

USING STORE MUSIC FOR RETAIL ZONING: A FIELD EXPERIMENT

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ABSTRACT -

Zoning, playing different types of music in different parts of a store to appeal to specific consumers, is common in retailing. However, the effects of store music on shopper behavior have been studied on a store by store basis not by departments within a store. To address this issue, an experiment was conducted in a national apparel chain store located in the northwestern part of the United States. Three types of music were played in two departments differing in their appeal to consumers based on age and sex in ninety-minute segments over a two-week time period. During the segments, business school students observed and interviewed shoppers in the store to determine their mood, how much time and money they spent, and their evaluation of the store and its merchandise.

The results showed that playing the appropriate music for a specific department enhanced the environment resulting in more shoppers making purchases and spending more money. Additional analyses suggest that store music interacts with age but not gender. Middle-aged (25-49) shoppers spent more and shopped longer when foreground music was played, whereas older shoppers (over age 50) shopped longer and purchased more when background music was playing. Other factors such as shopping alone or with someone, shopping for a specific item or browsing, and shopping during the week or on a weekend or holiday, did not substantially alter how shoppers reacted to the different music conditions. Moods did not explain the music effects but store perceptions partially did. This supports the view that music may influence shopping by stimulating cognitive associations rather than altering emotional states.

INTRODUCTION

Music is one of several environmental or atmospheric factors available to differentiate a retail store from competing stores. Music is a particularly attractive atmospheric variable because it is relatively inexpensive to provide, is easily changed, and is thought to have predictable appeals to individuals based on their ages and life styles. For example, teenagers usually listen to rock music, older professional adults may prefer classical music, and middle-aged, blue collar adults may prefer country and western. These preferences are expected to result in shoppers spending more time and money in stores playing liked music and less time and money in stores playing disliked music. Larger stores often differentiate areas by varying the music played in one or more departments, a practice referred to as zoning by the environmental music industry. Managers expect store music to be more effective when tailored to the listening preferences of the demographic segment shopping in a particular department compared to when the same type of music is played in all departments.

A review of published and some unpublished research reveals relatively few studies of the effects of music in a retail environment and virtually no studies evaluating the effects of zoning. One exception is a

study that considered the interaction between shopper demographics and store music. Yalch and Spangenberg (1990) exposed younger (under 25) and older (25 and over) clothing store shoppers either to background (environmental) or foreground (contemporary) music. Contrary to expectations, shoppers self-reported spending more time than expected in the store when exposed to the music that was different from their preference (i.e., foreground for older shoppers and background for younger shoppers) compared to when they were exposed to their preferred music (i.e., background for older shoppers and foreground for younger shoppers). Unfortunately, there was no observation of the actual amount of time spent shopping so it could not be determined if the effect was behavioral (actually spent more time), perceptual (spent the same amount of time but perceived it to be longer) or a combination of the two.

Other music research suggests a relationship between store music and shopping times. For example, Milliman (1982) reported that supermarket shoppers shopped longer, moved slower, and purchased more when slow tempo music was played compared to fast tempo music. Smith and Curnow (1966) reported that shoppers shopped for a shorter period of time when loud music was played compared to soft music. However, neither study addressed the possibility that demographics might alter these effects. Further, neither study considered music preferences.

Preference is potentially an important variable because it is well-established that environments affect behavior through a combination of at least two factors. Mehrabian and Russell's (1974) Pleasure-Arousal-Dominance (PAD) model is probably the most frequently used perspective in environmental psychology. This model postulates that the environment affects individuals' moods or emotions by altering their state of pleasure, arousal and dominance. Figure 1 provides an overview of the theorized process. For a more complete discussion of this model than is possible in a conference paper, please see Yalch & Spangenberg (1992).

The previously mentioned effects of music on shopping times can easily be explained using this model. For example, fast music should be arousing, causing individuals to move more quickly through their environment (store). Similarly, loud music should also be arousing and similarly cause faster shopping.

The effects of the pleasure dimension in the context of retail shopping are less clear. In an advertising context, listening to liked music was found to enhance brand preference relative to listening to disliked music (Gorn 1982). However, altering brand preferences is not the same as motivating a purchase. In fact, if purchases are based on perceived needs instead of moods, there should be no change in behavior. On the other hand, if shoppers are enjoying the shopping experience, they may shop longer and be exposed to more merchandise. Also, they may misattribute good feelings stimulated by the music to the merchandise. These factors would increase the likelihood of shoppers purchasing something.

In their seminal atmospheric study, Donovan and Rossiter (1982) tested the effects of arousal and pleasure on shopping behavior using the PAD model. Subjects were instructed to visit various retail stores. While in the stores, they completed a survey indicating their mood and likely shopping behavior.

The results revealed positive correlations between pleasure and favorable shopping intentions such as purchasing and spending more time in the store. Interestingly, in pleasant environments, shoppers reported that they would spend more time in the store if their arousal level was high compared to if it was low. This contradicts experimental findings of negative correlations between arousing music (fast or loud) and observed shopping times (cf. Milliman 1982; Smith and Curnow 1966).

[FIGURE 1](#)

[THE ROLE OF MOODS IN MEDIATING ATMOSPHERIC EFFECTS ON SHOPPING BEHAVIOR](#)

In a study using a procedure similar to Donovan and Rossiter's, Sherman and Smith (1987) interviewed eighty-nine shoppers who had just made a purchase. After combining the PAD measures into an overall mood measure, they found a positive correlation between mood and the amount of unplanned purchases but no association with actual or excess time spent in the store. Thus, these findings only partially supported Donovan and Rossiter's results.

Our review of music experiments and in-store mood surveys shows inconsistent findings regarding the role of mood as a mediating factor in the atmosphere-shopping behavior relationship. One problem is that shoppers' moods reflect their experiences prior to entering a store as well as what happens in the store. Factors such as the time of day and weather may create moods not easily altered by in-store factors. Further, there are many factors besides music that can influence a shopper such as the lighting, merchandise layout, temperatures, and colors. Also, the behavior of other shoppers and the sales clerks may be more critical than atmospheric factors. Individuals who are in a store to purchase a specific item or shopping with other persons are less likely to be influenced by music compared to those who are browsing or shopping alone. Fifth, atmospheric factors may have opposite effects on different shoppers. Arousing music may energize some shoppers resulting in their quickly completing their shopping. However, other shoppers might find the arousing music stimulating, decide to explore more of the store, and end up spending more time shopping. Further, what constitutes pleasant music varies across shoppers. A desire to assess the variation due to store and customer characteristics motivated the research presented in this paper.

THE FIELD STUDY

The research presented in this paper looks at the effects of music by considering the possibility of different effects on consumers shopping in different departments. It was conducted in a large apparel store to ensure an adequate range of consumers and music. It also compares the mediating role of mood using on-line measures with cognitive factors such as store and merchandise perceptions. Finally, actual as well as reported behavior was used to assess the effects of music.

Design

A true experimental design was used with one manipulated factor, two context factors, and four self-reported factors. The manipulated factor was the type of music played over the store system for periods ranging from ninety minutes to two hours. Four music conditions (two types of background, one type of foreground, and a period with no music) were rotated. Interviews and observations occurred in two different departments (men's sportswear on the lower level and women's coats and dresses on the upper level of the store). The other context factor was created by conducting the study over a two-week period with approximately the same amount of interviews on weekdays (Monday through Friday) and weekends and holidays (Saturdays, Sundays and Veteran's Day). Two of the four self-reported factors involved asking shoppers to indicate their shopping purpose (browsing or buying a specific item), and whether they were shopping alone or with a companion. The other two were the shopper's self-reported age and gender.

Procedure

Three male and two female undergraduate students from the University of Washington were stationed at various times in the two different departments. Unobtrusively, they recorded the exact time when individuals entered the department and when they appeared to complete their shopping. As the individuals were about to depart, they were intercepted and asked to complete a one-page survey in return for receiving a dollar. The survey determined how much money the shoppers spent, their mood, the amount of time they thought they had spent in the department, and their opinion of the store and its merchandise. In addition, the survey included questions about why they were shopping, whether they were shopping with someone, and their evaluation of the store music.

At predetermined intervals, the store music was switched between the different sources. The transition involved a brief period of no music. Interviewing was delayed until the new music had been playing for 15 minutes to ensure that all customers surveyed had been exposed to only one type of music. The music was varied between the current background system (instrumentals represented by MUZAK's environmental channel, ENV1), updated background (faster tempo instrumentals represented by MUZAK's New Age channel), and foreground music (slow tempo music with vocals represented by MUZAK's FM1 channel). The environmental channel was taken as received by the store's music system. The other two types of music were provided on a specially installed tape player. During some periods, no music was played.

An equal number of interviews was scheduled to be conducted across types of music, departments, and time of the week. Unfortunately, there was a variation from the desired distribution. The New Age music was inadvertently not played on a weekend. Because of this, some effects occurring during the New Age may be due to shopping day differences rather than the type of music. Most of the analysis compares only the regular background and foreground periods.

Other Independent Variables

In addition to music, department and time of week, five shopper characteristics were selected for study. These included the shopper's exact age (later classified as under 25, 25-49, and 50 or over), gender, whether the shopper was browsing or seriously intending to buy something before entering the department, whether or not the shopper had a partner, and the shopper's musical preference.

Dependent Variables

The major dependent variables were shoppers' mood, perceptions of the store and its merchandise, amount of time spent in the department (both observed and self-reported) and the self-reported amount of money spent. Given the difficulty of conducting intercept interviews, mood was determined using a shortened version of the Mehrabian-Russell scale similar to that used in previous research (cf., Yalch and Spangenberg 1990). The pleasure dimension consisted of responses to four scales (happy-unhappy, bored-relaxed, satisfied-unsatisfied, and annoyed-pleased). The arousal dimension included responses to four scales (calm-excited, sluggish-frenzied, sleepy-wide awake and dull-jittery). Store perceptions were assessed using five point scales with endpoints labeled modern-old fashioned, friendly-unfriendly, cramped-spacious, sophisticated-down-to-earth, and noisy-quiet. Merchandise evaluations were assessed with three five-point scales (inexpensive-expensive, good value-bad value, and high quality-low quality). Responses were recoded to ensure that favorable responses were indicated by higher numbers.

RESULTS

The results are presented first in terms of the effects of music with all other characteristics ignored. Next, the effects of music are analyzed by departments to evaluate zoning. Then, the potential moderating role of the customer characteristics of gender and age are assessed. Although it was originally intended to look at multiple combinations of contextual factors, the limited sample size make these result too tentative to report.

Measures Assessing Music Effectiveness

The effect of type of store music alone was analyzed using a one-way analysis of variance of the responses to the in-store survey. Table 1 provides the mean scores and one-way analysis of variance for the different measures as a function of the type of store music being played. Although most differences were statistically insignificant, some are noteworthy. Looking first at the evaluations of the music, the surveyed shoppers rated all above the midpoint of the scale and reported that the foreground music was more similar to the type of music that they usually listened to than the background or New Age music. Despite the fact that respondents thought that the foreground music was most similar to their usual music, there was little difference in the moods created by the three music conditions or in the moods with or without music.

Next the results were analyzed to determine if music affected the shoppers' behavior in terms of how much time and money they spent in the department. Shoppers spent the most time in the department when the New Age music was being played. However, the New Age music was only played during the

week and shoppers did shop significantly longer during the week than on the weekend. Thus, it appears that some of the longer shopping times during the New Age music may be attributed to weekday shoppers spending more time in the store.

When music was played, about 55% of the shoppers made a purchase compared to 47% when no music was played. However, this difference is not statistically significant. Further, it did not affect total expenditures because the average amount spent per person making a purchase (as opposed to the number of shoppers) was highest in the no music condition (\$51.70 compared to \$43.29 when music was being played).

Lastly, the type of music had little effect on the shoppers' opinion of the store and its merchandise. The two exceptions were that shoppers saw the store as having the least expensive merchandise and being most down-to-earth when foreground music was played. Unfortunately, the survey did not include questions about the desirability of these characteristics so that one must infer from the purchase results that these were desirable qualities.

Effects of Music as a Zoning Device

The relative effectiveness of background and foreground music for zoning was analyzed using interviews occurring in two departments, one oriented toward younger, male shoppers and the other toward older, female shoppers. Significant interactions between music and department were found for the percent of shoppers who made a purchase and for the amount spent. When background music was played in the Women's Department compared to foreground music, shoppers were more likely to make a purchase (57% versus 26%, $t(54) = 4.4$, $p < .05$) and spent more money (\$22.22 vs. \$8.91, $t(54) = 1.75$, $p < .1$). On the other hand, shoppers in the Men's Department were more likely to make a purchase (76% versus 57%, $t(44) = 2.2$, ns) and spent more when foreground music was played compared to background music (\$34.18 vs. \$18.13, $t(44) = 81$, $p < 1$).

Efforts to explain these differences using mood measures, store and merchandise perceptions revealed a few interesting differences. In the Men's Department, shoppers perceived the store as more inexpensive (3.75 vs. 3.29, $t(52) = 2.01$, $p < .05$) and more spacious (3.8 vs. 4.2, $t(52) = 1.7$, $p < .1$) when foreground music was played relative to when background music was used. For the Women's Department, perceptual effects also corresponded to the music effects. The store was perceived as friendlier when background music was played compared to foreground music (4.4 versus 3.8, $t(46) = 1.86$, $p < .07$). Also, it was perceived as more sophisticated and less down-to-earth with background music playing (3.5 versus 2.9, $t(46) = -2.07$, $p < .07$). Interestingly, the effects in the Women's Department could not be attributed to a greater liking of background music relative to foreground music. The Women's Department shoppers reported liking the foreground music more than the background music (4.0 versus 3.3, $t(42) = 1.67$, $p < .1$) and that it was more similar to the type of music they usually listened to (3.7 versus 2.4, $t(41) = 3.28$, $p < .002$). These findings further support a cognitive as opposed to mood explanation for the behavioral effects.

Effects of Music by Age and Sex

As mentioned, the two departments differed in their appeal to shoppers based on the shoppers' age and gender. Therefore, to help explain the zoning effects, interactions of the music with demographics were analyzed using the 33 male and 72 female persons shopping during the background and foreground music times. The analyses of the interaction between music and gender revealed only one significant difference. Female shoppers perceived the store to be more mature when background music was playing whereas male shoppers perceived it as being more mature when foreground music was playing. However, there were no behavioral differences (shopping times and purchases).

Previous research has established that music's effects depend on the age of the shopper (Yalch & Spangenberg 1990). Our final sample included 21 persons aged 18-24, 49 aged 25-49, and 36 over age 50 who were exposed either to the background or foreground music. Age differences in music preference were verified (see Table 2). Younger shoppers (under age 50) preferred the foreground music and indicated that it was more similar to their usual music than the background music. On the other hand, older shoppers (50 and over) preferred the background music but indicated that they were no more likely to listen to it than the foreground music.

TABLE 1

EFFECTS OF MUSIC ON DEPENDENT MEASURES

Despite the relatively small differences in music preferences across the three age groups, the interaction of music with age is consistent with the department effects. For example, the oldest shoppers spent more money (\$20.5) and time (12.3 minutes) when listening to background music compared to foreground music (\$13 and 10.4 minutes). On the other hand, middle-aged shoppers spent more money (\$33) and time (12.2 minutes) when listening to foreground music compared to background music (\$25 and 11.3 minutes). Interestingly, the youngest shoppers (under 25 years) spent more time shopping when background music was playing (12 minutes versus 9 minutes) but spent more when foreground music was playing (\$19.60 versus \$6.10). With the exception of the unexpected difference in shopping times for the youngest shoppers, these findings support playing different types of music in departments clearly catering to different aged customers.

CONCLUSION

These results support the proposition that the effects of store music may be altered by departmental and customer characteristics. Although the overall effects of the type of store music being played were negligible, they varied substantially by the type of shopper and department. In a department catering primarily to younger male shoppers, playing foreground music resulted in more purchases. On the other hand, in a department catering more to older women, background music was associated with more purchases than the foreground music.

Although it was proposed that moods induced by the music would account for the shopping differences, there were few reported differences in moods. This may be attributed to difficulty in assessing moods

using a brief survey in a field setting. On the other hand, the behavioral effects were associated with perceptual differences. Shoppers perceived the departments to have more desirable characteristics when certain types of music were played. They also purchased more. However, causality must be inferred because it is possible that the act of purchasing an item may have enhanced the store evaluations.

Efforts to identify other factors that might moderate the music-shopping behavior relationship were unsuccessful. Our sample size did not provide sufficient power to test many possible relationships. Previous published research has yielded inconsistent findings making it difficult to predict which factors may affect consumers' responses to store music. Further, in a field setting, there are many factors that may influence shopping behavior and the influence of any single factor is likely to be small. Also, there are likely to be many higher order interactions among these factors. It appears that designing store atmospheres may remain an art rather than a science for many more years.