

in an effort to attract a certain segment of the apparel-buying public (e.g. young, fashion-conscious women), purvey a certain image (e.g. modern, fashionable), and/or differentiate their retail offerings from those of their competitors.

Background Music and the Shopping Experience

Because a shopper's first-hand experience with a retailer partly determines whether or not he or she will return to the store, retailers should be aware of the importance of shopper evaluations. Three specific dimensions of shopper evaluation are considered: fulfilling purchase needs, overall affective evaluations; and service evaluations.

"How can background music help customers to fulfill purchase needs?" The answer: by playing the right type of music! There is some evidence to suggest that background music can have a direct impact on shopping behavior. Research on the use of background music in retail settings indicates that retailers can influence the amount of time, and sometimes the amount of money, a shopper spends by manipulating the volume (Smith and Cumow, 1966) and tempo (Milliman, 1982, 1986) of music. Playing the right type of music may influence shoppers to buy more expensive brands (Agmon, 1990) and purchase more merchandise (Yalch and Spangenberg, 1990).

Attempts to explain such musical effects typically lead to discussions of the models of human-environment interaction (also known as environmental psychology models) which assert that individuals (shoppers) respond both voluntarily and involuntarily to environmental stimuli (i.e., sights, sounds, scents) (Mehrabian and Russell, 1974). In short, this theory suggests that environmental stimuli, in this case background music, elicit certain emotional responses, namely pleasure,

arousal, and dominance (PAD) which in turn mediate a variety of "approach-avoidance" behaviors. In the context of retail settings, approach-avoidance behaviors can be characterized as a general liking of the retail environment, shopping enjoyment, attitudes toward returning to the retail environment, attitudes toward others in the environment, spending behavior, shopping time, and exploration of the retail environment (Donovan and Rossiter, 1982).

Based on the human-environment theory, two possible explanations of musical effects can be offered. The first possible explanation would be that the combination of environmental stimuli which an individual encounters in an environment provides a certain level of information (Mehrabian and Russell, 1974). An increase in the complexity and/or number of environmental stimuli in any given situation will lead to an increase in the level of information provided by the environment which in turn leads to an increased level of arousal. Potentially, both volume and tempo contribute information to an environment. It would follow that higher volume levels and faster tempos contribute higher amounts of information which in turn lead to increased levels of arousal. Several studies tend to support the relationship between music and arousal (see Caspy *et al.*, 1988; Holbrook and Anand, 1990; Rohner and Miller, 1980) and arousal and shopping behavior (Donovan and Rossiter, 1982). A second possible explanation relates to the pleasure dimension of environments. More specifically, the tempo and/or volume of background music add to or detract from the pleasantness of an environment, which in turn influences approach-avoidance behaviors (Holbrook and Anand, 1990). Given the limited evidence to support this explanation, additional research in this area is needed.

An alternative explanation for musical effects would be that individuals adjust their walking pace, either voluntarily or

involuntarily, to match the tempo of music and/or walk faster in the presence of loud music. The research conducted in this area provides some measure of support for this explanation (Milliman, 1982, 1986; Smith and Curnow, 1966). In addition, diners have been observed to eat faster in the presence of fast-tempo music (Roballey *et al.*, 1973). However, other related research efforts dealing with the relationship between the tempo of music and physical output (Coutts, 1965) and work output (Newman *et al.*, 1966) have failed to establish a link between musical tempo and pacing or performance.

"How can background music help a shopper to have a favorable shopping experience?" The answer: through its impact on mood and by reducing psychological costs! Another important contribution of background music would be to facilitate positive shopping experiences. Gardner (1985) suggests that consumer behavior at the point of purchase is moderated by mood. Mood state at the point of purchase, and ultimately in-store shopping behavior, can be influenced by a number of personal and store-related factors including antecedent psychological states, retail personnel (Gardner, 1985), time constraints, shopping motives (Bellenger and Korgaonkar, 1980) and crowding (Eroglu and Machleit, 1990). Background music is one element of the physical environment that may provide for an effective method of influencing mood states (Bruner, 1990).

Several studies indicate that music can effectively reduce anxiety (Peretti and Swenson, 1974; Stratton, 1992), increase positive mood ratings (Fried and Berkowitz, 1979), alleviate depression (Pignatiello *et al.*, 1986), and decrease frustration (Casper *et al.*, 1988). Background music can influence shoppers' perceptions of time and money spent (Chebat *et al.*, 1993; Yalch and Spangenberg, 1993) and reduce the stress

associated with waiting in line (Stratton, 1992).

Perhaps the best indication of the impact of background music on the shopping experience has been provided by shoppers themselves. A survey of supermarket shoppers (Linsen, 1975) revealed that supermarket patrons like hearing music when they shop. In addition, many shoppers feel that by providing music the store cares about its customers. Many also perceive spending less time standing in line at the checkout counter when music is played (Linsen, 1975). Supermarket shoppers also feel that music makes shopping a more relaxing experience and that they spend more time in the store when they listen to music (Keenan and Boisi, 1989).

In terms of service evaluations a retailer could ask "How can background music be used to improve my service ratings?" The answer: through its impact on employee performance and shopper service evaluations! Consumers evaluate shopping experiences partly on the basis of customer service (Bitner, 1992). The quality of service provided by service personnel can be important in determining whether or not a shopper has a favorable experience. Music can serve to improve employee performance and demeanor.

The literature is replete with reports citing improvements in worker productivity and performance associated with the introduction of background music. In general, these studies suggest that the use of background music can increase employee output (Podolsky, 1965) and reduce employee absenteeism (Kirkpatrick, 1943). Equally important, employees report that they enjoy their job more and do better work when listening to background music (Newman *et al.*, 1966) which can result in higher sales (Shimp and Rose, 1993). These findings should be tempered by the fact that background music may also distract an

employee from his or her duties (see Smith and Morris, 1977) or detract from the quality of task performance. In general, the more complex the task, the more likely it is that music will serve to distract the employee (Jacoby, 1968).

Background music may influence shoppers' feelings about service personnel also. One survey revealed that a majority of shoppers felt that their own attitude toward store employees improved as a result of background music (Linsen, 1975). Therefore retailers may be able to enhance employee-customer relationships through the proper use of background music.

In summary, background music can influence the amount of time and money, both real and/or perceived, which a shopper spends in a retail establishment. Background music may also serve to reduce counter-productive psychological states (e.g. frustration, anxiety, depression, negative mood), thereby enhancing positive evaluations of the shopping experience. Employee-customer relationships and service encounters can benefit from the use of background music also. All these findings indicate that background music can influence a shopper's evaluations of the shopping experience, which in turn can increase the probability of repeat patronage.

The Relevant Characteristics of Background Music

Given the potential benefits of background music, a retailer might be prompted to ask "What type of music should I be playing?" The answer to this question is not straightforward. Given the potential for influence and profitability, it is important to understand the nature of music and the specific musical characteristics which are purported to elicit behavioral responses. More specifically, retailers need to be aware of the

specific manipulable characteristics of music and how these factors can influence shopping behavior. However, of all the things we know about background music we probably know the least about characterizing effective background music. From the music literature two general categories of musical characteristics can be identified: structural (physical) and affective (emotional). In addition to specific characteristics of music, retailers should be aware that several factors may moderate the effects of any one of the structural or affective characteristics on behavior.

Structural Characteristics of Music

The structural characteristics of music are the objective and observable qualities of a musical composition. Six of the primary structural dimensions of music are tempo, volume, mode, pitch, rhythm, and harmony (Bruner, 1990). There is some evidence to suggest that any one of the various structural components, in isolation, is capable of eliciting specific musical effects. Research conducted in retail environments indicates that shoppers spend less time, but not less money, in a retail establishment when the volume of the background is relatively loud (Smith and Curnow, 1966) and that shoppers spend more time and sometimes more money in a retail establishment when the tempo is relatively slow (Milliman, 1982, 1986). Higher tempos and high rhythmic content also lead to an increase in physiological arousal (Vanderark and Ely, 1993) which is associated with approach-avoidance behaviors (Mehrabian and Russell, 1974).

There appears to be a general range of acceptability for musical tempo. Therefore the degree to which tempo can be reasonably manipulated is limited. Listeners tend to prefer tempos that fall within a range of 68 to 178 bpm (Kellaris and Altsech, 1992). A

musical composition with a tempo falling below or above this range tends to be evaluated in negative terms regardless of the acceptability of the other structural characteristics. Preference for a given musical composition tends to increase with tempo up to approximately 147 bpm (Kellaris and Altsech, 1992). Listeners tend to prefer tunes composed in major rather than minor modes also (Kellaris and Altsech, 1992; Kellaris and Kent, 1991).

Affective Characteristics of Music

While the effects of such musical characteristics as tempo, volume, and mode on consumer behavior would seem to be widely supported, one important musical dimension is often overlooked: the listener's affective evaluations of the music. Typically, only the musician is cognizant of the precise levels of the physical characteristics (e.g. tempo, volume) of a musical composition. Listeners must provide their own evaluations of the music. To the average listener, music is not an objective fact. Instead, music is defined in terms of the meaning assigned to it by the listener, which is determined in part by the observer's musical culture (Wright, 1975). As a result, listeners describe music simply in terms of its cognitive characteristics (Agmon, 1990) and/or its affective qualities (Bruner, 1990).

A listener assigns meaning to a song, regardless of structural characteristics, on the basis of his or her musical culture which refers to a collection of musical experiences (Wright, 1975). These musical experiences are influenced by members of society - more specifically, and perhaps more significantly, by family members, peers, and the mass media. Because of the significance and impact of social approval on an individual's values of all types, it stands to reason that

peer and reference groups may have the most influence on musical tastes.

While a musical composition has a measurable physical reality in terms of its structural characteristics (e.g. tempo, volume) it has a cognitive reality also which is the listener's perception of the physical characteristics of a composition. Music can be interpreted in emotional terms also (Agmon, 1990). One of the most fundamental dimensions of a musical composition is its emotional tone which is determined in part by the physical characteristics of the composition (Bruner, 1990). Musical compositions composed in major modes played at a fast tempo and medium volume are generally rated as "happy" songs: tunes written in minor modes played at a slow tempo and soft volume are generally considered to be "sad" songs (see Bruner, 1990).

An individual may evaluate a musical composition in more general emotional terms such as liked or disliked or some alternative measure of preference (Vanderark and Ely, 1992). The degree to which an individual likes a musical composition is dependent on a number of factors including the physical characteristics of the music (Kellaris, 1992; Kellaris and Kent, 1991; Kellaris and Rice, 1993), familiarity with the music (Davies, 1991; Fontaine and Schwalm, 1979; Rohner and Miller, 1980; Zissman and Neimark, 1990), age of the listener (Holbrook and Schindler, 1989; Yalch and Spangenberg, 1990), complexity of the music (Burke and Gridley, 1990), and the listener's cultural background (Yalch and Spangenberg, 1993). While the effects of the structural elements of music remain somewhat ambiguous and tentative, listeners' response to music that they prefer is generally favorable (see Vanderark and Ely, 1993). As a result, musical preference may be the key factor influencing behavior.

Factors that Moderate the Effects of Background Music

Several factors serve to moderate the effects of music on behavior. These factors are not inherent or perceived characteristics of music, but rather situational characteristics which develop separately from any given musical composition. These moderating factors include an individual's gender (Peretti and Swenson, 1974), musical training (Vanderark and Ely, 1993), personal associations (Baumgartner, 1992), age (Holbrook and Schindler, 1989), the match between the background music and the store's image (Macinnis and Park, 1991), and level of shopper involvement (Bruner, 1990).

In general, males and females respond differently to similar environmental stimuli (Mehrabian and Russell, 1974). With respect to music, there is evidence to suggest that males and females differ in response to music in general (Peretti and Swenson, 1974) and more specifically volume (Kellaris and Altsech, 1992). Other research provides evidence that behavioral response to music varies by the level of the listener's musical training (see Vanderbilt and Ely, 1993).

Personal associations with a musical composition refers to the degree to which people can bring to mind personal experiences that have become associated with a piece of music so that hearing the song evokes memories of the original episode and the mood(s) associated with the event (Baumgartner, 1992). For instance, a musical composition heard at an individual's graduation, wedding, or some other significant life event can, on later exposure, evoke memories (either positive or negative or both) of the event as well as the emotional states experienced. When this relationship between the music and an episode is formed the affective characteristics surrounding a

personal experience tend to correspond to the feelings induced by hearing the piece of music.

Musical preference tends to vary by age of the listener as well. One study revealed that individuals tend to show the highest level of preference for musical compositions that were popular when they were approximately 24 years of age (Holbrook and Schindler, 1989). Songs which were popular during earlier or later stages in life are not favored so highly. This would explain the nostalgic musical tastes of the baby-boom and elderly segments and the popularity of "oldies" radio formats.

Another moderating factor may be the fit (match) between the background music and the retail/service environment (Macinnis and Park, 1991). The term "fit," used previously in terms of assessing the effects of background music in advertising (Bozman *et al.*, 1994), refers to the degree to which the characteristics of a musical composition are consistent with the characteristics of the environment. For instance, Beethoven's (1802) "Moonlight" Sonata, while fitting the image of an upscale bookstore, may not fit with the atmospheric scheme of a Walmart or Kmart. In a related vein, individuals may tend to be prejudiced against certain styles of music. For instance, older individuals can be somewhat prejudiced against contemporary rock-and-roll music despite the quality with which the song is performed or any of the composition's structural characteristics.

Level and type of involvement as well as shopping motives may moderate the effects of background music. Background music is more likely to be influential for shoppers with a high level of affective or low level of cognitive involvement with a retailer's product offerings (Bruner, 1990). Additionally, owing to the varying nature of

motives, some shoppers may be more readily influenced by background music than others.

Determining the Appropriate Background Music

Table I is an attempt to summarize the previously discussed literature in a simplified grid organizational pattern. Little is known about the structural characteristics of music and their influence on the behaviors of retail customers, with the exception of tempo and volume, and many gaps exist in the extant literature dealing with musical effects in general. Consequently, owing to the limited volume of research on background music at the point of purchase, selecting the appropriate background music can be difficult. However, some general guidelines can be offered. But first a word of warning. Retailers should resist the temptation to elicit specific shopping behaviors by manipulating single characteristics (e.g. tempo, volume) of background music. Previous research dealing with the structural components of music (e.g. tempo, volume) may not have provided

adequate control for other, perhaps more influential, characteristics of the music. For instance, Milliman (1982, 1986) manipulated tempo by selecting different musical compositions originally recorded at either slow or fast tempos. The remaining characteristics, other than volume (e.g. mode, timbre, pitch, familiarity, preference), were not controlled, thus making it difficult to isolate true tempo effects. As a result, the observed effects may have occurred owing to uncontrolled changes in the other structural or affective characteristics of the music. More extensive research in this area is needed before reaching any specific conclusions about the effects of any individual structural component. However, musical preference does appear to provide some empirical basis for arriving at tentative conclusions. Consequently, we would suggest basing choice on general musical preferences of target customers rather than individual characteristics of music.

As a first step in determining the most appropriate background music, a retailer must

	Musical factors:						
	Structural					Affective	
	Tempo	Volume	Mode	Pitch	Rhythm	Harmony	Preference
Shopper behaviour							
Store image							+
Shopper mood							+
Employee performance							+
Employee/service evaluations							+
Psychological costs							+
Time spent	+	-					
Purchase amount	+	x					
Patronage							
<i>Key:</i>							
+ Positive relationship							
- Negative relationship							
x Tested but no relationship							
Empty cell - no known test of relationship							

Table I.
Summary of Empirical Testing of Retail Music and Shopper Interaction

carefully define the selected target market and the specifics of this market including age, income, education, gender, marital status, ethnic background, and familiarity with the music. Most of this information can be obtained by examining customer records and/or by conducting customer and market surveys. Desired retail position through atmosphere and image must be defined and the product offerings and type of store

personnel and level of service also need to be considered in the store music selection decision.

Table II illustrates the musical preferences, expressed in terms of types of music (e.g. country, adult contemporary, golden oldies), of several demographic segments. People in the 35 and older age groups mostly prefer country music followed by adult contemporary. Similarly, people in the 25-to-

Demographic characteristics		Most preferred ^a	Least preferred
Age	45 or older	1,2	4
	35 to 44	1,2	7
	25 to 34	1,3	7
	18 to 24	4,3	7
Income	\$50k or more	2,1	8
	\$49,999 or below	1,2	7
Education	Graduated college	2,1	8
	Graduated high school	1,2	4
Gender	Female	1,2	4
	Male	1,3	9
Marital status	Single	3,4	7
	Married	1,2	9
Ethnic background	White	1,2	8
	African-American	8,4	4
	Spanish-speaking	4,1	7
Food store	Gourmet food store	2,1	4
	Supermarket	1,2	9
	Frozen yogurt shop	2,1	4
	Ice-cream shop	1,2	9
	Pizza restaurants	1,2	9
	Chinese restaurants	2,1	9
Restaurants	Shoney's	1,2	6
	Big Boy	4,1	8
	Sizzler	2,1	9
	Western Sizzlin'	1,2	7
	Ponderosa	2,1	9
	TGI Friday's	2,1	7

Notes:
^a In order of preference
 1 = Country; 2 = Adult contemporary; 3 = Contemporary rock; 4 = CHR/rock; 5 = Golden oldies
 6 = Classical; 7 = Nostalgia; 8 = Religious; 9 = Urban contemporary; 10 = Easy listening
 Source: Simmon's Market Research Bureau (1991).

Table II.
Sample Listing of Musical Preference by Demographic Segment and Store Type

34-year age group tend to prefer country music but like contemporary rock second. People under the age of 25 prefer to listen to contemporary rock than to any other type. The 45 and older age group tends to listen to contemporary rock and urban contemporary music least and those in the 18-to-44 age range least prefer nostalgia and easy listening music.

With respect to income and education, people with incomes of \$50,000 or more and/or college educations tend to prefer adult contemporary first and country music second and least prefer urban contemporary. People with household incomes below \$50,000 and/or only high school educations are just the reverse, preferring country first and adult contemporary second. Other research indicates that preference for classical music tends to increase with income (Cutler, 1989). Both males and females prefer country music most. Males, however, show the next highest level of preference for contemporary rock, while females prefer adult contemporary to contemporary rock. Married individuals prefer country music, while singles listen to contemporary rock most often.

The information provided in Table II, while highly aggregated, allows for some general recommendations regarding the most appropriate type(s) of background music. Retailers catering primarily to customers over the age of 25 should play country or adult contemporary music or some combination of the two. Upper-income, college-educated individuals tend to prefer the Top 40 above the other types, although classical music may be acceptable in some retail settings. Retailers catering primarily to consumers under the age of 25 should play classic or contemporary rock music and avoid nostalgia and easy listening music. In addition, retailers who wish to attract younger single individuals may wish to provide some contemporary rock.

Selecting the most appropriate type of background music is somewhat straight-

forward for retailers with narrowly defined target markets. However, mass merchandisers cater to multiple, often diverse, market segments. Consequently, mass merchandisers must determine the type(s) of music which will have the broadest appeal. Based on the information provided in Table II the type of music with the most universal appeal seems to be adult contemporary music, as most of the demographic segment groups mentioned above named popular music as one of the two most preferred types of music. Consequently, retailers who tend to draw from a rather broad and diverse consumer base should play adult contemporary music primarily. However, country is rapidly becoming the music of choice for the majority of Americans (Goeme, 1992), thus making it increasingly acceptable for use by mass merchandisers or any retailer who draws from a diverse population.

Efforts should be made to determine the ethnic characteristics of target segments also. Musical tastes vary by culture (Wright, 1975), and culture often varies by ethnic background. Therefore background music should also reflect the ethnic backgrounds of shoppers. One of the fastest-growing ethnic groups in the USA is the Hispanic population. Many retail markets, especially those in larger metropolitan areas, are witnessing substantial growth in the number of people of Spanish origin. Retailers in such markets or any other market where large segments of the population are of diverse ethnic backgrounds should try to find music that appeals to the musical tastes of their market. Table II illustrates the diversity of musical preference among three of the most prominent ethnic groups in the USA: Whites, African-Americans, and Spanish-speaking cultures. African-Americans mostly prefer urban contemporary music, while Whites prefer country music and Spanish-speaking individuals prefer contemporary rock. However, retailers catering predominantly to

African-American or Spanish-speaking clientele may wish to play music of special interest to these groups (e.g. R&B, soul, salsa, merengue, latin rock).

It should be noted that musical preferences can vary by store type. For instance, Table II shows that the majority of people who shop at gourmet food stores and visit frozen yogurt shops prefer listening to adult contemporary music and like CHR/rock least, while those who shop primarily at supermarkets and visit ice-cream parlors prefer country most and easy listening least. Table II also shows that people who frequent Shoney's restaurants prefer country music most and classical least, while those who frequently dine at Big Boy restaurants, a similar restaurant format, prefer CHR/rock most and urban contemporary least. Table II illustrates several other notable differences among the musical preferences of restaurant patrons.

Retailers must also ensure that the background music selection "fits" the image of the store. While a Bar-b-que restaurant's clientele may be primarily white, upper income, and college-educated, classical or adult contemporary music may not match the atmosphere or image which the restaurant is trying to convey. Rhythm and blues or soul may provide a better fit with the product offering and the desired image of the retailer.

After determining the most appropriate type of music to play based on customer and store characteristics, retailers must then select specific musical compositions. There are several things to consider when selecting musical compositions regardless of the type or style of music played. First, preference for any given tune tends to be closely related to familiarity: the more familiar the listener is with a tune, the more probable it is that he or she will like it (Zissman and Neimark, 1990). Consequently, retailers should always play tunes with which shoppers are likely to be familiar. Second, there tends to be an inverted U-shaped relationship between familiarity

with a tune and preference for the tune (Heyduk, 1975). More specifically, a listener's preference for a musical composition tends to increase with the number of exposures up to a point after which preference begins to decline with each successive exposure. Therefore retailers should vary their background music alternating between one set of tunes or type of music and another on a regular basis. Little evidence exists to indicate the optimal number of exposures. However, research done in this area indicates that preference tends to decline substantially after six or seven exposures (Davies, 1991).

Third, musical response tends to vary by sex. Females tend to prefer slower, softer music (Stipp, 1990) and males tend to prefer faster, louder music regardless of the type. Consequently, the background music should also reflect the gender composition of target segments. Finally, retailers should periodically conduct formal or informal customer surveys to monitor the efficacy of their musical selections.

It is important to define what is meant by the term "popular" music. What is popular to one individual or group of individuals may not be popular to another. This is why we see a wide variety of "popular" radio music formats. Typically, the term popular is applied to all tunes which are accepted by the bulk of the population at any given point in time: such as *Billboard* magazine's Top 40. Each month/year a new set of contemporary popular tunes emerges. After a period of time, a "popular" tune ceases to be contemporary and is moved into the "oldies" category of popular music. Tunes that were popular in the 1940s and early 1950s are referred to as "adult standards." "Oldies" formats generally consist of tunes popular from the mid-1950s to the 1970s or some intermediate range therein and "classic rock" refers to music popular in the 1970s. Current popular music is usually referred to as "contemporary" or

"Top 40." Therefore "popular" music includes both contemporary and "oldies" popular music. Preference for one or more of these "popular" formats varies by age of the listener. For instance, fans of "oldies" and "classic rock" music tend to be between the ages of 35 and 44 (Stipp, 1990).

Conclusion

In summarizing the available information regarding the use of background music several points stand out. First, background music can be used as an aid to defining or enhancing retailer image (Langrehr, 1991). The magnitude of the impact of background music on retailer image and store selection is likely to vary somewhat by the nature of the retail or service setting. Atmosphere may play a key role in the selection of a full-service restaurant, but play only a minor, if any, role in the selection of a supermarket. Second, there is limited evidence to suggest that specific characteristics of background music can be manipulated so as to influence such behaviors as shopping time and expenditures. There is more extensive evidence to suggest that background music can be used to offset detrimental antecedent mood states and influence shopper mood states at the point of purchase. Under certain conditions background music may serve to improve employee performance and demeanor and shoppers' evaluations of service personnel.

Several musical characteristics may act either singly or in combination to elicit behavioral responses. Tempo, volume, pitch, mode, harmony, rhythm, and affective evaluation serve as key musical characteristics. A listener's overall preference for a given musical selection or collection of songs may contribute more to behavioral response than the other factors and, as such, may provide the most logical bases for background music selection. Musical preference appears to vary by age, income,

education, gender, marital status, and ethnic background. The suggestions for selecting the appropriate music provided above should be considered simply as general guidelines. Retailers are strongly encouraged to survey the musical preferences of their customers, as this will provide more accurate decision rationale.

The importance, impact, and applications of background music are certainly not limited to traditional retail settings nor are these concepts limited to the uses prescribed above. These concepts apply equally to many different types of retail setting as well as many service settings. Waiting-rooms in medical offices, customer service areas in dry-cleaners, service queues at sporting events and entertainment parks can also benefit from the use of appropriate background music.

Today's retailer is better equipped in terms of variety and technology to provide the appropriate music at the appropriate place. For instance, retailers subscribing to satellite music services, such as those offered by Muzak or AEI, can select from a wide range of different musical formats including environmental background music (also known as "elevator music"), rock-and-roll, and classical. To further the selection, some business music services also offer on-location tapes which provide a wide variety of less-popular musical formats (e.g. European popular, salsa, rhythm and blues). Store PA systems can even be set up to broadcast different formats simultaneously in different departments or areas of a store to appeal to distinct shopper segments. Dayparting allows retailers to vary the format of the background music by time of day to conform to the tastes of different demographic segments. A rock-and-roll format can be broadcast in the afternoon hours to appeal to the after-school crowd and changed to an "oldies" or country format for an older evening crowd.

Suggestions for Future Research

Research on the effects of music on consumer behavior at the point of purchase is in its infancy. The handful of studies conducted on this topic provides some useful information for retailers and service providers, yet does not come close to providing the level of information needed to use background music to its fullest potential. Several areas need addressing. First, background music can figure prominently in consumers' perceptions of retailer image. More specifically, consumers develop images of a retailer based in part on atmosphere. Consequently, background music, a somewhat readily manipulable atmospheric variable, may influence retail image. Despite the potential for influence, no studies have been conducted on the link between background music and retailer image or the level of influence which a retailer's background music selection would have on store selection decisions. Musical effects on image and consumer location decision would, in all probability, vary in magnitude by the nature of the retail service offered and the relative importance of retail atmosphere. These issues need additional research.

Second, consumer research indicates a direct relationship between two specific structural characteristics of music (i.e., tempo and volume) and behavior. Additional research is needed to confirm the findings of previous research and to explore the relationships between the remaining four structural characteristics of music (e.g. pitch, mode, harmony, and rhythm) and shopping behaviors.

The psychology literature provides evidence that music influences mood. However, the role of mood at the point of purchase has not received substantial attention (Bruner, 1990). Future research should include analyses of the relationship between mood and shopping behavior, and

also the impact of background music on mood at the point of purchase. Background music appears to have a positive effect on service personnel and shoppers' evaluations of service. However, more research is needed in this area also.

Retailers need to know more about how to select the appropriate background music for their establishment(s). More specifically, research is needed to determine the optimal combination of musical characteristics for any given retail environment. Another issue to be resolved is the relative contribution of musical preference toward determining retail behavior. Future research should also seek to identify similarities in musical preferences among specific demographic/psychographic shopper segments. Finally, research is needed to determine the relationship between background music and shoppers' tendency to return to the retail establishment (long-term patronage). The issue to be examined is the role of background music in determining whether or not a shopper will return to any given retail establishment.

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References and Further Reading

- Agmon, E. (1990), "Music Theory as Cognitive Science: Some Conceptual and Methodological Issues", *Music Perception*, Vol. 7 No. 3, pp. 285-308.
- Areni, C.S. and Kim, D. (1993), "The Influence of Background Music on Shopping Behavior: Classical versus Top-40 Music in a Wine Store", in McAlister, L. and Rothschild, M. (Eds), *Advances in Consumer Research*, Vol. 20, pp. 336-40.
- Baker, J., Levy, M. and Grewal, D. (1992), "An Experimental Approach to Making Retail Store Environmental Decisions", *Journal of Retailing*, Vol. 64 No. 4, pp. 445-60.
- Baumgartner, H. (1992), "Remembrance of Things Past: Music, Autobiographical

- Memory, and Emotion", *Advances in Consumer Research*, Vol. 19, pp. 613-20.
- Bethoven, L. van (1802), *Piano Sonata in C Sharp Minor*, Op. 27 No. 2, Breitkopf and Härtel, Vienna.
- Bellenger, D.N. and Korgaonkar, P. (1980), "Profiling the Recreational Shopper", *Journal of Retailing*, Vol. 56, pp. 77-92.
- Bitner, M.J. (1992), "Servicescapes: The Impact of Physical Surroundings on Customers and Employees", *Journal of Marketing*, Vol. 56, April, pp. 57-71.
- Bozman, C.S., Muelling, D., and Petit-O'Malley, K.L. (1994), "The Directional Influences of Music Background in Television Advertising", *Journal of Applied Business Research*, Vol. 10 No. 1, pp. 14-18.
- Bruner, G.C. (1990), "Music, Mood and Marketing", *Journal of Marketing*, Vol. 5, October, pp. 94-104.
- Burke, M.J. and Gridley, M.C. (1990), "Musical Preferences as a Function of Stimulus Complexity and Listeners' Sophistication", *Perceptual and Motor Skills*, Vol. 71, pp. 687-90.
- Caspy, T., Peleg, E., Schlam, D. and Goldberg, J. (1988), "Sedative and Stimulative Music Effects: Differential Effects on Performance Impairment following Frustration", *Motivation and Emotion*, Vol. 12, pp. 123-37.
- Chebat, J-C., Chebat, G-C. and Filiatrault, P. (1993), "Interactive Effects of Musical and Visual Cues on Time Perception: An Application to Waiting Time in Banks", *Perceptual and Motor Skills*, Vol. 77, pp. 995-1020.
- Coutts, C.A. (1965), "Effects of Music on Pulse Rates and Work Output of Short Duration", *Research Quarterly*, Vol. 36 No. 1, pp. 17-21.
- Cutler, B. (1989), "For What It's Worth", *American Demographics*, Vol. 11, August, pp. 42-5.
- Davies, J. (1991), "The Musical Mind", *New Scientist*, Vol. 129, January 19, pp. 38-41.
- Donovan, R.J. and Rossiter, J.R. (1982), "Store Atmosphere: An Environmental Psychology Approach", *Journal of Retailing*, Vol. 58, Spring, pp. 34-57.
- Eroglu, S.A. and Machleit K. (1990), "An Empirical Study of Retail Crowding: Antecedents and Consequences", *Journal of Retailing*, Vol. 66, Summer, pp. 201-21.
- Etaugh, C.E. and Michals, D. (1975), "Effects on Reading Comprehension of Preferred Music and Frequency of Studying Music", *Perceptual and Motor Skills*, Vol. 41, pp. 553-4.
- Fontaine, C.W. and Schwalm, N.D. (1979), "Effects of Familiarity of Music on Vigilant Performance", *Perceptual and Motor Skills*, Vol. 49, pp. 71-4.
- Fried, R. and Berkowitz, L. (1979), "Music Hath Charms...and Can Influence Helpfulness", *Journal of Applied Psychology*, Vol. 9 No. 3, pp. 199-208.
- Gardner, M.P. (1985), "Mood States and Consumer Behavior: A Critical Review", *Journal of Consumer Research*, Vol. 12, December, pp. 281-97.
- Goerne, C. (1992), "The Nation Goes Country", *Marketing News*, Vol. 26 No. 8, pp. 1-2.
- Heyduk, R.G. (1975), "Rated Preference for Musical Compositions as It Relates to Complexity and Exposure Frequency", *Perception & Psychophysics*, Vol. 17 No. 1, pp. 84-91.
- Holbrook, M. and Anand, P. (1990), "Effects of Tempo and Situational Arousal on the Listener's Perceptual and Affective Responses to Music", *Psychology of Music*, Vol. 18, pp. 150-62.
- Holbrook, M.B. and Schindler, R.M. (1989), "Some Exploratory Findings on the Development of Musical Tastes", *Journal of Consumer Research*, Vol. 16, June, pp. 119-24.
- Iyer, E.S. (1989), "Unplanned Purchasing: Knowledge of Shopping Environment and Time Pressure", *Journal of Retailing*, Vol. 65, Spring, pp. 40-57.

- Jacoby, J. (1968), "Work, Music and Morale: A Neglected but Important Relationship", *Personnel Journal*, Vol. 32, pp. 882-7.
- Keenan, J.J. and Boisi, J.C. (1989), "A Study of the Effects of Muzak Programming on Drug-store Customers", *Muzak*, RS-5.
- Kellaris, J.J. (1992), "Consumer Aesthetics Outside the Lab: Preliminary Report on a Musical Field Study", *Advances in Consumer Research*, Vol. 19, pp. 730-34.
- Kellaris, J.J. and Altsech, M.B. (1992), "Exploring Tempo and Modality Effects on Consumer Responses to Music", *Advances in Consumer Research*, Vol. 19, pp. 243-8.
- Kellaris, J.J. and Kent, R.J. (1991), "Exploring Tempo and Modality Effects on Consumer Responses to Music", *Advances in Consumer Research*, Vol. 18, pp. 243-8.
- Kellaris, J.J. and Rice, R.C. (1993), "The Influence of Tempo, Loudness, and Gender of Listener on Responses to Music", *Psychology and Marketing*, Vol. 10 No. 1, pp. 15-29.
- Kirkpatrick, F.H. (1943), "Take the Mind Away", *Personnel Journal*, Vol. 22, pp. 225-8.
- Kotler, P. (1973), "Atmospherics as a Marketing Tool", *Journal of Retailing*, Vol. 49, Winter, pp. 48-64.
- Langrehr, F.W. (1991), "Retail Shopping Mall Semiotics and Hedonic Consumption", *Advances in Consumer Research*, Vol. 18, pp. 428-33.
- Linsen, M.A. (1975), "Like Our Music Today, Ms Shopper?", *Progressive Grocer*, October, p. 156.
- Macinnis, D.J. and Park, C.W. (1991), "The Differential Role of Characteristics of Music on High- and Low-involvement Consumers' Processing of Ads", *Journal of Consumer Research*, Vol. 18, September, pp. 161-73.
- Mazursky, D. and Jacoby, J. (1986), "Exploring the Development of Store Images", *Journal of Retailing*, Vol. 62, Summer, pp. 145-65.
- Mehrabian, A. and Russell, J.A. (1974), *An Approach to Environmental Psychology*, MIT Press, Cambridge, MA.
- Miller, C. (1991), "The Right Song in the Air Can Boost Retail Sales", *Marketing News*, Vol. 25, February 4, p. 2.
- Milliman, R.E. (1982), "Using Background Music to Affect the Behavior of Supermarket Shoppers", *Journal of Marketing*, Vol. 46, Summer, pp. 86-91.
- Milliman, R.E. (1986), "The Influence of Background Music on the Behavior of Restaurant Patrons", *Journal of Consumer Research*, Vol. 13, September, pp. 286-9.
- Monroe, K.B. and Guiltinan, J.B. (1975), "A Path-analytic Exploration of Retail Patronage Influences", *Journal of Consumer Research*, Vol. 2, June, pp. 19-28.
- Newman, R.I., Hunt, D.A. and Rhodes, F. (1966), "Effects of Music on Employee Attitude and Productivity in a Skateboard Factory", *Journal of Applied Psychology*, Vol. 50 No. 6, pp. 493-6.
- Peretti, P.O. and Swenson, K. (1974), "Effects of Music on Anxiety as Determined by Physiological Skin Response", *The Journal of Research in Music Education*, Vol. 22, pp. 278-83.
- Pignatiello, M.F., Camp, C.J. and Rasar, L.A. (1986), "Musical Mood Induction: An Alternative to the Velten Technique", *Journal of Abnormal Psychology*, Vol. 95, pp. 295-7.
- Podolsky, E. (1965), "Music in Industry", *Supervision*, October, p. 9.
- Roballey, T.C., Rongo, R.R., Steger, P.J., Winger, M.A. and Gardner, E.B. (1973), "The Effect of Music on Eating Behavior", *Bulletin of the Psychonomic Society*, Vol. 23 No. 3, pp. 221-2.
- Rohner, S.J. and Miller, R. (1980), "Degrees of Familiar and Affective Music and Their Effects on State Anxiety", *Journal of Music Therapy*, Vol. 17 No. 1, pp. 2-15.
- Shimp, T.A. and Rose, R.L. (1993), "The Role of Background Music: A Reexamination and Extension", in McAlister, L. and Rothschild, M. (Eds), *Advances in Consumer Research*, Vol. 20, p. 558.

- Simmon's Market Research Bureau (1991), "Study of Media and Markets", New York, NY.
- Smith, C.A. and Morris, L.W. (1977), "Differential Effects of Stimulative and Sedative Music on Anxiety, Concentration, and Performance", *Psychological Reports*, Vol. 41, pp. 1047-53.
- Smith, P.C. and Curnow, R. (1966), "Arousal Hypothesis' and the Effects of Music on Purchasing Behavior", *Journal of Applied Psychology*, Vol. 50 No. 3, pp. 255-6.
- Stipp, H. (1990), "Musical Demographics", *American Demographics*, August, pp. 48-9.
- Stratton, V.N. (1992), "Influence of Music and Socializing on Perceived Stress While Waiting", *Perceptual and Motor Skills*, Vol. 75, p. 334.
- Vanderark, S.D. and Ely, D. (1992), "Biochemical and Galvanic Skin Responses to Musical Stimuli by College Students in Biology and Music", *Perceptual and Motor Skills*, Vol. 74, pp. 1079-90.
- Vanderark, S.D. and Ely, D. (1993), "Cortisol, Biochemical, and Galvanic Skin Responses to Musical Stimuli of Different Preference Values by College Students in Biology and Music", *Perceptual and Motor Skills*, Vol. 77, pp. 227-34.
- Ward, K.C., Bitner, M.J. and Barnes, J. (1992), "Measuring the Prototypicality and Meaning of Retail Environments", *Journal of Retailing*, Vol. 68 No. 2, pp. 194-220.
- Wright, D.F. (1975), "Musical Meaning and Its Social Determinants", *Sociology*, Vol. 9, pp. 419-35.
- Yalch, R. and Spangenberg, E. (1990), "Effects of Store Music on Shopper Behavior", *Journal of Services Marketing*, Vol. 1, pp. 31-9.
- Yalch, R. and Spangenberg, E. (1993), "Using Store Music for Retail Zoning: A Field Experiment", in McAlister, L. and Rothschild, M. (Eds), *Advances in Consumer Research*, Vol. 20, pp. 632-6.
- Zillmann, D. and Bhatia, A. (1989), "Effects of Associating with Musical Genres on Heterosexual Attraction", *Communication Research*, Vol. 16, April, pp. 263-88.
- Zissman, A. and Neimark, E. (1990), "The Influence of Familiarity on Evaluations of Liking and Goodness of Several Types of Music", *Psychological Record*, Vol. 40, pp. 481-90.

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Background Music As
It Affects
Restaurant Patrons

An Independent Authoritative Study
by
Dr. Ronald E. Milliman
Associate Professor
College of Business Administration
Loyola University
New Orleans, LA

RESTAURANT MANAGER CONTRC

Study Shows, Music Tempo can Affect Profits.

This detailed study, independently conducted by the well-known marketing specialist Dr. Ronald E. Milliman shows that *music tempo variations can and do significantly control the pace of restaurant patrons and dollar sales volume.* The results are conclusive: Music tempo, in non-academic terms, significantly affects the pace at which restaurant patrons consume food and drink...and how much they will order. And since music is an atmospheric variable readily controlled by restaurant management, the moral for modern managers is clearly this: You can tailor the tempo of your operation's background music to be carefully keyed to your business goals! You may wish, for example to:

- Speed up patrons, especially during lunch or dinner-hour peak periods to maximize profit and turnover.

-or-

- You may wish to slow down patrons with a soothing tempo in situations (or in a different room) that sets the mood for ordering another cocktail or after-dinner drink (both high-margin items.)

So you can, with music, favorably influence patron's behavior. You can in effect set the pace at which dollars flow into your pocket with music.... It's like making money out of thin air!

Research Design

Dr. Milliman's study, *Background Music As It Affects Restaurant Patrons*, was conducted in an up-scale, medium-sized (112 seats) restaurant over a period of eight consecutive weekends, with maximum control of variables.

A pre-test of music variables, both slow and fast tempo, make it clear that the definitions of "slow" and "fast" are highly relative, primarily to age of patron but also to other demographic and geographic characteristics of the patrons. It is because of these subtle factors, and other reasons, that professional music selection for clear business reasons is best left to professionals in the field.... If not, the results can often be disastrous, and clearly counterproductive! Additional control factors, for test purposes included:

- The use of instrumental music selections only.
- Random assignment of the order of musical presentation.

-and-

- A constant volume level throughout the experimental period. (The volume level, though clearly audible from all parts of the restaurant, was perceived by patrons as being soft, background music.)

The experimental treatments of this study, in simple terms of slow tempo or fast tempo music were found to have significant effect upon these restaurant business situations:

1. The waiting time, prior to seating patrons at an available table.

S GROSS MARGINS WITH...MUSIC!

2. The amount of time required by restaurant employees to take, prepare and serve patron's orders.
 3. Classic turnover: The time taken by patrons to finish their meals and relinquish their tables once they've been served.
 4. The dollar amount of food served per itemized statement.
 5. The dollar amount of bar purchases per itemized statement.
 6. The number of people (or groups) who leave the restaurant before being seated, rather than waiting for a table.
- and-
7. The estimated gross margin (gross sales minus food and beverage cost) of the restaurant during the test period.

Key Results of the Study

- Slow tempo music tended to increase waiting time to be seated by as much as one-third.
 - Once served, table turnover was slowed by slow tempo music...and was significantly improved (speeded up) by fast tempo music.
- however-
- In the bar area, slower tempo music encouraged the ordering and consumption of more than three additional (and highly profitable!) drinks per group.
- and-
- Gross sales could be punched up for an average extra \$7.21 per customer group with the right musical controls.

Conclusions: What the Study Means for You.

It means that you can profit from carefully selected background music. It means that you, too, can literally make money out of thin air. In this specific study, background music reduced waiting time before being seated (if that was the business objective!). In this study, it was shown that significantly more dollars were spent on bar orders with slow tempo background music. And that the slow tempo music could produce a higher estimated gross margin. In the bar area, slow tempo music generated more high-profit drink orders....While faster tempo music promoted more rapid turnover at the dining tables, and could be used accordingly. Thus, Dr. Milliman's independent study clearly demonstrates how the proper music and tempo selection can dramatically effect restaurant/bar efficiency and gross profits in such a significant way that it ought to be used as a management tool. By expertly matching the music to business objectives, you can—and will—*increase the net profits in your operation.*

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It makes sense to
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Music on the Menu

by Ronald E. Milliman

There is very little published empirical research on the effects of background music upon behavior, though many claims are made, especially by the firms marketing programmed background music systems. For a partial list of the alleged attributes of background music, see Figure 1.

There are, however, two empirical studies that employed experimental designs under reasonably controlled conditions, and that examined the effects of background music on consumer behavior. The first of these studies used "music loudness" as the independent variable. Music was varied from loud to soft in eight counterbalanced experimental sessions in two large supermarkets. It was found that significantly less time was spent in the stores during the loud sessions and the rate of spending was also greater during the loud sessions (Smith and Curnow 1966).

Another study conducted by Milliman (1982) used music tempo as the independent variable, slow tempo (72 or fewer beats per minute) and fast tempo (94 or more beats per minute). The experimental setting was a medium-sized supermarket. It was found that the slow tempo background music produced a significantly slower pace of in-store traffic flow and a significantly greater sales volume when compared with the fast tempo music.

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The findings also revealed something less than a total consciousness of the music, implying possible subconscious motivational effects.

Effects of Background Music on Restaurant Customers

From the foregoing studies, it is apparent background music can significantly influence the in-store shopping behavior of consumers. It was also suggested by these studies that the background music must be carefully matched to the objectives of the business; that is, the type of music that works for one business may be counter productive in another.

A restaurant, for instance, might want to speed people up during the lunch hour rush, especially if its seating capacity is quite limited. In still other situations, such a business may prefer to slow people down, making it appear busier than it might otherwise appear, or perhaps for some other reasons.

Hence, the cooperation of a restaurant's management was sought in order to investigate the possible effects of background music upon its customers. The owner/manager of a medium-size, 112-seat restaurant was approached about sponsor-

ing the experiment. He accepted enthusiastically. Based upon the researcher's observations, the restaurant appeared as a high quality, attractively decorated, above average priced business that appealed to mostly middle-aged people who were in the upper middle income brackets. It is crowded every evening but packed beyond capacity on Friday and Saturday nights, requiring a wait of from thirty minutes to over an hour before being seated. Management's patron analysis disclosed that most of the customers came in small groups, averaging 4.25 people; 77% drank alcoholic beverages. The objective of this study, therefore, was to determine if background music could be manipulated to affect the behavior of restaurant customers in a way that would contribute to the attainment of management's objectives, i.e., to maximize profits.

Research Design

Towards this objective, a replicated, randomized block experimental design with controls was employed to investigate the effects of two different treatments (independent variable) upon the behavior of restaurant customers:

1. Slow tempo background music

ALLEGED ATTRIBUTES OF BACKGROUND MUSIC

- Makes the work environment more pleasant (Davies 1978)
- Stimulates customer purchasing (Davies 1978)
- Improves store image (Burlinson 1979)
- Makes workers happier (Uhrbrock 1961)
- Increases quantity of worker output (Ross 1966)
- Improves quality of worker output (Ross 1966)
- Improves employee attitudes (Brayfield and Corckett 1955)
- Reduces absenteeism (Roberts 1959)
- Reduces turnover (Roberts 1959)
- Helps to level out noise peaks (Walter 1971)
- Reduces employee fatigue and boredom (Roberts 1959)
- Cools down temperamental workers (Walter 1971)
- Improves milk and egg productivity of cows and chickens (Arndt 1964)

Figure 1

Source: *Communications*

(designated M₁).

2. Fast tempo background music (designated M₂).

Music tempo was chosen as the independent variable of this study in order to build a more in-depth body of knowledge extending from this author's previous study, cited earlier in this paper (Milliman 1982).

In the research, the days, Friday and Saturday, form the "experimental block" to which the two treatment levels were randomly assigned. All observations and data were recorded in the evenings of these two days and over eight consecutive weekends, making sixteen days in all. Additionally, all exogenous factors that might effect the results of this study were kept as constant as possible (i.e., atmospheric conditions, employee assignments, etc.). As a matter of policy, only experienced employees were allowed to work during the peak traffic periods, such as Friday and Saturday nights, thus, eliminating the possibility of inexperienced workers affecting the data. As a further precaution, only the restaurant's management knew of the research project, thereby minimizing "observer intervention bias."

Definition of the Independent Variable

A pre-test of the music variables, slow tempo and fast tempo, made it clear that the definitions of these terms are highly relative, primarily to age but also to some other demographic characteristics of the perceiver. Therefore, prior to the beginning of the experiment, itself, a survey of the restaurant's customers was taken, in an attempt to define these variables. 227 randomly chosen diners were used. These were individuals selected inside the restaurant on Friday and Saturday evenings, representing the type of customers that would subsequently be used as the subjects in this experiment. Several instrumental musical pieces were played during the evenings, each of which have a different tempo, ranging from approximately 50 to over 100 beats per minute (BPM). The subjects selected were asked: "Do you consider the music playing right now as slow tempo, fast tempo, or in between slow and fast tempo music?"

From these responses, it was determined that the type of people patronizing this particular restau-

rant perceived slow tempo music as having 72 or fewer BPM, with an average of 63. In like manner, they perceived fast tempo music as having 92 or more BPM with an average of 107. The "in between slow and fast tempo" category was used only to help isolate and refine the definitions of the two levels of the independent variable.

It should also be pointed out that in this experiment only instrumental selections were employed. It was believed that using exclusively instrumental pieces would allow for greater control over the music variables, as no consideration had to be given to female versus male vocalist, to well known or popular versus lesser known or less popular artists, etc. Both M₁ and M₂ consisted of 40 different instrumental musical selections. The order of presentation for the different pieces was randomly assigned. In addition, the music selected tended to accentuate the rhythm or cadence enough so that, while not dominant, it was easily discerned. Further, as a result of the findings of previously cited research (Smith and Curnow 1966), the volume of the music was maintained at a constant level throughout the sixteen-day experimental period. The music's volume level was set to be perceived as soft background music, though clearly audible from all parts of the restaurant. Each of the experimental treatments was run through its entire assigned evening (from opening to closing, 5:00 PM to 11:00 PM), without intermission.

Research Hypotheses

After defining the relative parameters of the experimental treatments, seven dependent variables were selected to study, around which the following hypotheses were formulated. These hypotheses are stated in positive form for reader convenience and ease of understanding of the research findings presented later in this paper. The experimental treatments of this study, slow tempo and fast tempo background music, will have a significant effect upon:

1. the waiting time before customers are seated at an available table;

2. the amount of time consumed by restaurant employees to take, prepare, and serve customers' orders;

3. the time it takes customers to finish their meals and relinquish their tables once they are served;

4. the dollar amount of food purchased per itemized statement;

5. the dollar amount of bar purchases per itemized statement;

6. the number of people (or groups of people who are obviously together) who leave the restaurant before being seated, rather than waiting for a table;

7. the estimated gross margin (gross sales minus food and beverage cost) of the restaurant for the sixteen day experimental period.

Data Collection

As part of management's regular information system, the host or hostess was required to note the time when first putting a customer's name on the waiting list and the time when the customer was seated. In like manner, the employee made a notation indicating if a customer left before being seated. Thus, from these records it was quite easy to collect the required data for hypotheses 1 and 6—waiting time before being seated and number of customer groups leaving before being seated.

Data required for hypotheses 2 and 3 were obtained by placing observers in the restaurant. These observers, all university graduate students, appeared as regular customers accompanied by a spouse, date, or friend. While dining, however, they inconspicuously recorded how long it took all customers to be served (including themselves), and how long it took all customers between 7:00 and 9:00 PM to

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complete their dinners and relinquish their tables once they were served.

For hypotheses 4, 5, and 7, data were obtained directly from the itemized statements which listed a separate total for food and bar charges along with a grand total.

On Friday and Saturday nights, the restaurant's hours were from 5:00 PM to 11:00 PM. All "waiting time before seating" data and all itemized statements were used in the analysis for each of the sixteen nights of the experiment. This yielded a total of 1,392 customer groups. The observers, however, recorded their data from 7:00 PM to 9:00 PM each Friday and Saturday evening for the eight weekends of the study, yielding 644 observed customer groups.

The procedure used to analyze the data collected for hypotheses 1, 2, 3, 4, 5 and 7 was the test. It was both adequate and appropriate, given the type of data. However, for hypothesis 6, it was necessary to use the chi-square test, due to the different nature of the data (frequencies). The 0.05 level of significance was used as the "acceptance criterion" for all tests, though, for a critical reader, the actual probabilities are also reported.

Findings of this Research

Over the eight days the slow tempo music was played, the average waiting time per group before being seated was 47 minutes (N=558). This is compared to a waiting time of 34 minutes over the eight days the fast tempo background music was played (N=455). This average difference of 9 minutes tested highly significant (P=0.0086). Thus, it is concluded that the average waiting time associated with treatment M₂ was significantly less than for M₁, and hypothesis 1, therefore, was accepted.

Further, once the customers were seated, it took an average of 29 minutes to be served with treatment M₁ (N=594) compared to 27 minutes under treatment M₂ (N=494). This difference of 2 minutes tested quite insignificant (P=0.820). Thus, a difference of such small magnitude is likely to be by chance, and hypothesis 2 was rejected as stated. From this finding, it would appear the background music had no significant influence on the restaurant's employees.

However, once the food was served, the customers eating while the slow tempo music was playing took significantly more time to complete their dinners and leave (P=0.0023). For treatment M₁, the average time was 56 minutes (N=594) compared with 45 minutes for M₂ (N=494). Therefore, based upon these findings, it was concluded that the slower tempo background music slowed the diners while the faster tempo music significantly quickened their eating time. Thus, hypothesis 3 was accepted.

When analyzing the data recorded from the itemized statements (total N=1,392), it was determined that the average dollar amount spent on food per customer group under treatment M₁ was \$55.81 (N=764) compared with an average of \$55.12 for M₂ (N=628). This difference is not, however, statistically significant (P=0.841). Therefore, hypothesis 4 was rejected as stated; that is: the background music had no significant effects upon the dollar amount spent on food in this specific research situation.

However, when analyzing the expenditures, for "bar goodies," the findings were quite different. It seems that with treatment M₁, the average dollar amount of bar charges per customer group was \$30.47 (N=590) compared with \$21.62 for those under treatment M₂ (N=482). This is an average difference of \$8.85, which is highly significant (P=0.0013). Therefore, it was concluded that the slower tempo background music encouraged customers to drink an average of 3.04 drinks more per customer group. Therefore, hypothesis 5 was accepted.

Over the duration of the experiment, with treatment M₁, a total of 854 customer groups entered the restaurant; 764 stayed while 90 left before being seated. In comparison with treatment M₂, a total of 714 customer groups entered the restaurant; 628 stayed while 86 left before being seated. When comparing the number that stayed with each treatment variation, and the number that left with each treatment variation, no significant differences were found (P=.333 chi-square = .8804 with 1 df). Therefore, the slightly shorter waiting time before being seated associated with the faster tempo background

music exhibited no significant effects upon the decision to wait for a table or leave the restaurant. With this finding, hypothesis 6 was rejected.

Again, from the itemized statements, the gross sales for both food and the bar were recorded for each treatment. From this data, the estimated gross margins were calculated. Management figured their food cost (as a percentage of sales) at 42% with their beverage cost at 23%. With these figures, the estimated gross margin per itemized statement averaged \$55.83 for M₁ (N=764) and \$48.62 for M₂ (N=628). This is an average difference of \$7.21 per itemized statement or customer group, which was highly significant (P=0.025). Therefore, hypothesis 7 was accepted. It might also be pointed out that the estimated total gross margin for both treatments combined was \$73,187.48. However, it would also appear that if the 628-customer groups recorded for treatment M₂ had, instead, received treatment M₁, the total gross margin then would have approximated \$77,715.36 or a \$4,527.88 increase over the obtained figure. This is an impressive amount if the dominant objective of the business is to maximize the bottom line of the income statement.

Summary and Conclusions

To summarize:

1. The faster tempo background music significantly reduced the waiting time before being seated to a table.
2. The tempo of the background music exhibited no significant influence on the speed with which customer's orders were handled by the employees.
3. The slower tempo background music was associated with customers taking more time to complete their meals and leave their tables.
4. The tempo of the background music exhibited no significant effects on the average dollar amount of food ordered.
5. Significantly more dollars were spent on bar orders with the slow tempo background music.
6. There was no significant difference found in the number of persons leaving the restaurant before being seated.
7. A significant difference was

revealed in the gross margin data; that is, the slow tempo background music produced a significantly higher estimated gross margin.

It can be concluded that while both experimental treatments produced favorable results, depending upon the objectives sought by management, slow tempo background music generated the largest gross margin in this specific situation. The longer waiting time before being seated associated with the slower tempo music had no apparent effect on the number of people that left the restaurant rather than wait for an available table. However, those who stayed (89%) had an average of almost one drink more per person. With a relatively high profit margin on beverages, the additional drinks consumed contributed significantly to the income position of the business.

It should be pointed out that the fast tempo music sped customers up. They took significantly less time to finish their dinners, increasing table turnover and decreasing waiting time before being seated. In this specific situation, it worked in the management's favor to slow customers down, but if this were a lunch hour rush time, rather than an evening dining hour, the effects on gross margin would probably be quite different. In a lunch hour rush, people haven't the time to wait for tables; therefore, the emphasis is upon speed and table turnover. Thus, this paper clearly demonstrates that background music can significantly effect the behavior of restaurant customers, and for that very reason, it is important to carefully match the type of background music to the dominant objectives of the business. Otherwise, there is a risk of the music used being counter productive.

The purpose of this paper is to critically review the limited literature available on the topic and to present an empirical study which examines the effect of background music on the behavior of restaurant customers. It was found that music tempo variations can significantly effect purchases, length of stay, and other variables examined. □

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