

## **Effect of Background Music on Consumer's Behavior: A Field Experiment in a Open-Air Market**

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### **Abstract**

Numerous studies, led in natural setting, have shown that background music affected consumer's behavior but the effect of background music played outside had never been tested. Then, an experiment was carried out in a open-air market with a stall of toys and knick-knack. Results show that, when a popular music was played, clients stayed longer at the stall. A near-significant effect on sales was also observed. The hypothesis of a positive affect activated by background music is discussed to explain these results.

**Keywords:** Background Music, Atmospheric influence, Consumer behavior

### **Introduction**

Background music is known to influence people's behavior, particularly consumer's behavior. Numerous experimental studies have shown that different background music and structural components of the music (sound level, tempo, tonality...) affected consumer's behavior. Cain-Smith and Curnow (1966), by varying the sound level of the same music played in two supermarkets, have found that customers spent significantly less time in the markets during the loud session than did the customers during the soft sessions. However, no significant difference in sales between the two

sessions was found. Milliman (1982), by manipulating the tempo of background music in a supermarket, found that music tempo significantly affected the pace of in-store traffic flow and dollar sales volume. A low music tempo (- 73 beats-minute) compared to a high tempo (+ 93 beats-minute) led to decrease the in-store traffic flow but increased sales volumes. In a later experiment (Milliman, 1986) found that music tempo affected significantly the behavior of restaurants' patrons. A low music tempo led to increase customer's length of stay but increase the average dollar amount of bar charges per customer. A recent study of Caldwell and Hibbert (1999) confirmed Milliman's (1986) first results. Furthermore, they found that low music tempo increased money spent on both food and drink at the restaurant. Tempo or sound level are not the only variables that affect customers' behavior. The type of background music played also has an effect. Areni and Kim (1993), by using Classical versus Top-Forty background music in a wine store, found that classical music increased the amount of sales and led the customers to selected more expensive merchandise. The prestigious music led the customer to buy prestigious wines. These results were confirmed by a recent experiment conducted by North, Shilcock and Hargreaves (2003) who found that, patrons in a restaurant, spent more money when classical music was diffused than when pop music was playing or when no music was used. These behavioral effect in a new field setting confirms the suggestion of Yalch and Spangenberg's (1993) that classical music evokes perception of higher prices store merchandise and supports the notion that music must be appropriate for the context in which it is employed in order to enhance persuasion. The notion of association between music and context had been recently supported by an empirical evaluation conducted by North, Hargreaves and McKendrick (1999b). They found that customers' selection of French and German wines was strongly affected by French and German background music played in the store. French music led to French wines outselling German ones whereas German music led to obtain the reverse effect on sales. The physical components of music and the style of music played are not the main factors that could influence behavior. North, Hargreaves and McKendrick (1999a) have shown that the presence of music compared to no-music on an answering machine made people stay on the line longer before they hung up. Students that have been waiting in a room estimated afterwards that the time they spent in this room was longer in the absence of music than when some popular music was played (Stratton, 1992).

Empirical studies cited above seem to attest that background music has a positive impact on consumer's behavior. Furthermore, all of these studies were conducted inside of shops, supermarkets or shop-malls. To our knowledge, outdoor commercial contexts have received no research attention. In France, there are a lot of open-air markets, but background music is there less systematic than in indoor markets, where previous researches were carried out. Stall background music in an open-air market, could have a positive impact on customers. In this context, client's expectations are focus on human relations and consumers would be more receptive to environmental factors. In order to test this new situation, an experiment was conducted manipulating background music played all around a stall of an open-air market. Because previous studies have shown that background music had a positive effect on the customer's length of stay, we hypothesised that background music could increase length of stay at a stall of an open-air market. We also hypothesised that background music could increase sales volume.

## **Method**

**Subjects :** Subjects were 154 men and 86 women between approximately 30 and 60 years old randomly selected when visiting the stall.

**Procedure :** Music was pretested to evaluate sound quality (sound level, tempo) and style of music associated with the products selling (trinkets). A joyful music (sonatina) was used because it was evaluated for its high appropriateness for sale of toys and trinkets. The experiment takes place in a medium-sized town (+50000 inhabitants) in France, during two sunny Saturday mornings. The confederates (three 20-year-old female students) kept a stall displaying knick-knacks and amusing toys for a price below 10€. Subject was tested according to a random assignment in the two experimental

conditions. If the subject was in the music condition, as soon as he/she arrived for visiting the stand, one of the confederates played music by using a portable hi-fi system. This confederate had the responsibility to evaluate the time passed by each subject before leaving the stall by the way of a chronometer that was placed in her inside pocket trousers. If the subject bought something, the confederate waited before the customer left the stall and then asked one of the two other confederates what was the amount of sale of the customer. During the observational phase, the first confederate was standing near numerous cardboard situated 3 meters at the back of the stands. She acted as she was looking for something in a cardboard. Therefore, only the confederate who selected the customer knew who was the participant of the experiment. After the customer left the stall, music (in the music playing condition) was turned off and a new evaluation with a new subject in a new random condition was conducted. The three confederates took turns in roles of experimenter versus seller.

## Results

Three dependant variables were used in our experiment: passer-by's length of stay at the stall, sale's rate and the average amount of sales for each customer. No difference was observed for these variables between confederate-sellers and between male and female customers. So data were aggregated.

For passer-by's length of stay at the stall, a statistical difference between the two groups was observed ( $t(238) = 4.73, p < .001$ , two-way). When music was played, customers stayed longer ( $M = 5.27$  minutes) than when no-music was played ( $M = 3.72$  minutes). 18.3 % of the customers who were exposed to music bought one or more articles whereas they were 10.0 % when no-music was played. The difference between the two rates was slightly significant ( $\chi^2(1, 240) = 3.43, p < .07$ ). The average amount of sales was the last dependant measure. When no music was played, customers spent an average amount of 6.34 € ( $SD = 4.29$ ) whereas customers spent an average amount of 5.67 € ( $SD = 2.33$ ) when no-music was played. Despite the appearance, no statistical difference was found between these two means ( $t(32) = 0.50, p > .20$ , two-way). Furthermore, a statistical difference between the two variances was found ( $F(21, 11) = 3.39, p < .02$ ). It seems that music condition lead to produce more between-subjects differences than no-music condition. A more detailed analysis of our data showed that this heterogeneity in the music condition was explained by five clients who have bought some products more expensive than those bought by customers of the control group.

## Discussion

Interesting results were found in this new empirical investigation of the effect of music on customer's behavior. First, people who come to visit the stall spent more time if pleasant music was played than if no-music was played. These results confirm previous studies that studied the link between background music and temporal perception. Stratton (1992) had found that music resulted in a relatively faithful perception of time passed while the absence of music leads to an overestimation of time passed. North, Hargreaves and McKendrick (1999a) have shown that the presence of music on an answering machine made people stay on the line longer before they hung up. It is therefore possible that this behavior originates in a differentiated perception of the time spent. Insofar as music would allow the subjects to perceive the time passing by as being slower this will result in hanging up later. Besides, this could explain why, in our experience, customers spent more time before leaving the stall. Therefore, the effect of music on time perception probably explains the effects observed on other types of waiting behavior as those observed in restaurants (Caldwell & Hibbert, 1999; Milliman, 1986), in supermarkets (Milliman, 1982, Yalch & Spangenberg, 2000) or in a waiting room of a laboratory (North & Hargreaves, 1999).

The second interesting result, although tenuous (the statistic difference does not reach to 5 % threshold), is the positive effect of background music on sales' rate. Again, such results confirm previous studies where the effect of music was found on sales volume (Caldwell & Hibbert, 1999; Milliman, 1982; 1986). However, there is no difference with the average amount of clients' sale. Such

findings are not consistent with the results found by Areni and Kim (1993). These researchers have shown that, in a wine shop, Classical music led clients to buy more expensive bottles whereas Forty-Top music had no effect on sale's rate. The reverse effect was found in our experiment but could be explained by differences between the two studies. The settings were not similar: open-air stall in our experiment versus retail store in Areni and Kim's study. Customers in Areni and Kim's study had the intention to buy something whereas in our experiment, lots of people visited the stall by curiosity because of amusing and coloured toys. In our experiment, music versus no music was tested whereas in Areni and Kim's study, two styles of music were tested. The sale amount variances between the two experimental conditions were different in our experiment. Music led to produce more heterogeneity between customers than the no-music condition. Such findings seem to show that music had a positive effect on sale volume only with a part of the customers. It could be an interesting question for further research to test personological variables associated with the influence of music.

Despite the positive and encouraging results of this research on the effect of music on consumer's behavior in a new context, these findings must be considered cautiously. Music is an atmospheric variable, which is very complex, particularly when we use several musical pieces. Moreover, music introduction on a stall is unusual. This aspect can have kept people in front of the stall, not out of pleasure but out of originality of environmental factors. Furthermore validity of this research narrows to sales in open-air. The study was realised in a open-air market and this trade place cannot be comparable with store or supermarket. Customers' expectations are here probably specific: relation between sellers and buyers are more important and atmosphere of the whole is different.

This knowledge implies to find exactly mental process activated by the music played. Our results show a positive effect of music on consumer's behavior: customer spends more time in front of the stall and he/she tends more favourably to buy something. This effect could be mediated by the property of background music to activate a positive mood which, in return, led the subject to stay longer in the place in order to maintain this high level of positive internal state. This assumption is in accordance with Mehrabian and Russel's (1974) psycho-environmental model. Considering this assumption, when a subject go into a shop (or, for us, in front of a stall), characteristics of context (colours, music, odour, light) are some elements as important as more classical characteristics like sellers' competence, prices, availability of products... Our experiment shows that investigation of such external factors would help us to evaluate the importance of the characteristics of context on human behavior.

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