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Presence of Various Figurative Cues on a Restaurant Table and Consumer Choice: Evidence for an Associative Link

CÉLINE JACOB, NICOLAS GUÉGUEN, and GAËLLE BOULBRY
Département TC, Laboratoire LESTIC, Université de Bretagne-Sud, IUT de Vannes, Vannes, France

Some studies have shown that figurative cues, presented in the immediate environment of an individual, have affected his/her later behavior. This effect was applied to consumer behavior. In a restaurant, various figurative cues related to the sea (a boat or a sailor figurine, a napkin with a picture of a boat and poetry related to the sea) or no cues (control condition) were present in the environment of the patrons. The results show that figurative cues related to the sea increased the consumption of fish dishes.

KEYWORDS figurative cues, immediate environment, consumer behavior

INTRODUCTION

Consumer choice is traditionally assumed to be a deliberative, conscious, cognitive process. Increasingly however, research has shown that a significant part of consumer decision-making is unconscious (Fitzimmons et al., 2002). Dijksterhuis, Smith, Van Baaren, and Wigboldus (2005) found that only a limited number of consumer choices are based on conscious information-processing strategies. A significant part of these choices is unconscious and results from subtle cues present in the immediate environment of the consumers.

Experimental studies in social psychology confirm that such environmental cues have an influence on individual behavior. Berkowitz and LePage

Address correspondence to Céline Jacob, Associate Professor of Marketing, Université de Bretagne-Sud, IUT de Vannes, Département TC, Laboratoire LESTIC, 8 rue Montaigne, BP 561-56017 Vannes, France. E-mail: celine.jacob@univ-ubs.fr

(1967) found that in the presence of a weapon, a participant in a laboratory administered more electric shocks to a confederate than without the presence of the weapon. Verbal cues also have the same effect. Bargh, Chen, and Burrows (1996) found that participants exposed to words related to older people subsequently walked significantly more slowly than participants who were not exposed to these words. Macrae and Johnston (1998) found that participants who were primed with the concept of helpfulness picked up more items that the experimenter dropped "accidentally" on the floor.

Without any conscious awareness of previous information, the consumption of an individual can be affected. Strahan, Spencer, and Zanna (2002) subliminally primed individuals with words related to thirst. A few seconds afterward, the participants were instructed to compare two beverages in a taste test. It was found that people primed with the thirst-related word drank more than people in the control condition, who were not exposed to the prime words.

Research also found that consumer behavior is affected by subtle cues present in the immediate environment of the consumers. Feinberg (1986) showed that in the presence of credit card cues, an individual had a tendency to provide higher spending estimates or give more generously to a charitable cause than individuals who were not exposed to the credit card. In a similar way, McCall and Belmont (1996) found a that tip tray stamped with a credit card insignia led patrons in a restaurant to leave bigger tips for the waiters or waitresses than when no insignia was primed on the tip tray.

In later consumer-behavior experiments, only spending estimation (Feinberg, 1986) or pro-social behavior, such as tipping (McCall & Belmont, 1996), were measured. The effect of environmental cues on the consumers' choice of products has never been tested before. The purpose of the present experiment is to evaluate the impact of some physical environmental cues associated with a product on consumer's choices in a field setting.

METHOD

Participants

One hundred fifty-five patrons (94 men and 71 women) of a small restaurant situated in a small town (3,000 inhabitants) of Brittany in France participated in this study. The restaurant where the experiment was carried out was very small (24 place settings with 10 tables for 2 patrons and 6 tables for 4) and offered a small choice of dishes: 6 meat dishes (3 with beef, 2 with pork, 1 with mutton), 5 fish dishes (2 with salmon, 1 with cod, 1 with red mullet, 1 with bass), 8 salads, and 10 desserts. The experiment was conducted from 8:00 PM to 11:00 PM during three Thursday, Wednesday, and Saturdays evenings, during four consecutive weeks from May through

June, 2007. Twelve experimental periods were used at the time, but only one experimental condition was performed during each period. Two experimental conditions were performed according to a random distribution. The owners of the restaurant had estimated, without any previous hard empirical measures, that during the evening setting, around 65% of the customers ordered meat, 25% ordered fish, and around 10% ordered salads (the last category). In the same way, for the owners, one out of two patrons ordered a dessert during the evening versus one out of three patrons at lunch. The weather conditions were nearly constant during the observation period; no measures were compared, but the sun shone during the 12 periods considered and the temperature was about 18°C to 21°C. In all cases, the customers were not alone, but the groups were not larger than four individuals. Post hoc comparison showed no difference in the group sizes between the two experimental conditions.

Procedure

Each table (32.6″ × 32.6″) of the restaurant was covered by a red and white tablecloth. One table was used for two patrons in a face-to-face position. For groups of four customers, two similar tables were pushed together. The place settings always remained the same in both experimental conditions. In the experimental condition, a figurine of a sailor (5.12″ high, 1.73″ wide) appeared on one side of the table (in the middle of the table edge), and a figurine of a fishing boat (3.09″ high, 4.28″ wide) was set on the other side of the table. A blue and white paper napkin with a picture of a yellow sailing ship and one verse devoted to the sea was placed on each plate.

In the control condition, the table ornamentation remained the usual ornamentation of the restaurant: two little vases (6.15″ high, 3.15″ wide) with various dried flowers appeared in the same place as the two figurative cues used in the experimental condition. In this control condition, only plain blue paper napkins, without pictures or text, were placed on each plate.

In this experiment, the number of choices of meat or fish dishes in the two conditions was the dependent variable used. Of course, in both conditions, the number of items in the menu still remained the same, as did the behavior of the waitress.

RESULTS

The dependent variable used in this experiment was the customers' choices of the three item categories: salad, fish, and meat. The data are presented in Table 1.

It can be seen that the prediction of the choices formulated by the restaurant owners (around 65% of the customers ordered meats, 25% ordered

TABLE 1 Number and Percentage of Items Ordered by the Customers

Items ordered	Control condition ($N = 76$)	Experimental condition ($N = 79$)
Salads	9.2% (7/76)	11.4% (9/79)
Meat	68.4% (52/76)	46.8% (37/79)
Fish	22.4% (17/76)	41.8% (33/79)
Desserts	56.6% (43/76)	51.9% (41/79)

fish, and 10% ordered salads during the evening setting) was nearly the same as the choices observed in the control condition. The number of desserts ordered by the patrons was also very close to the estimation reported by the owners in both the control and experimental conditions (one out of two patrons during the evening setting). Using a Chi-square "goodness of fit" test, an overall difference between the three item categories (salad, meat, fish) proposed in this restaurant ($\chi^2(2, N = 155) = 51.65$, $p < 0.001$) was found. Overall, meat was more frequently ordered than fish ($\chi^2(1, N = 139) = 10.94$, $p < 0.001$).

In order to test the effect of the experimental conditions on customer behavior, a loglinear analysis of the 2 (experimental condition) × 3 (item category) design revealed a significant effect ($\chi^2(2, N = 155) = 7.84$, $p = 0.02$, $r = 0.22$). In order to test only the effect of the cues related with the sea and the target dishes (fish), a 2 (experimental condition) × 2 (fish versus meat + salad) analysis was performed, which showed a significant interaction ($\chi^2(1, N = 155) = 6.67$, $p = 0.01$, $r = 0.20$), revealing that in the experimental condition, where figurative cues related to the sea were presented, more patrons had ordered a meal including fish than any other items (meat or salads). The same effect occurred when excluding salads and considering only the main courses composed of fish or meat ($\chi^2(1, N = 139) = 7.64$, $p = 0.006$, $r = 0.23$). When considering only desserts, a 2 (experimental conditions) × 2 (dessert versus no dessert) revealed no statistical interaction ($\chi^2(1, N = 155) = 0.34$, *ns*, $r = 0.04$), arguing that the cues related to the sea had no effect on the consumption of products having no link with the sea.

DISCUSSION

This experiment showed that in a restaurant, using physical environmental cues associated with a product led the customers to favor items linked with these cues. Data showed that figurative cues and visual representations linked to the sea were associated with a statistically greater consumption of fish. This result confirms the presumption that subtle cues present in the immediate environment of the customers have the power to influence their

behavior (Dijksterhuis et al., 2005; Fitzimmons et al., 2002). In this experiment, it is likely that a number of the patrons had no idea of what they wanted to eat before sitting down at their table. Unconsciously, the figurative cues presented on the table and the napkin with the representation of a sailing ship and one verse devoted to the sea could have activated a cognitive prime that led, in return, the patron to choose a fish when the waitress asked the patron what he/she wanted to eat. To the knowledge of the authors, it was the first time it was found that such environmental cues affected consumers' choice in a real setting. This experiment has some obvious managerial application, since it shows that it is possible to guide behavior and customer choice by using physical objects or images linked to some specific products offered in a restaurant. It was found in this experiment that cues related to the sea are associated with a higher consumption of fish, but perhaps, with appropriate cues, it would be possible to influence other consumption behaviors. For example, by using a figurine of a cow or a sheep, it would be perhaps possible to influence meat consumption.

Naturally, this study has its limitations. Only one restaurant was used in the experiment, and the sample of customers tested was small ($N = 155$). Therefore, at this stage, it would be impossible to generalize the results to other restaurants. However, given previous research showing the effect of environment cues on individual behavior, and if the results of this study were confirmed in other restaurants, it would be advantageous for restaurant managers to use representative cues associated with their menu items in order to influence the choice of their patrons.

REFERENCES

Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effect of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, *71*, 230–244.

Berkowitz, L., & LePage, A. (1967). Weapons as aggression-eliciting stimuli. *Journal of Personality and Social Psychology*, *7*, 202–207.

Dijksterhuis, A., Smith, P. K., Van Baaren, R. B., & Wigboldus, D. H. (2005). The unconscious consumer: Effects of environment on consumer behavior. *Journal of Consumer Psychology*, *15*, 193–202.

Feinberg, R. A. (1986). Credit cards as spending facilitating stimuli: A conditioning interpretation. *Journal of Consumer Research*, *13*, 348–356.

Fitzsimons, G. J., Hutchinson, J. W., Alba, J. W., Chartrand, T. L., Huber, J., Kardes, F. R., Menon, G., Raghubir, P., Russo, J. E., Shiv, B., Tavassoli, N. T., & Williams, P. (2002). Non-conscious influences on consumer choice. *Marketing Letters*, *13*, 267–277.

Macrae, C. N., & Johnston, L. (1998). Help, I need somebody: Automatic action and inaction. *Social Cognition*, *198*, 75–78.

McCall, M., & Belmont, H. (1996). Credit card insignia and restaurant tipping: Evidence for an associative link. *Journal of Applied Psychology*, *81*, 609–613.

Strahan, E., Spencer, S., & Zanna, M. (2002). Subliminal priming and persuasion: Striking while the iron is hot. *Journal of Experimental Social Psychology*, *38*, 556–568.