International Bulletin of Business Administration
ISSN: 1451-243X Issue 9 (2010)

http://www.eurojournals.com

Music Congruency and Consumer Behaviour: An Experimental Field Study

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Abstract

Numerous experimental studies have showed that background music affects consumer behaviour in a retail environment. Some of these have tested the degree of congruence between the music played in the store and the type of goods sold. An experiment was carried out in a flower shop where love songs and romantic music (congruence condition), pop music (music usually played in the flower-shop) and no music (control condition) were played. The results show that the mean amount of money spent was significantly higher in the love songs and romantic music condition compared with the two others, whereas the pop music condition did not lead to an increase in the amount of money spent compared to the control, no music, condition.

Keywords: Atmospherics, Background music, consumer behaviour, music congruency, sales

1. Introduction

Background music is known to affect human behaviour and particularly consumer behaviour. Numerous experimental studies conducted in natural settings have shown that the structural components of various types of background music such as sound level and tempo affect consumer behaviour. The first experiment that tested the effect of one such structural component on consumer behaviour was conducted by Smith and Curnow (1966), who played loud and soft music in two supermarkets. They found that customers spent significantly less time in the stores during the loud session than during the soft session, but there was no significant difference between the sales made in the two sessions. Those authors explained their results by "arousal", arguing that the high sound level created a high level of arousal in the customers which led them to enhance their behavioural response toward the stimulus, such that they moved faster round the store but did not spend any more money. Fast music was assumed to have the same property to enhance arousal that, in return, enhances the

behavioural response of the perceiver. McElrea and Standing (1992) found that when fast music was played drinkers spent less time drinking. Similarly, Roballey, McGreevy, Rongo, Schwantes, Steger, Winiger and Gardner (1985) found that when patrons in a cafeteria were exposed to fast music, they were observed to take significantly more bites per minute than those exposed to slow tempo or no music conditions. Again, these results were explained by high arousal levels induced by fast music. A recent experiment conducted by Guéguen, Le Guellec and Jacob (2004) was carried out in two bars to test the effect of loud music on drinking. According to a random assignment, patrons were exposed to a sound level that was higher than the sound level usually used in the bars where the experiment took place. Patrons consumed more drinks when exposed to louder music. The arousal hypothesis was used by the authors to explain the findings: the high sound level led to higher arousal, which led patrons to drink faster and to order more drinks.

Fast tempo is not always associated with an increase in consumption. Milliman (1982) tested the effect of the tempo of background music in a supermarket and found that playing slow music (60-73 beats per minute) decreased the in-store traffic flow in comparison with that observed when faster background music (93-110 beats per minute) was played, but increased sales. Milliman (1986) found, in another evaluation of the effect of tempo on the behaviour of restaurant patrons, that slower music was associated with an increase in the average length of stay and amount of money spent.. These results were supported more recently by Caldwell and Hibbert (1999) who found that customers spent more money on both food and drink at a restaurant when slow music was played. Other research has shown that the tempo of music can affect the perception of time. Guéguen and Jacob (2001) conducted an experiment in which participants were kept waiting on the telephone. They heard an on-hold message accompanied either by slow, medium-tempo or fast music. A control group heard the on-hold message without music. The participants in the music conditions perceived the waiting time as shorter than those who heard no music. Furthermore, the faster the music, the shorter was the waiting time estimated by participants.

Structural components of music are not the only factors that affect customer behaviour. Several studies have shown that the style of background music played has an effect. Areni and Kim (1993) compared the effect of classical versus Top Forty background music in a wine store, and found that sales increased, and customers selected more expensive wines, when classical music was played. This behavioural effect is consistent with the suggestion of Yalch and Spangenberg (1993) that classical music evokes a perception of higher priced merchandise and supports the notion that music must be appropriate for the context in which it is employed in order to enhance persuasion. Of course, classical music is not always appropriate (if “appropriate” is used to mean “encouraging people to drink”). In a more recent experiment, Wilson (2003) found that in a popular restaurant significantly fewer patrons consumed three or more alcoholic beverages when classical music was playing than when jazz, easy listening music or popular music was played.

The notion that music and context are associated was supported by an empirical evaluation conducted by North, Hargreaves and McKendrick (1999). These authors used the term of congruency to test the effect of background music on customer’s behaviour. A background music is considered as congruent with a product if a rationale or a symbolic information is connected with the product to sell. For example sailor’s songs would be appropriated to sell sea products or classical music would be appropriated to sell prestigious wines. In North and al’s (1999) study the authors used the geographical and cultural characteristics of the background music with products that had a clearly geographical and cultural provenance. They found that customers' selection of French and German wines was strongly affected by stereotypic French and German background music played in the wine section of a supermarket. Significantly more French wines were sold than German wines when French music was played, whereas significantly more German wines were sold than French wines when German music was played. These results are consistent with the notion that music can prime related knowledge and the selection of certain products if they fit with that knowledge and indeed North et al.’s participants reported that the German music made them think of Germany rather than France and vice versa. In

summary, North et al. argue that the customers were in a situation where they wanted to buy some wine but had not already made a specific choice of product. So the music played could have oriented this choice by priming knowledge about a country that produced wine.

A similar argument could be made for the patrons of flower shops. When people go into flower shops, they are often uncertain as to their specific choice; they just want to buy a bunch of flowers. The purpose of the present experiment was to explore the concept of congruence between the music played in a commercial environment and the type of goods sold. There were three conditions: romantic songs, pop music and – extending North et al.'s method – a no music condition. We hypothesized that because flowers are usually associated with love and affection that love songs and romantic music would prime or increase the level of these feelings and therefore that customers would spend more money on flowers when love songs and romantic music were playing than when pop music or no music was playing.

2. Method

Participants

The participants were 120 customers (48 males and 72 females) of a flower shop on the outskirts of a medium-size city in the west of France. They did not know that they were being observed. The experiment was conducted during the course of eight sunny days in June 2006.

Design

The experiment employed a between-participants method. One group of customers was exposed to love songs and romantic music, another group to pop music and a third group to no music at all. The two dependent variables were the amount of time and the amount of money the customer spent in the flower shop.

Materials

In the flower shop where the experiment was conducted, the florist usually played CDs of pop music. These were mostly at fast tempos (90-100 beats per minute) and did not qualify as love songs or romantic music.

In order to determine the music that could be considered congruent with flowers, an interview survey was conducted in a street of the same town near the flower shop. It was assumed that respondents would have similar socio-demographic characteristics to those of the participants in our experiment; furthermore the interviewer was asked to approach only people who looked as though they were between the ages of 25 and 60, like most customers of the flower shop. One hundred and twenty-one passers-by (58 men and 63 women) answered a single question: "For you, what is the most appropriate music that could be played in a flower shop to create harmony between the music and the goods". The frequencies of the various responses given were used to select the most appropriate music and are reported in Table 1.

Table 1: Type of music considered to be the most appropriate music in a flower shop reported by the participants

Type of music	Frequency
Love songs	46
Romantic music	38
Pop music	14
Classical music	8
Jazz	4
Samba/Bossa/Latina	4

Celtic music Heavy metal Folk song African Rock Medieval	2 1 for all

Eighty-four of the 121 respondents nominated love songs and romantic music as the most appropriate music for a flower shop and we therefore selected these styles of music for the congruent music condition. After responding, to the first question, the respondents were solicited to give one or two examples of music or songs they know that are "representative of the style of music that they previously judged as appropriated in a flower shop". In most of the case, the respondents gave more than two examples of music (M = 4.28 and SD = 2.37 with seven respondents giving more than 8 examples). Amazingly, most of the examples for Romantic music and songs and Pop songs were French songs whereas no instruction to select such songs and music was addressed. Most of them were 'hits' mainly performed by French singers/instrumentalists over the last 20 years, many of which are still popular today. The interviewer noted these examples and these songs where selected according to their citation frequency (see Appendix 2 for the list of CD tracks used in the experiment).

Procedure

The owner of the flower shop gave permission for the experiment to be carried out over the course of a two-week period on eight weekday afternoons from 1.30 to 3.30 p.m. The background music that played in each experimental session was determined before the first participant entered the shop. Each two-hour session was divided into six 20-minute periods. In each period only one style of music (or no music in the control condition) was played; in each period the style of music (or no music) was different and the order in which each style of music (or no music) was played was random. A decibel meter placed in the middle of the flower shop was used to ensure that all the music was played at the same volume (66 dB). The 20-minute length of period was chosen because the owner of the shop had observed that the mean length of time customers spent in the shop between 1.30 and 3.30 p.m. was around five minutes. It was therefore unlikely that any one customer would be exposed to more than one style of music.

An observer stood near the flower shop and selected the first customer who entered the shop after the start of each 20-minute period as a participant. He or she started a chronometer (an Oregon Scientific chronometer, model C510) and waited until the customer had left the flower shop before stopping the chronometer, entering the flower shop and asking the salesperson to state the amount of money spent by the customer. Then the observer completed a form (see appendix 1) reporting the time and amount of money spent in the shop by the customer before returning to his/her post near the flower shop. The next customer to enter the shop would be the next participant selected, so even if there were two customers in the shop at the same time, only one was observed. In two cases customers did not leave the shop within the same 20-minute period and would therefore have been exposed to two styles of music. These cases were dropped from the analysis of data.

3. Results

The dependent variables used in this experiment were the amount of money spent by the customer in the three experimental conditions and the time her or she spent in the flower shop. The results obtained in the different conditions are presented in Figure 1 (amount of money spent) and Figure 2 (time spent) below.

Figure 1: Means of amount of money spent according to the experimental conditions and gender of the customers

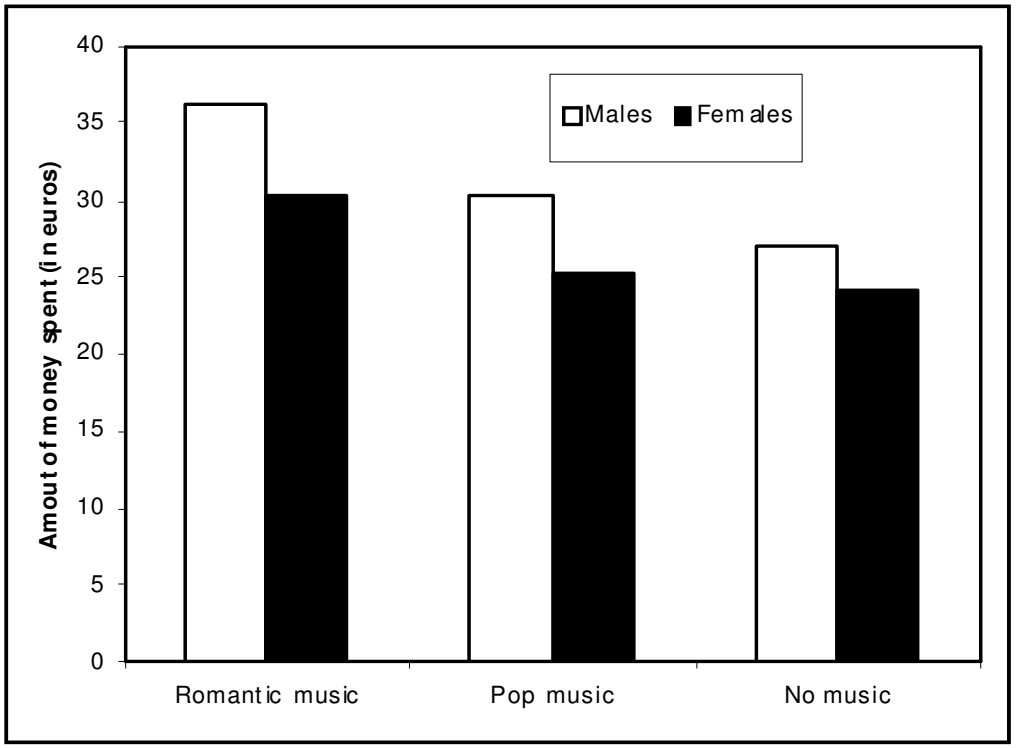
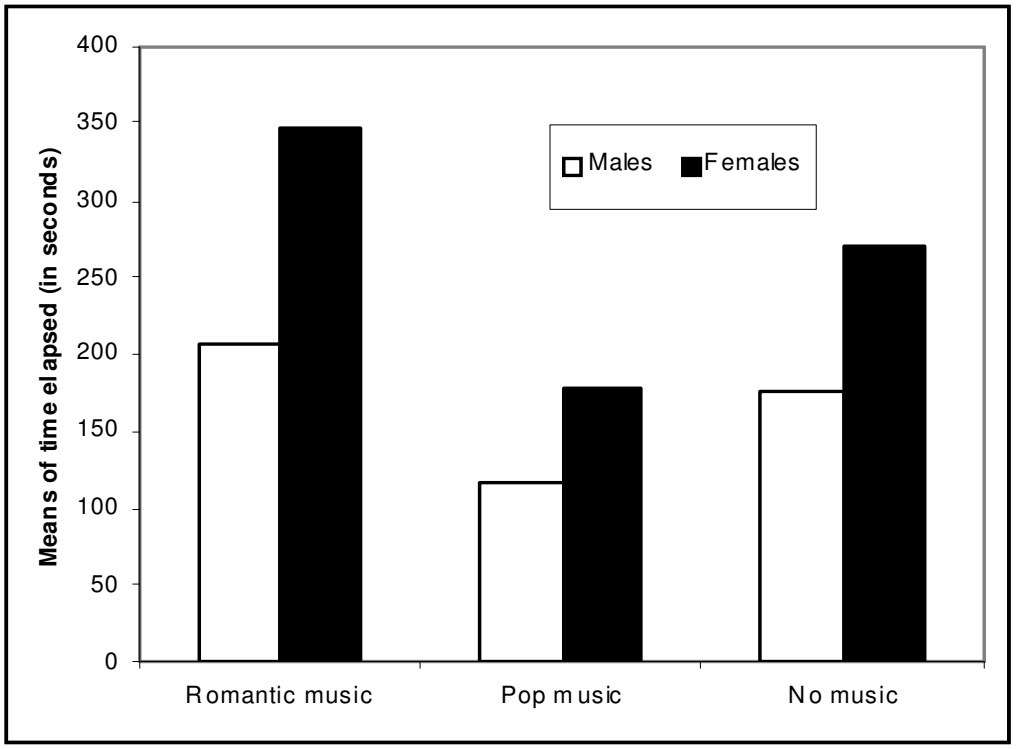


Figure 2: Means of time elapsed in the flower-shop according to the experimental condition and gender of the customers



A 3 (background music: romantic/pop/no music) × 2 (sex of the customer: male/female). ANOVA was used to analyze the data for each of the two dependent variables. There was a main effect

of background music on the amount of money spent by customers, was observed ($F(2, 119) = 11.47$), $p < .001$, partial-eta²=.168[1]). More money was spent in the romantic music condition (M = 32.55€) than in the pop music (M = 27.21 €) and no music control conditions (M = 25.31 €). Pair comparisons showed that there were significant differences between romantic music, pop music ($t(79) = 2.93$, $p < .005$, $d^2 = 0.66$) and no music control conditions ($t(75) = 4.00$, $p < .001$, $d = 0.92$), but no significant difference between the pop music and no music control conditions ($t(80) = 1.42$, $p = .14$, $d = 0.32$). A main effect of sex was found ($F(1, 119) = 12.96$), $p < .001$, partial-eta²=.102): male customers spent more (M = 31.08 €) than female customers (M = 26.42 €). There was no interaction between the two factors of the analysis ($F(2, 119) = 0.49$), ns, partial-eta²=.008).

A main effect of background music was observed for time spent in the flower shop ($F(2, 119) = 41.52$), $p < .001$, partial-eta²=.421). Customers spent more time in the flower shop when romantic music was played (M = 291.6 seconds) than when pop music (M = 153.7 seconds) and no music was played (M = 232.0 seconds). Pair comparisons showed significant differences between the romantic music and pop music conditions ($t(79) = 7.92$, $p < .001$, $d = 1.60$), romantic music and no music control conditions ($t(75) = 2.82$, $p < .01$, $d = 0.62$) and the pop music and no music control condition($t(80) = 5.09$, $p < .001$, $d = 1.14$). A main effect of sex was found ($F(1, 119) = 71.06$, $p < .001$, partial-eta²=.284): female customers spent more time in the flower shop (M = 261.8 seconds) than male customers (M = 164.3). There was an interaction between the two factors of the analysis ($F(2, 119) = 3.70$), $p < .03$, partial-eta²=.061). Contrast analysis showed that this interaction effect was explained by the difference between male and female customers in the pop music condition.

There was a significant but slight linear correlation between the two dependent variables ($r(118) = .20$, $p < .05$). Correlations between time and money spent were not significant in the romantic music condition ($r(36) = .09$, ns), the pop music condition ($r(41) = .22$, ns) or the no music condition ($r(37) = .10$, ns). However there was a significant and high correlation between time and money spent by female customers in the romantic music condition ($r(21) = .497$ $p < .02$), male customers ($r(15) = .77$, $p < .001$) and female customers ($r(24) = .67$, $p < .001$) in the pop music condition and male customers in the control no music condition ($r(14) = .53$, $p < .04$). No significant correlation between time and money spent was found for male customers in the romantic music condition ($r(13) = .19$, ns) or female customers in the no music control condition ($r(21) = .10$, ns).

4. Discussion

Our hypothesis is supported by the results. First, it was found that music exerted a positive effect on the amount of money spent by the customers. Furthermore, it was also found that the effect of music cannot be considered only in terms of presence versus absence of music in the shop where the present experiment was carried out. In our experiment only one type of music that was played influenced customer behaviour. When romantic music was played, customers spent more money than when no music was played or when pop music was played and, in this experiment, no difference was found in the amount of money spent by customers when pop music was used as background music and when no music was played. Previous studies have showed that the style of background music played influenced customer behaviour. Areni and Kim (1993) found that, in comparison with Top Forty background music, classical music played in a wine store increased the amount of sales and led the customers to select more expensive merchandise. North, Hargreaves and McKendrick (1999) found that when stereotypical French music was played in the wine section of a supermarket it increased the amount of

[1] The partial Eta-squared is the proportion of total variability attributable to a factor. The partial Eta² is.168 here, which means that the background music (the factor examined in the ANOVA) by itself accounted for 16.8 % of the overall variance (effect+error). 16.8 % is considered as important.

[2] d is a descriptive measure of the effect size of the difference between two means. d is obtained by divided the means difference by standard deviation of either group. For Cohen (1988), d between.10 to.20,.30 to.50 and.60 and more is respectively considered as a Small, a Medium or a Large effet size.

sales of French wines and decreased the amount of sales of German wines. When German music was used as background music the reverse effect was found: the sales of German wines increased whereas the sales of French wines decreased. Such experiments confirm that the style of music played has an effect on the customer behaviour. However, while different styles of music were compared in both these studies, neither used a control condition in which no background music played. The positive effect of classical music in Areni and Kim's study, for example, could be explained by a negative effect of Top Forty music leading to a decrease in the amount of money spent by customers; we do not know how much they would have spent in a control no music condition. In our experiment, however, the comparison between the three conditions shows clearly that romantic music had a positive effect on the amount of money spent by customers. No difference was found between the amount of money spent in the pop music and no music control conditions. So it cannot be that customers spent less money in the flower shop when they heard pop music than when they heard romantic music because pop music had a negative effect on them, since they also spent less money when no music was playing: it must be that the romantic music influenced them.,. These results suggest that background music in itself does not encourage customers to spend more money: there has to be congruence between the music played and the products on offer. This confirms North et al.'s results. If the background music is clearly associated with the context or the product to be sold, customers are likely to respond more favourably. Future studies could explore this concept of congruence further. In our experiment we tried to use the most highly congruent music by asking people in the street to nominate the style of music that they thought would be most appropriate in a flower shop, and using music in the category most frequently cited. However some elements of the background music used could be even more effective than others in reinforcing the power of romantic music and love songs more generally.

Customers spent more time in the flower shop when romantic music was playing than when pop or no music was playing. In the pop music condition positive correlations were found between time and money spent by men ($r = .77$) and women ($r = .67$). Perhaps customers spent less time and therefore less money because of the effect of the fast tempo of the pop music. Previous research found that tempi variation were associated with variation in customer behaviours (Caldwell & Hibbert, 1999; Milliman, 1982; 1986) or time perception in a waiting situation (Guéguen & Jacob, 2001). Differences in the amount of time spent in the flower shop in our experiment may therefore be attributable to differences in tempo between the music played in the pop and romantic music conditions. Post hoc evaluation by a professional drummer of the music played in the two experimental conditions confirms that they were different. In the pop music condition 75% of the music used a tempo between 96 and 122 beats per minute, whereas 75% of the music and songs played in the romantic music condition used a tempo between 78 and 92 beats per minute. On the other hand, the difference in tempo between the two music conditions is unlikely to be the only explanation: although the correlation between the amount of time and money spent in the flower shop is significant it is slight ($r = .20$), explaining only 4 % of the variance. ANOVA controlling for the effect of time spent in the flower shop reveals that the effect of condition on amount of money spent still remains highly significant ($F(2, 119) = 8.42$), $p < .001$, partial-eta^2=.130; partial-eta^2 =.168 when time spent is not controlled for). Future experiments will be designed to test the effect of tempo using similar styles of music in this type of commercial context.

Our study has some potential applications. It could be financially advantageous for the owners of flower shops to use love songs and romantic music as background music in order to increase the amount of money spent by the customers. Moreover, if the owner wants to decrease the time spent by the customer in the shop, for example when it is packed, without decreasing the amount of money spent, the manager could use pop music as background music.

This experiment had some limitations. Firstly, it was conducted in one flower shop and the results cannot be generalized to all flower shops. Secondly, the effect of music is perhaps explained not only by the type of music used but by some internal characteristics of the music such as tempo, song lyrics, or instrumentation. It has been found in previous research that the same music could have

different effects when played at different tempi (Caldwell & Hibbert, 1999; Milliman, 1982; 1986). So the differences in our two music conditions could be explained by the differences in tempo.

Our results confirm those of previous studies that have found that music influences customer behaviour. However, the mechanisms that explain such effects still remain in question. It seems that congruence between the music played in commercial contexts and the products on offer is an important factor. Thus future research needs to examine the link between music and consumer behaviour, further exploring customers' cognitive and emotional, as well as behavioural responses.

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