



CHICAGO JOURNALS

Journal of Consumer Research, Inc.

---

The Influence of Background Music on the Behavior of Restaurant Patrons

Author(s): Ronald E. Milliman

Source: *Journal of Consumer Research*, Vol. 13, No. 2 (Sep., 1986), pp. 286-289

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/2489234>

Accessed: 01/12/2014 16:17

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



*The University of Chicago Press and Journal of Consumer Research, Inc. are collaborating with JSTOR to digitize, preserve and extend access to Journal of Consumer Research.*

<http://www.jstor.org>

# The Influence of Background Music on the Behavior of Restaurant Patrons

RONALD E. MILLIMAN\*

This paper will critically review the limited literature available on the topic and present an empirical study that examines the effect of background music on the behavior of restaurant customers. It was found that music tempo variations can significantly affect purchases, length of stay, and other variables examined.

One of the important recent advances in consumer research is the recognition that people making purchase decisions respond to more than the tangible product or service being offered. In some cases the place, or more specifically its atmosphere, is more influential than the product itself in the purchase decision. Atmosphere is an all-encompassing term used to describe the experience “felt” but not always seen. Spatial aesthetics, or “atmospherics,” is the term used to describe the conscious designing of space to create certain effects in buyers (Kotler 1974, p. 40). Atmospherics consist of elements such as brightness, size, shape, volume, pitch, scent, freshness, softness, smoothness, and temperature.

The empirical study presented in this paper is based upon the theoretical model first presented by Mehrabian and Russell (1974) and further developed by Mehrabian (1980) and Russell and Pratt (1980). The Mehrabian/Russell model attempts to explain the effects of store atmosphere upon shopping behavior. Based upon this model, all responses to an environment can be considered an approach or avoidance behavior. Approach behavior involves such responses as physically moving toward something, affiliating with others in the environment through verbal communication and eye contact, and performing a large number of tasks within the environment (Booms and Bitner 1980). Avoidance behavior includes trying to get out of the environment, a tendency to remain inanimate in the environment, and a tendency to ignore communication attempts from others (Donovan and Rossiter 1982, p. 37).

In order to elicit approach behavior, consumer researchers must understand why people react to envi-

ronments in the ways that they do. Mehrabian and other environmental psychologists assume that people’s feelings and emotions ultimately determine what they do and how they do it. They further assume that people respond with different sets of emotions to different environments, and that these, in turn, prompt them to approach or avoid the environment (Donovan and Rossiter 1982, p. 39).

While it is obvious that an atmosphere is made up of and affected by numerous factors, some are considerably more controllable than others. One of these factors that is ordinarily highly controllable is music, ranging from loud to soft, fast to slow, vocal to instrumental, heavy rock to light rock, or classical to contemporary urban. It is this atmospheric variable—music—and whether it can be used to create an approach or avoidance atmosphere as suggested by the Mehrabian and Russell model that is of experimental interest in this study. Though there is very little published empirical research on the effects of background music upon behavior, one study surveying the managers of 52 retail stores of various types indicated that customers bought more as a result of the background music (76 percent) and that the music had a positive effect upon the customer’s mood (82 percent). However, when these managers were asked if their beliefs were based upon actual research the response was without exception “no” and/or “not that I know of.” In the same study, 560 customers of these retail stores were also surveyed. Asked if they preferred stores that played music, 392 (70 percent) of the customers replied that they did (Burleson 1979).

Two other consumer behavior studies that employed experimental designs under reasonably controlled conditions have examined the effect 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. The results showed that significantly less time was spent in the stores and the rate of spending was greater during the loud sessions (Smith and Curnow 1966).

---

\*Ronald E. Milliman is Associate Professor of Marketing, College of Business Administration, Western Kentucky University, Bowling Green, KY 42101. The author wishes to acknowledge the valuable suggestions and encouragement given by his colleagues on the Business faculty—especially Dr. Robert Pethia, Dr. Douglas Fugate, and Dr. Robert Erffmeyer; his graduate assistant, Barry DeWeese; and his wonderful wife, Palma, who serves as his tireless assistant, critic, and eyes.

Another study conducted by Milliman (1982) used music tempo (slow versus fast) as the independent variable. The experimental setting was a medium-sized supermarket. Compared to the fast-tempo music, the slow-tempo background music produced a significantly slower pace of in-store traffic flow and a significantly greater sales volume. Perhaps these studies suggest that background music can be used to effect either an approach or an avoidance of atmosphere and thus support the Mehrabian and Russell theoretical model.

### EFFECTS OF BACKGROUND MUSIC ON RESTAURANT CUSTOMERS

The purpose of this article is to extend such research to a completely different type of environment. The owner/manager of a medium-sized restaurant in the Dallas/Fort Worth, Texas area agreed to sponsor an experiment to investigate the possible effects of background music upon its customers. Based upon observations, the restaurant is high in quality, attractively decorated, above-average-priced, and it appeals to mostly middle-aged people in the upper-middle income bracket. Every evening the restaurant is crowded; however, Friday and Saturday nights are packed beyond capacity, requiring a 30- to over 60-minute wait before being seated. Management's patron analysis disclosed that most of the customers came in small groups averaging 4.25 people; 77 percent drank alcoholic beverages. Alcoholic beverages were not served to the patrons while they were waiting to be seated.

### RESEARCH DESIGN

A replicated, randomized-block, experimental design with controls was employed to investigate the effects of two treatments, slow and fast tempo background music, upon the behavior of restaurant customers. All observations and data were recorded on Friday and Saturday over eight consecutive weekends beginning in mid-September. The type of music, slow or fast, was randomly assigned to the first Friday and alternated each Friday and Saturday. For example, slow music was randomly assigned to the first Friday; thus, the first Saturday received the fast-music treatment. The following weekend, the music treatments were reversed, Friday receiving the fast-music treatment and Saturday receiving the slow-music treatment, and so on. Thus, four Fridays and four Saturdays were assigned slow music, and four Fridays and four Saturdays were assigned fast music. Additionally, all exogenous factors that might affect the results of this study were kept as constant as possible (i.e., other environmental conditions, employee assignments, etc.).

A pretest of the music variables demonstrated that the definitions of slow tempo and fast tempo are highly related to age and other demographic characteristics of the listener. Therefore, prior to the beginning of the

experiment a survey was taken of 227 randomly chosen diners in an attempt to define these variables. Subjects were asked during several instrumental musical pieces with different tempos on Friday and Saturday evenings, "Do you consider the music playing right now as slow tempo, fast tempo, or in between slow and fast tempo music?" The response showed that the restaurant patrons perceived slow tempo music as having 72 or fewer beats per minute (BPM). Fast tempo music was perceived as having 92 or more BPM. 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.

Exclusively instrumental pieces were used in the test to help gain greater control over the music variables: no consideration had to be given to female versus male vocalist, to well-known or popular versus lesser known or less popular artists, and so on. The music selected accentuated the rhythm for easy recognition. Further, as a result of the findings of previously cited research the volume of the music was maintained at a constant level throughout the 16-day experimental period and was clearly audible from all parts of the restaurant. Finally, the following dependent variables were examined:

1. The amount of time it took restaurant employees to take, prepare, and serve customers' orders.
2. The amount of time it took customers to finish their meals and relinquish their tables once they were served.
3. The number of people (or groups of people that are obviously together) who leave the restaurant before being seated.
4. The dollar amount of food purchases per itemized statement.
5. The dollar amount of bar purchases per itemized statement.
6. The estimated gross margin (gross sales minus food and beverage cost) of the restaurant for the 16-day experimental period.

### DATA COLLECTION

To assist in data collection, graduate student observers were placed in the restaurant. As a part of management's regular information system, the host or hostess was required to record the time when first putting a customer's name on the waiting list and when seating a customer. In like manner, the employee made a notation indicating if a customer left before being seated. From these records it was quite easy for the observers to collect the required data to test possible differences in waiting time and the number of customer groups leaving before being seated. In addition, the observers collected the data from the itemized statements of food and bar charges for analysis.

All "waiting time before seating" data and all itemized statement data collected from the time the restaurant opened for dinner (5 p.m.) to closing (approximately 12:30 a.m.) were used in the analysis of each of the 16 nights of the experiment. This yielded a total of 1,392 customer groups. The observers recorded data from approximately 7 to 9 p.m. each Friday and Saturday evening for the eight weekends of the study, yielding 644 observed customer groups.

## RESULTS

Over the eight-week study, once the customers were seated, it took an average of 29 minutes for patrons to be served under the slow-tempo background music treatment ( $N = 594$ ) compared to 27 minutes under the fast-tempo background music treatment ( $N = 494$ ). This difference of 2 minutes was not significant ( $t = 0.488$ ). However, once the food was served, customers given the slow-music treatment took significantly more time to complete their dinners and leave (56 minutes,  $N = 594$ ) than those given the fast-music treatment (45 minutes,  $N = 494$ ). The tempo of the background music apparently affected patrons' dining speed ( $p < 0.01$ ).

Based on the finding that music tempo affected table turn, we could expect to find a longer waiting time for tables during the slow-tempo treatment, and we could logically expect more people to leave without being seated. Over the eight days that the slow-tempo music was played, the average waiting time per group before being seated was 47 minutes ( $N = 558$ ), compared to a waiting time of 34 minutes over the eight days that the fast-tempo music was played ( $N = 456$ ). The difference is significant ( $t = 2.83$ ,  $p < 0.01$ ).

During the experiment, 854 customer groups entered the restaurant while the slow-tempo music was playing; 764 of these groups stayed, while 90 (10.5 percent) left before being seated. A total of 714 customer groups entered the restaurant and received the fast-music treatment; 628 of these groups stayed, while 86 (12.0 percent) left before being seated. No significant difference was found between the proportion of groups that stayed and left for the two treatments ( $p > 0.3$ ,  $\chi^2 = 0.8$ , 1 *df*). Therefore, the shorter waiting time before being seated associated with the fast-tempo music had no significant effect upon the decision to wait for a table or leave the restaurant.

When the data recorded in the itemized statements ( $N = 1,392$ ) were analyzed, it was determined that the average dollar amount spent on food per customer group under the slow-music treatment was \$55.81 ( $N = 764$ ) compared with an average of \$55.12 under the fast-music treatment ( $N = 628$ ). This difference is not significant ( $p > 0.8$ ). However, when the expenditures for alcoholic beverages were analyzed, the findings were quite different. With the slow-music treatment, the average dollar amount of bar charges per customer group

TABLE  
STUDY RESULTS

Variables	Slow music treatment	Fast music treatment	Significance level
Service time	29 min.	27 min.	>.05
Customer time at table	56 min.	45 min.	.01
Customer groups leaving before seated	10.5%	12.0%	>.05
Amount of food purchased	\$55.81	\$55.12	>.05
Amount of bar purchases	\$30.47	\$21.62	.01
Estimated gross margin	\$55.82	\$48.62	.05

was \$30.47 ( $N = 590$ ), compared with \$21.62 for those under the fast-music treatment ( $p < 0.01$ ). The slower tempo background music encouraged customers to drink an average of 3.04 drinks more per customer group.

From the itemized statements, the gross sales for both food and 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 percent, with their beverage cost at 23 percent. With these figures, the estimated average gross margin per itemized statement was \$55.82 under the slow-music treatment ( $N = 764$ ) and \$48.62 under the fast-music treatment ( $N = 628$ ). The difference was significant ( $p < 0.05$ ). For a complete summary of these findings, see the Table.

## DISCUSSION

The Mehrabian/Russell model mentioned earlier presented store environment based upon a continuum for each atmospheric variable ranging from approach to avoidance. This study isolated background music as an atmospheric variable that could affect the atmosphere of a store (in this case a restaurant). With the slow-tempo background music used in this study, patrons stayed longer, ate about the same amount of food, but consumed more alcoholic beverages. Evidently, the slower, perhaps more soothing background music created a more relaxing environment (greater approach condition).

It is interesting that the number of customer groups that left the restaurant before being seated remained about the same whether slow- or fast-tempo music was playing at the time. This would tend to support the conclusion that the background music contributed to

an approach environment regardless of its tempo. However, based upon the Smith and Curnow (1966) findings cited earlier, it would appear that inappropriately loud or ill-suited music could create an avoidance condition.

Also, it appears that individuals, even in a more extreme approach atmosphere, will eat only so much food (the quantity they had originally ordered). After all, it is not acceptable in most situations to consume more than one entree of food; however, it is quite acceptable to consume more than one (perhaps several) alcoholic beverages. Thus, in a relaxing approach atmosphere, patrons consumed more alcoholic beverages.

This study demonstrated that background music can significantly affect the behavior of restaurant customers. There is, however, room for considerably more research on this general topic. For example, the effects of foreground music could be compared with background music in different types of store environments. There are many other environmental factors that could be examined in a similar manner (i.e., carpeting, wall decor, temperature, etc.). Each of these issues could be examined in terms of effects upon various consumer groups—young vs. middle-aged vs. old, for example—as well.

[Received October 1984. Revised April 1985.]

## REFERENCES

- Booms, Bernard H. and Mary J. Bitner (1980), "Marketing Services by Managing the Environment," *Cornell Hotel and Restaurant Management Quarterly*, 23 (May), 35-39.
- Burleson, G.L. (1979), "Retailer and Consumer Attitudes Towards Background Music," unpublished paper, Department of Business Administration, University of Texas at El Paso.
- Donovan, Robert J. and John R. Rossiter (1982), "Store Atmosphere: An Environmental Psychology Approach," *Journal of Retailing*, 58 (Spring), 34-57.
- Kotler, Phillip (1973-1974), "Atmospherics as a Marketing Tool," *Journal of Retailing*, 49 (Winter), 40-64.
- Mehrabian, A. (1980), *Basic Dimensions for a General Psychological Theory*, Cambridge, MA: Oelgeschlager, Gunn, and Hain.
- and J.A. Russell (1974), *An Approach to Environmental Psychology*, Cambridge, MA: MIT Press.
- Milliman, Ronald E. (1982), "The Effects of Background Music Upon the Shopping Behavior of Supermarket Patrons," *Journal of Marketing*, 46 (3), 86-91.
- Russell, J.A. and G. Pratt (1980), "A Description of the Affective Quality Attributed to Environments," *Journal of Personality and Social Psychology*, 38 (August), 311-322.
- Smith, Patricia Cane and Ross Curnow (1966), "Arousal Hypotheses and the Effects of Music on Purchasing Behavior," *Journal of Applied Psychology*, 50 (3), 255-256.