, was administered during the testing period to restaurant patrons.

PATRON QUESTIONNAIRE

The first section of the questionnaire asked patrons to indicate the number of times they had been to the restaurant previously, their reason for dining, the number of people they were dining with, and whether they thought they would return to the restaurant. This information was obtained to allow a more detailed investigation of the interaction between music and consumer behaviour. For example, we might expect these extraneous factors to enhance or reduce the impact of music on patrons' perception of the restaurant environment, and the amount they are prepared to spend. These early questions also acted as 'distracters' – the intention being that subjects would be less inclined to think that the survey was about the music being played. Following this, subjects were asked to rate the characteristics of the restaurant according to a list of 20 adjectives. For the purpose of comparison, the adjectives used in the study were identical to those used by North and Hargreaves (1998). Patrons made their responses on an 11-point scale (0 = 'the restaurant definitely does not possess this characteristic' to 10 = 'the restaurant definitely does possess this characteristic'). Subjects were then asked to rate the quality of food and service in the restaurant, the extent to which they were aware of the music being played (0 = 'not at all aware' to 5 = 'extremely aware'), and whether they thought the music being played was appropriate.

The second section of the questionnaire asked patrons to respond to the music being played. This section was answered by all subjects with the exception of those in the 'no music' group. Subjects were asked to rate the music according to the same set of adjectives used previously so that the relationship between music and perceived atmosphere could be examined directly. Once again, patrons responded on an 11-point scale (0 = 'the music definitely does not possess this characteristic' to 10 = 'the music definitely does possess this characteristic'). As a means of examining purchase intention, the final section of the questionnaire asked patrons to indicate the maximum amount of money they were prepared to spend on their main meal.

Results

PERCEIVED CHARACTERISTICS OF THE RESTAURANT

Differences between the four musical styles, no music and the control condition on participants' ratings of atmosphere were investigated using a MANOVA. The overall difference between musical styles was found to be significant, $F(294, 5) = 12.55$, $p < .0001$.

Table 1 summarizes differences between the conditions for subjects' ratings of atmosphere. The results of Tukey HSD post-hoc tests are also presented, indicating several significant differences between conditions.

The relationship between responses to the restaurant and responses to the music for each adjective was investigated by a series of correlations. The

TABLE 1 *MANOVA and Tukey tests concerning the effects of music on the perceived characteristics of the restaurant*

	M							
Characteristic	No music	Easy listening	Classical	Jazz	Popular	Control	*F*	*p*
Upmarket	4.77_{abcde}	6.44_{c}	6.36_{b}	7.02_{a}	6.34_{e}	6.68_{d}	6.98	< .0001
Sophisticated	4.33_{abcde}	6.17_{c}	6.13_{b}	6.71_{a}	6.29_{e}	6.61_{d}	7.35	< .0001
Happy	6.93_{abcd}	8.12_{b}	7.78_{e}	8.22_{a}	8.20_{d}	8.87_{ce}	5.74	< .0001
Restful	5.77	5.25	6.56_{a}	6.32	4.66_{a}	5.92	3.11	< .05
Fresh	6.63	7.47	7.71	7.56	7.00	7.68	1.82	.11
Exciting	6.37_{a}	7.49	6.78	7.20	7.17	7.71_{a}	3.09	< .05
Rebellious	4.27	3.90	4.87	4.68	3.97	4.71	1.50	.19
Cerebral	4.13	4.66	4.69	3.80	3.54_{a}	4.77_{a}	2.26	< .05
Feminine	2.97_{b}	3.78_{d}	4.49_{abc}	3.02_{a}	2.14_{cde}	3.55_{e}	5.39	< .0001
Fun	6.43_{a}	7.58	6.60_{b}	7.24	7.40	8.01_{ab}	4.34	< .05
Downmarket	2.37	2.29	1.80	1.93	1.94	2.07	0.45	.81
Youthful	5.73	6.69	6.40	5.76	6.66	6.63	1.68	.14
Peaceful	4.77	3.47_{ac}	6.18_{cde}	5.44_{ab}	3.37_{be}	4.00_{d}	8.89	< .0001
Spiritual	3.13_{ad}	3.03_{beg}	5.49_{def}	5.17_{abc}	3.29_{cf}	4.54_{g}	8.33	< .0001
Tacky	2.43_{a}	2.24	1.40	1.17_{a}	1.51	1.28	2.34	< .05
Masculine	4.07	3.58_{a}	4.87_{c}	5.34_{ab}	3.14_{bcd}	4.61_{d}	5.23	< .0001
Invigorating	4.80_{a}	4.81_{b}	5.31	5.63	4.80_{c}	6.28_{abc}	3.82	< .05
Aggressive	2.37	3.15_{a}	2.04	2.44	2.29	1.86_{a}	1.89	.09
Fashionable	6.20	6.47	6.67	6.90	7.03	6.68	0.65	.66
Sensual	4.57_{b}	4.66_{ac}	5.24_{cd}	6.00_{a}	6.62_{abd}	6.62_{bce}	16.64	< .0001

Note. Means marked by similar subscripts differ at $p = .05$ for each characteristic.

result for each adjective was found to be significant at $p = .001$, with r values ranging between .23 and .52.

A factor analysis was conducted to further examine subjects' responses to the restaurant according to the 20 adjectives. Varimax rotation of the principal components solution generated five factors with eigenvalues greater than 1. In total, these factors accounted for 61.3 percent of the variance in patrons' responses. Table 2 presents the details of factor loadings greater than ± .30.

These loadings led to Factor 1 being interpreted as *upbeat*; Factor 2 as *peaceful/passive*; Factor 3 as *tacky*; Factor 4 as *invigorating/stimulating*; and Factor 5 as *upmarket/sophisticated*. Differences between the musical conditions on each factor were explored using factor scores. The results of one-way ANOVAs and Tukey HSD post-hoc tests are reported in Table 3.

These results suggest that different musical styles produced differences in the general perceived characteristics of the restaurant. For example, no music was associated with the restaurant being perceived as the least upbeat, classical music with the restaurant being perceived as the most

upmarket/sophisticated, and popular music with the restaurant being perceived as the most upbeat. Jazz music was associated with the restaurant being perceived as the least peaceful/passive and the most invigorating/stimulating, and easy listening with the restaurant being perceived as the most tacky.

TABLE 2 *Factor analysis of responses to the restaurant environment*

Characteristic	Factor 1 loading	Factor 2 loading	Factor 3 loading	Factor 4 loading	Factor 5 loading
Upmarket					0.77
Sophisticated					0.71
Happy	0.83				
Restful		0.71			
Fresh	0.62				
Exciting	0.79				
Rebellious				0.65	
Cerebral		0.38		0.47	
Feminine		0.68			
Fun	0.90				
Downmarket					–0.60
Youthful	0.72				
Peaceful		0.79			
Spiritual		0.42		0.45	
Tacky			0.74		
Masculine			0.37	0.55	
Invigorating				0.79	
Aggressive			0.83		
Fashionable	0.34				0.35
Sensual				0.62	
Eigenvalue	5.61	2.46	1.81	1.29	1.07
% of variance	28.1	12.3	9.0	6.5	5.4

TABLE 3 *One-way ANOVAs and Tukey HSD tests to investigate differences between factor scores and conditions*

	M							
Factor	No music	Easy listening	Classical	Jazz	Popular	Control	*F*	*p*
1. Upbeat	-0.50_{abc}	0.16_{ad}	-0.43_{def}	-0.26_{g}	0.31_{beg}	0.18_{cf}	5.94	< .0001
2. Peaceful/passive	–0.14	0.06	0.21	–0.37	–0.26	0.22	2.49	.03
3. Tacky	0.26	0.36_{a}	–0.98	–0.17	–0.16	-0.24_{a}	3.01	< .05
4. Invigorating/ stimulating	-0.14_{a}	-0.42_{bd}	0.06	0.59_{abc}	-0.44_{ce}	0.25_{de}	6.95	< .0001
5. Upmarket/ sophisticated	0.17	-0.22_{c}	0.63_{cde}	0.36_{ab}	-0.23_{be}	-0.28_{ad}	7.82	< .0001

Note. Means marked by similar subscripts differ at $p = .05$.

PURCHASE INTENTIONS

Based on an ANOVA, the effect of music on the maximum amount of money patrons were prepared to spend on their main meal was also significant (p = .001). The no music condition produced the least maximum price subjects were willing to pay (Aus$17.12). Tukey HSD tests showed that this amount was significantly lower (p = .05) than every other condition: easy listening Aus$19.67, classical Aus$20.20, control Aus$20.63, popular Aus$21.01, and jazz Aus$21.82. Easy listening produced the next lowest amount subjects were willing to pay, and this was significantly different from the jazz condition.

It could be expected that patrons who had been to the restaurant more than once might be familiar with restaurant prices, and that this may have influenced the maximum price they were prepared to spend. However, no correlation was found (p = .05). Similarly, while it might be expected that subjects with a higher income would be prepared to spend more money on their main meal, this relationship was not found to be significant (p = .05).

SALES FIGURES

Restaurant sales figures were obtained during the testing period, and for the same days two weeks before and after testing. The variation in sales figures in the weeks before and after the testing period made it difficult to determine the influence of the intervening musical conditions on the amount of money spent. For example, a chi-square goodness-of-fit test revealed significant differences in sales over the six weeks. However, on four of these days, the highest and lowest figures occurred outside the testing period. This suggests that the number of people dining in the restaurant was largely responsible for differences in sales figures. On the remaining days, sales were lower when classical music was played, and higher when popular music was played than on the same days before and after testing. As information regarding the frequency of patrons was not available to the researcher, it is impossible to draw conclusions regarding the relationship between the type of music played and the amount of money patrons actually spent. However, there are a number of other factors which suggest a relationship between sales figures and the type of music played.

Due to the fact that all subjects completed the questionnaire while waiting for their bill, we can assume that no more purchases were made after this time. The final item on the questionnaire asked subjects to indicate what time it was. This information provided some indication of the amount of time (and perhaps money) subjects spent in the restaurant, or at least which conditions may have contributed to patrons remaining in the restaurant later in the evening.

Table 4 shows that classical music was associated with relatively few people remaining in the restaurant after 11 pm, and a greater number of subjects leaving the restaurant earlier in the evening, between 8 pm and

TABLE 4 *Frequency distribution of subjects (%) according to the time the questionnaire was completed*

Condition	8–9 pm	9–10 pm	10–11 pm	After 11 pm
Jazz	2.44	21.95	70.73	4.88
No music	3.33	35.00	50.00	11.67
Classical	6.67	37.78	53.33	2.22
Easy listening	0.00	15.25	74.58	10.17
Control	5.63	16.90	64.65	12.82
Popular	0.00	2.86	87.14	10.00

10 pm. An ANOVA showed that the time subjects filled out the questionnaire when classical music was played differed significantly from all other conditions ($p = .05$). This implies that the type of music being played had an effect on how long patrons remained in the restaurant.

SITUATIONAL INFLUENCES ON THE PERCEPTION OF ATMOSPHERE

In addition to responding to the characteristics of the restaurant and the music being played, subjects were asked to provide details such as (a) the number of people they were dining with; (b) the reason they were dining out; (c) the amount of alcohol they had consumed; (d) the number of times they had previously dined at the restaurant; and (e) the quality of food and service.

Patrons were asked to indicate the number of people they were dining with (including themselves) on a 5-point scale (1 = one to 5 = five or more people). Based on an ANOVA, the relationship between the number of people dining and patrons' responses to the characteristics of the restaurant overall was not significant. However, the number of people dining did yield a significant result for the adjectives 'cerebral' and 'aggressive' ($p = .05$). In both the jazz and control conditions, mean responses for these adjectives increased incrementally with the number of people dining.

It was considered that patrons dining with friends or family might respond differently to the environment than patrons attending a business meeting or function. However, based on an ANOVA, subjects' reason for dining out did not produce significant differences in their responses to the restaurant ($p = .05$).

The figures reported in Table 5 suggest that the more upbeat styles of music were associated with a greater number of people consuming three or more drinks. Only a relatively small proportion of subjects (11.1%) consumed three or more drinks on the nights when classical music was played. An ANOVA showed that the number of drinks consumed differed significantly between classical music and every other condition except no music ($p = .05$).

A MANOVA was used to investigate the interaction between the number of

TABLE 5 *Number of alcoholic beverages consumed (%)*

No. of drinks	Jazz	No music	Classical	Easy listening	Control	Popular
None	14.6	10.0	24.4	16.9	15.5	17.1
1–2	41.5	63.3	64.4	40.7	42.3	45.7
3 or more	43.9	26.7	11.1	42.4	42.3	37.1

drinks consumed, subjects' perception of the atmosphere, and musical condition. The amount of alcohol consumed did not significantly affect patrons' responses to atmosphere overall. However, an interactive effect was found between the number of drinks consumed, the type of music played, and subjects' responses to 'invigorating' and 'masculine' ($p = .001$). Specifically, the jazz condition produced significant correlations ($p = .001$) between the number of drinks consumed and the following adjectives: invigorating, masculine, sophisticated, rebellious and cerebral. In each case, mean ratings increased with the amount of alcohol consumed.

Patrons' responses to the characteristics of the restaurant were also considered in terms of the number of times they had been to the restaurant before. While there was no significant correlation overall, the number of times subjects had been to the restaurant was found to correlate with their perception of the restaurant as 'fun'. This relationship was found to be significant in the jazz and control conditions only ($p = .05$).

Patrons' responses to the quality of service indicated that 92.2 percent of subjects rated the service in the restaurant as 'slightly above average' or higher. A MANOVA was used to investigate the interaction between musical condition, patrons' responses to service, and their responses to atmosphere. Overall, a significant effect ($p = .001$) was found between patrons' responses to service and their responses to the restaurant. More specifically, significant results were found for the following adjectives: upmarket, sophisticated, happy, fresh, exciting, fun and fashionable. The jazz condition yielded a significant correlation between patrons' responses to service and their responses to 'happy', 'fun' and 'fresh', while popular music generated a significant correlation between patrons' responses to service and their responses to 'exciting'. That is, the higher the rating for service, the higher the rating responses for these adjectives. Classical, easy listening, no music and the control condition did not yield significant correlations between patrons' responses to service and the characteristics of the restaurant.

It was considered that the time of night subjects filled out the questionnaire may have influenced their ratings of the restaurant. Based on an ANOVA, a significant effect was found between the time subjects filled out the questionnaire and their responses to 'invigorating' ($p = .001$). Inferential statistics showed that rating responses for 'invigorating' were lower when

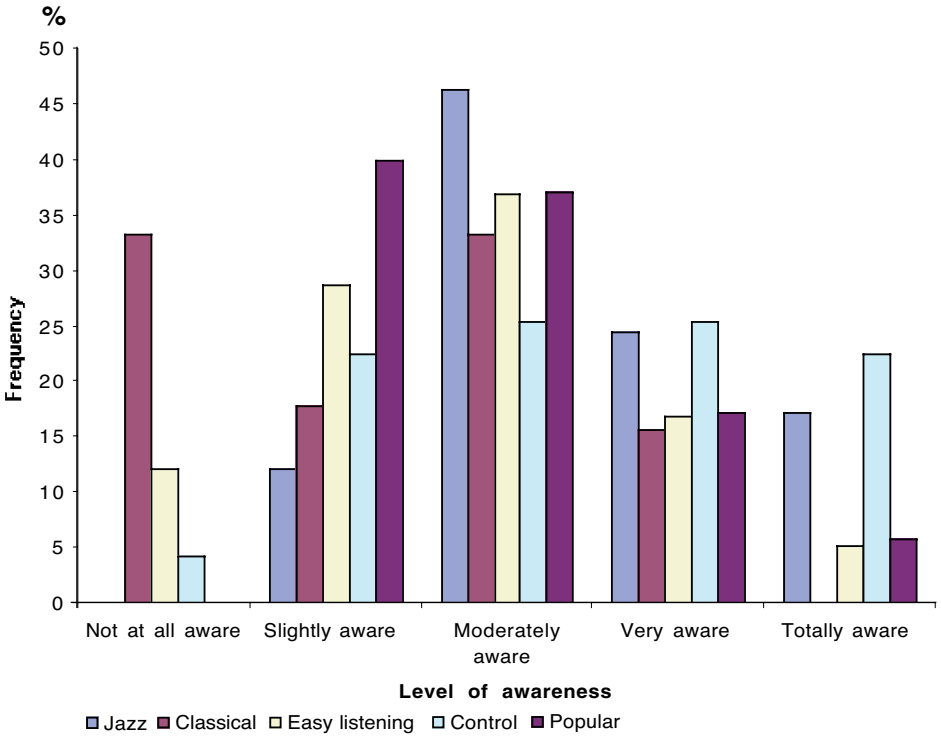

FIGURE 2 *Distribution of participants according to awareness of the music.*

responses were made later in the evening for the easy listening and no music conditions only.

Two additional factors were explored in relation to patrons' responses to the restaurant: patrons' awareness of the music, and the degree to which they thought the music being played was appropriate. Figure 2 reports the distribution of responses according to patrons' awareness of the music being played. Patrons were less aware of the music in the classical condition, and more aware of the music in the jazz, popular and control conditions. Based on an ANOVA, the relationship between patrons' awareness of the music and their responses to atmosphere was not found to be significant ($p = .05$).

In terms of appropriateness, the control condition generated the most positive response (94.4% considered the music appropriate), followed by jazz (87.8%) and popular music (77.1%). Generally, the more upbeat styles of music were considered to be more appropriate than classical (46.7%) and easy listening (62.7%). Classical music was considered the least appropriate style for the restaurant and, based on an ANOVA, was significantly different from every other condition ($p = .01$). Easy listening was found to be significantly different from jazz and the control condition, and the number of

people who thought the music was appropriate was significantly higher in the control condition than the popular condition ($p = .01$).

Subjects' responses to the appropriateness of the music were found to correlate significantly ($p = .05$) with their responses to the restaurant for the adjectives 'downmarket' and 'tacky'. That is, patrons perceived the restaurant to be more downmarket and more tacky when they did not consider the music to be appropriate. Inferential statistics also suggested that subjects who had been to the restaurant before considered classical and easy listening music to be less appropriate than those who were dining at the restaurant for the first time; however, an ANOVA did not yield a significant difference ($p = .05$). While 53.3 percent of patrons in the classical group considered the music inappropriate, a *t*-test showed that the amount of money they were prepared to spend did not differ significantly from the 46.7 percent who considered classical music appropriate.

Based on an ANOVA, the age of subjects was not found to significantly influence their responses to the appropriateness of the music, the amount of money they were prepared to spend, or their responses to atmosphere or music ($p = .05$). Similarly, a *t*-test did not reveal significant differences between males and females according to these factors. An ANOVA was also used to investigate whether there was a relationship between subjects' income and their responses to the appropriateness of the musical style being played. No differences were found between income groups ($p = .05$).

Discussion

PERCEPTION OF THE RESTAURANT

The results reported in Table 1 indicate that different styles of music, and the absence of music, influenced patrons' perceptions of the restaurant environment. A positive relationship was also found between patrons' perceptions of the restaurant and their perception of the music. These findings are consistent with North and Hargreaves (1998). A factor analysis of responses to the restaurant provided evidence that different styles of music (and no music) led to differences in the general perceived characteristics of the restaurant, a finding also consistent with the North and Hargreaves (1998) study.

PURCHASING (INTENTIONS AND ACTUAL SALES)

Patrons' responses to the maximum amount of money they were prepared to spend on their main meal yielded several differences between conditions. The most extreme differences occurred between no music and each of the five musical conditions. In accord with North and Hargreaves (1998), these results provide evidence that different musical styles, and no music, have the potential to influence patrons' purchase intentions.

Due to the fact that the number of people dining in the restaurant fluctuated considerably on the same day before, during and after the testing period,

it is difficult to assess the influence of music on actual sales. However, classical music was associated with relatively few people remaining in the restaurant after 11 pm, and a greater number of people leaving the restaurant earlier in the evening. This may be related to the fact that 53.3 percent of subjects considered classical music to be inappropriate. While this did not appear to affect the amount of money patrons in this group indicated they were prepared to spend, the perceived inappropriateness of the music may have influenced the amount of time and perhaps money they actually spent (supporting Radocy and Boyle, 1997). Classical music was also associated with fewer drinks being consumed, and consequently less money spent on alcoholic drinks.

INTERACTIONS

The results of this study suggest that several other factors were influencing the relationship between music and consumer perceptions. For example, results showed that the more people dining at a table, the more the restaurant was perceived as 'cerebral' and 'aggressive'. This relationship was found to be significant in both the jazz and control conditions. Results also suggested that an interactive effect occurred between the style of music, subjects' perception of the atmosphere, and the amount of alcohol consumed. For example, ratings for several adjectives increased with the amount of alcohol consumed when jazz was playing.

A significant interactive effect was also found between the style of music played, patrons' responses to the quality of service, and responses to atmosphere. Lending support to Dube et al. (1995) and North and Hargreaves (1996), these results suggest that music may be positively related to patrons' willingness to interact. Findings also suggested an interaction between music, perceived atmosphere and time of night. That is, the restaurant atmosphere was perceived as less invigorating later in the evening for the easy listening and no music conditions.

AWARENESS AND APPROPRIATENESS OF THE MUSIC

Results showed that subjects' awareness of the music differed across conditions. Overall, subjects were more aware of the music when upbeat styles were played. In contrast, classical and easy listening conditions were associated with more people indicating that they were 'not at all aware' of the music being played.

Findings suggest that subjects considered the more upbeat (or stimulative) styles of music to be more appropriate for the restaurant. This may be attributed to the concentration of subjects aged between 20 and 39. For example, the number of patrons indicating that classical and easy listening music were appropriate increased according to age. Conversely, the number of people who considered popular, jazz and the control condition appropriate decreased with age (although not significantly). Subjects who did not consider the

music to be appropriate perceived the restaurant as more downmarket and more tacky.

The music that was considered more appropriate for the restaurant can be described as having a high level of 'fit'. In this environment, the degree of fit between the music and the restaurant appears to have influenced several factors which are directly related to enhancing business and increasing sales. For example, the musical styles with a higher degree of 'fit' were associated with more alcohol being consumed, higher purchase estimates, more positive responses to atmosphere, and more patrons remaining in the restaurant later in the evening. While there was no significant difference between classical music and the more upbeat styles in terms of the amount patrons were prepared to spend, the lack of fit between classical music and the restaurant may have caused patrons to spend less time in the restaurant, and consequently less money on food and drinks.

IMPLICATIONS

The fact that patrons were prepared to spend more when popular, jazz and classical music were played suggests that spending might be increased by music that creates the perception of an upbeat or upmarket environment. This finding corresponds with North and Hargreaves (1998) who found that classical and popular music had a more positive effect on purchase intentions than easy listening and no music. Similarly, Areni and Kim (1993) found that people were prepared to spend more in a wine store when classical music was playing. In the present context, classical music was not considered to be appropriate by a large number of patrons. This suggests that there may be some discrepancy between the amount of money patrons indicated they would be prepared to spend, and the amount of money actually spent. Overall, however, the findings reported here are consistent with a model of the effects of music on purchasing which states that 'the nature of people's responses to music activate contextually relevant knowledge or behavior in other domains' (North and Hargreaves, 1998: 2267).

The present findings support Radocy and Boyle's (1997) suggestion that people might be inclined to spend more time and money in a restaurant or store when the music being played is considered appropriate. Similarly, findings support MacInnis and Parks' (1991) notion that persuasion is enhanced when the music is appropriate for the context in which it is played.

Findings suggest that responses to the characteristics of the restaurant were positively influenced by factors such as the number of people dining at a table, the amount of alcohol consumed, the quality of service, and the number of times patrons had been to the restaurant before. These positive relationships were only found to exist when the more upbeat styles of music were played. Again, these findings support the notion that people's responses to music may activate contextually relevant behavior in other domains.

There are several practical applications of the results reported in this

study. Firstly, results suggest that music can be used by restaurant and store owners to create a specific atmosphere which will distinguish the environment from competitors. Findings also suggest that stores which play upbeat or upmarket music may be able to charge higher prices. Overall, the absence of music had the most negative effect on atmosphere and the amount of money patrons were prepared to spend.

This research has demonstrated that music can influence the perceived characteristics of the environment in which it is played. In addition, it has provided evidence that different types of music can produce specific atmospheres such as upmarket and upbeat. Importantly, the study demonstrated that music can influence the amount of money patrons are prepared to spend, and perhaps the amount of money they actually spend. Overall, it is clearly evident that music has the potential to influence commercial processes.

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Appendix: musical stimuli

JAZZ
A Night in Tunisia: Clifford Brown
A Stanley Steamer: Earl Hines
A Taste of Honey: Charlie Bird
Be Yourself: Kenny Burrell
Better Get It in Your Soul: Charles Mingus
Black Coffee: Earl Hines
Blues for ZW: Leroy Jones
Deodato: Bangles and Beads
For All We Know: Dave Brubeck
Gone with the Wind: Dave Brubeck
Indiana (Back Home Again in Indiana): Milt Hinton
Love for Sale: Miles Davis
Midnight at the Oasis: Hubert Laws
Miles: Miles Davis
My Funny Valentine: Chet Baker and Gerry Mulligan
Rumble in the Jungle: Max Roach
Something Else: Miles Davis

Take Five: Dave Brubeck
That Beautiful Sadness: Mark Isham
The New Message: Art Blakey and the Jazz Messengers
This Can't Be Love: Ellis Marsalis
What Now My Love: Lou Donaldson
Yesterday's Dreams: Freddie Hubbard

POPULAR
All in Your Hands: Lamb
Alone: Ben Harper
Appletree: Erika Badu
At the River: Groove Armada
Blow Up the Pokies: The Whitlams
Buses and Trains: Bachelor Girl
Crash and Burn: Savage Garden
Don't Call Me Baby: Madison Avenue
Even When I'm Sleeping: Leonardo's Bride
Everybody Here Wants You: Jeff Buckley
Freshmint: Regurgitator
Friendly Pressure: Jhelisa
Glockenpop: Spiderbait
Half the Man: Jamiroquai
I Think I'm in Love with You: Jessica Simpson
I Try: Macy Gray
It Ain't Over 'Til It's Over: Lenny Kravitz
Karmacoma: Massive Attack
Keep Me Lifted: Spearhead
Lucky Star: Alex Lloyd
Nothing Much Happens: Ben Lee
One More Time: Groove Terminator
Revenge on the Number: Portishead
Shine: Vanessa Amorosi
Spinning Around: Kylie Minogue
Still a Friend of Mine: Incognito
Sunshine on a Rainy Day: Christine Anu
Thank You (For Loving Me at My Worst): The Whitlams
Tropicalia: Beck
Try Whistling This: Neil Finn
Weir: Killing Heidi
Why Does My Heart Feel So Bad?: Moby

CLASSICAL
Bach: *Air on a G String*
Bach: *Brandenberg Concerto No. 1 in E, RV 269 (II: Largo)*

Beethoven: *Moonlight Sonata*
Beethoven: *Symphony No. 4 in B flat major, Op. 60 (II: Adagio)*
Debussy: *Prelude to the Afternoon of a Faun*
Elgar: *Serenade for Strings, Op. 20 (II. Largetto)*
Grieg: *Morning (*from *Peer Gynt)*
Handel: *Water Music: Suite (II)*
Hummel: *Piano Concerto in A minor, Op. 85 (II: Larghetto)*
Mahler: *Symphony No. 5 in C sharp minor (IV: Adagietto)*
Mendelssohn: *Violin Concerto No. 2 in E minor, Op. 64 (Andante)*
Mozart: *Piano Concerto No. 19 KV 459 (Allegretto)*
Mozart: *Piano Concerto No. 20 KV 466 (Romance)*
Mozart: *Piano Concerto No. 21 in C major, K467 (II: Andante)*
Rachmaninov: *Concerto for Piano and Orchestra No. 2 in C minor, Op. 18 (II: Adagio Sostenuto)*
Schubert: *Symphony No. 5 in B flat Major, D485 (II: Andante con moto)*
Sibelius: *Andante Festivo*
Tchaikovsky: *Piano Concerto No. 1*
Vivaldi: *The Four Seasons (Spring)*

EASY LISTENING
Adeline: Richard Clayderman
All At Once: Fairfield
All I Have to Do is Dream: John Fox
All My Life: Nick Ingman
Always On My Mind: Pan Pipes
Annie's Song: Johnny Pearson
Are You Free: Images
Around Every Corner: Grant Geissman
Catalina: Fernando Jonas
Cinema Paradiso: Roger Woodward
Drivetime: Tommy Emmanuel
Endless Love: Richard Tucker
Everything I Do I Do It For You: Guitar Moods
Forever Love: Gary Barlow
Greensleeves: London Symphony Orchestra
Lara's Theme: Richard Clayderman
Memory: James Galway
Never on Sunday: The 101 Strings Orchestra
Once Again: Earl Klugh
Sadness: Roger Woodward
Saving All My Love For You: Paul Mauriat
Stay Another Day: Pierre Belmonde
Stranger on the Shore: Kenny G
The Greatest Love of All: Starsound Orchestra

The Summer Knows: Glenn Long and His Orchestra
Thinking of You: Oscar Lopez
Tonight I Celebrate My Love For You: Hill/Wiltstchinski Guitar
Your Song: Samantha Blue

STEPHANIE WILSON obtained her PhD at the School of Music and Music Education at the University of New South Wales in 1999. Her doctoral thesis investigated pattern perception and temporality in the music of Steve Reich. Since this time, she has conducted research in the area of music psychology for the Australasian Performing Right Association and has been involved in both music teaching and performance. Currently, she is working as Project Development Co-ordinator for the Office of the Pro-Vice-Chancellor (Education) at the University of New South Wales. This role involves supporting a range of learning and teaching initiatives and projects across the University.
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