



Department
of Business and Management

Chair of Neuromarketing

**THE INFLUENCE OF BACKGROUND MUSIC, FOOD AND
INTERIOR DESIGN ON CONSUMER BEHAVIOR IN THE
CONTEXT OF A CAFETERIA**

SUPERVISOR
Prof. Rumén Ivaylov Pozharliev

CANDIDATE
Noemi Nicola
Reg. No. 693671

CO-SUPERVISOR
Prof. Carmela Donato

ACADEMIC YEAR 2018/2019

I'd like to thank all the people I met on my path over the past two years.
I'd like to thank them, their smiles and their gazes which, despite being stranger,
made me to feel more loved.

I also thank myself because, in spite of the dark moments,
I am here now trying to realize my dreams.

Table of contents

1. Introduction.....	5
2. Literature review.....	6
2.1 Hypotheses.....	6
2.1.1 H1: Classical music compared to pop music will increase customer loyalty.....	6
2.1.2 H2: Classical music compared to pop music will make customers perceive higher prices.....	9
2.1.3 H3: Healthy food compared to junk food will increase customer loyalty.....	9
2.1.4 H4: Bright interior design compared to darker interior design will increase customer loyalty.....	10
2.1.5 H5: Classical music compared to popular music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer loyalty.....	13
2.1.6 The moderation: Big Five Model.....	14
3. Research design and methodology.....	15
3.1 Participants.....	15
3.2 Scale items.....	16
3.3 Stimuli.....	18
4. Results.....	19
4.1 Demographic analysis.....	19
4.2 Descriptive analysis.....	19
4.3 Inferential analysis.....	20
4.3.1 Levene’s test.....	20
4.3.2 ANOVA.....	21
4.3.3 Regression analysis.....	23
5. Discussion.....	24
5.1 Summary of the achieved results.....	24
5.2 Discussion about the first hypothesis.....	24
5.3 Discussion about the second hypothesis.....	25
5.4 Discussion about the third hypothesis.....	25
5.5 Discussion about the fourth hypothesis.....	26
5.6 Discussion about the fifth hypothesis.....	26
5.7 Discussion about the moderation.....	27

5.8 Academic implications.....	27
5.9 Managerial implications.....	27
6. Limitations and future research.....	28
References.....	31

1. Introduction

What is an atmosphere? In marketing the term “atmosphere” is used to describe the conscious design of a space in order to stimulate some emotional effect able to affect consumer behavior, in particular to increase the likelihood to purchase (Kotler, 1973). Therefore, according to Kotler (1973) there exists a causal chain connecting atmosphere and purchase probability.

The first research on the impact of the store atmosphere on consumer behavior appeared between the Fifties and the Sixties. The most important milestone was when, in 1973, Kotler published his paper “Atmospherics as a marketing tool” where he coined the word "atmospherics".

The difference between “desired atmosphere” and “perceived environment” was explained by Kotler (1973) who stated that the desired atmosphere refers to the set of sensory qualities that, within the artificial environment, establish a specific “ambiance”, instead the perceived atmosphere varies from one individual to another, it alludes to the individual reaction to environmental features (for example, color, smell and sound) that cannot be fully controlled by an organization.

In 1973 Kotler speaks of "total product" by asserting that the consumer does not only consider the product in his shopping decision, but the whole atmosphere is a crucial element in the formation of the decision.

New perspectives emerged during the Eighties about the hedonic experience: since there the consumer was perceived as rational (Schmitt, 1999; Solomon, 2008). Fun, hedonism, fantasies and feelings are the non-rational factors affecting customer's choices (Holbrook and Hirschman, 1982) and consumption rituals (Rook, 1985). These factors are defined as “experiential” by Holbrook and Hirschman (1982). Thus, today we are enduring an “experiential” economy according to which the product's life doesn't end with its consumption but the product itself is experienced. In the same way, an experiential marketing perspective becomes established.

Schultz et al. (2000) talked about this age as the age of the “expressive organization”: this means that the need to ensure the appearance, sound and smell of an organization has become ordinary.

Store atmosphere effects are mostly emotional states difficult to verbalize, transient and difficult to recall. These emotional states influence behaviors within the store rather than externally (e.g., in choosing whether or not to patronize the store) (Donovan and Rossiter, 1982).

Especially, the atmosphere influences the consumer behavior under three dimensions: first, it is a mean to attract the consumer's attention through the use of colors, sounds, sights, smells, touch and movement, in order to distinguish them from other competitors (Soars, 2009). Second, it is a mean to transmit a series of characteristics of the environment, that is the relationship between growth, location strategy, and market response (González-Benito, Muñoz-Gallego, and Kopalle, 2005). Third, as said before, atmosphere characteristics can provoke emotional states in consumers (Groeppe-Klein, 2005).

In 1974 Mehrabian and Russell proposed their M-R model, according to which the emotional responses of individuals to the environment causes avoidance or approach to different aspects of it, and this can be explained in terms of three different dimensions: Pleasure, Arousal, Dominance. In particular, the Pleasure,

the Arousal and the Dominance are affected by environmental stimuli and determine the people's response to approach (affiliation, exploration, purchase) or avoidance (disinterest, not purchase) of the environment. However, subsequent research has focused on pleasantness and arousal stating that they explain the most variance in behavior and affection (Russell, 1978).

Tests (for example, Donovan, Rossiter, Marcoolyn, and Nesdale, 1994; Kenhove and Desrumaux, 1997) on the M-R model illustrated that consumer's response to Pleasure, i.e. how much the environment is pleasant or not to the customer, and Arousal, showing if the environment is challenging or not, were the main outputs. Then, within a store's stimuli leading to positive emotional responses also lead to approach behaviors, instead stimuli leading to negative emotional responses lead to behavior of removal from the store.

In conclusion, based on the previous literature, this thesis aims to understand how the stimuli that the environment offers affect consumer decisions, with a focus on music, food and interior design.

2. Literature review

2.1 Hypotheses

Several studies demonstrated that the environment positively affects customers' behaviors. This means that the positive emotions aroused lead to more favorable behaviors (Bitner, 1992; Baker and Cameron, 1996; Mattila and Wirtz, 2001; Ryu and Jang, 2007).

According to North and Hargreaves (2009) there are three main psychological processes upon which many effects depend, namely arousal-based effects, priming effects, and the impact of emotions on behavior. Mehrabian and Russel (1974) proposed their M-R model, according to which the emotional responses of individuals to the environment causes avoidance or approach to different aspects of it. And this can be explained in terms of three different dimensions: Pleasure, Arousal, Dominance.

The objective of this thesis is to understand how the environmental properties of a cafeteria can affect the customer. In particular, it attempts to understand how a certain musical genre can influence customer loyalty and price perception, and how a certain kind of food and a certain type of interior design can alter customer loyalty. Then, we want to understand how these properties can affect customer loyalty if taken together. Finally, we investigate whether a personality trait belonging to the Five Factor Model could be a moderator between the independent variables and the dependent variable.

Therefore, this thesis tries to prove the following hypotheses:

In the context of a cafeteria,

2.1.1 H1: Classical music compared to pop music will increase customer loyalty

“Music is an ecologically valid and complex stimulus that conveys certain emotions to listeners through compositions of musical elements” (Lin, Yang, and Jung, 2014). Emotion is a psycho-physiological process where music is a mediator to evoke it and modulate it (Blood, Zatorre, Bermudez, and Evans, 1999).

North and Hargreaves (1996) made a study in an on-campus cafeteria, setting an “advice stall”, investigating how music could influence whether people would approach or avoid a particular environment. They used two different methods for measuring the impact of the music on the number of people visiting the stall: the result of the first method suggested that the music had no influence on the students’ likelihood to visit the stall. As for the second method, a series of small stickers were placed one meter from the stall, marking the boundary of an “approach zone”: a person stepping into the area and taking one more step, it is counted as a “visitor”. When moderately complex pop music was played, 10.71 students visited the stall every 10 minutes, significantly more than when no music (4.01 people) and high complexity pop music (3.67) was played. In the end, the result is that the music triggers this affect that can be associated with the context, that is, with the situation in which music is played. Results suggested that purchasing is increased by music that makes perception of the environment as upmarket or upbeat.

The association of slow tempo with low-arousal sad music, and fast tempo with high arousal was demonstrated by Kotler (2013).

To confirm this, North and Hargreaves (1998) made another study at the same cafeteria. They played different music genres: pop music, classical music and easy listening music (or lounge music) and no music over four days. In the questionnaire they asked to rate the atmosphere and the results showed that pop music makes participants perceive the atmosphere as lively and youthful, classical music as upmarket and sophisticated, and stereotypical piped music (easy listening music) as downmarket.

Hevner (1936) showed how firm rhythms are considered sacred, serious and/or robust, while smooth-flowing rhythms are judged more happy, playful and/or dreamy. Music with smooth rhythm is judged as brilliant or animated, while music with uneven rhythm judged to express dignity or exaltation (Gundlach, 1935).

North, Hargreaves and McKendrick (2000) conducted other two studies in a bank and in a bar asking participants to rate the place and the music under three different inputs: no music, classical and easy listening music inputs. In both studies the correlation between ratings of listening environments and the music was confirmed.

Moreover, in a study conducted by Baker et al. (1994) they found that classical music stimulates a prestige-image of the store in costumers.

Nevertheless, according to some studies fast music is considered to be happier and/or more pleasant than slow music (Gundlach, 1935; Rigg, 1940; Scherer and Oshinsky, 1977; Swanwick, 1973; Watson, 1942; Wedin, 1972).

Dubé and Morin (2001) demonstrated that liked background music enhances customer attitude toward the physical environmental dimensions of a store. Dube et al. (1995) showed that soothing music give a combination of low arousal and high pleasure, defining the combination as achieving the optimal level of arousal.

However, it was found that the satisfaction of customers in two coffee bars was not particularly related to the different styles of music played, even if such styles had a positive relationship with the perception of the environment of the two coffee bars (II Gordon, 1990). However, the two main factors influencing the satisfaction are the gender of customers and the volume of music (Mandila and Gerogiannis, 2012).

According to Bruner (1990) the musical genre produces stronger effects on perceptions and preferences compared to volume and time. Moreover, preferences for a particular genre are based on individual differences (Cupchik, Rickert, and Mendelson, 1982) so that a change in the background music genre has a different influence across customer groups.

In order to encourage approach behavior attracting customers in a service environment, it is necessary that background music, the organization's desired atmosphere and image fit (Herrington and Capella, 1994), for example classical piano music may be appropriate for an upmarket cafeteria rather than for a discount retailer.

As Wedin (1972) demonstrated, staccato-note-filled music arouses liveliness, energy, and/or agitation, especially if played with high intensity/volume. Legato music, instead, especially if played softer, is perceived as more peaceful, gentle, or dreamy.

Consonant harmonies were perceived as playful, happy, serene; dissonant ones, instead, as more agitating, ominous and sad (Hevner 1936; Watson 1942; Wedin 1972).

Alpert and Alpert (1986; 1988) demonstrated the association between happier music and happier mood and between sad music and higher purchase intentions. This corresponds to the results found by Areni and Kim (1993), that is classical music led people to spend more for wine: in their experiments the subjects were asked about their perceptions of the environment, and it emerged the association between pop music and an assertive/upbeat/aggressive environment, between classical music and an elegant/dignified and upmarket environment, and between no music and a less assertive/aggressive and most peaceful environment but not as with classical music.

Moreover, it was demonstrated that music volume and tempo have negative effects on purchase intentions (Shenje, 2018). Indeed, when tempo increases consumer purchase intentions will equally inversely decrease.

Han and Ryu (2009) in their experiment found that ambient conditions, and among them the music, have a significant effect on price perception in the case of a restaurant.

Finally, Dubé et al. (1995) demonstrated that music-induced pleasure and arousal have independent effects on the consumers' desire to interact usually associated with more pleasure and more arousal, and this in the context of bank services. It is interesting that, in the case of high-pleasure music, under low-arousal music consumers' desire to affiliate is higher than under moderate arousal, but equal than under high arousal.

Key findings in early clinical research on verbal interaction shows that the presence of background music leads to higher level of verbal exchange and affiliative behaviors such as smiles and eye contacts (Dollins, 1956; Sommer, 1957).

In view of the above results, this thesis hypothesizes that:

H1: Classical music compared to pop music will increase customer loyalty.

2.1.2 H2: Classical music compared to pop music will make customers perceive higher prices

The consumer tends to use the price as a starting point to evaluate his consumption experience and to define his attitude towards a supplier.

Zeithaml (1988) defined price as "what is given up or sacrificed to obtain a product". However, we must distinguish between objective price and perceived price (Jacoby and Olson, 1977). Objective price is the product price, while perceived price concerns price by the customer (Jacoby and Olson, 1977).

A certain musical genre, for instance classical, could make listeners perceive related concepts in memory (for instance, expensive, sophisticated, formal, educated), which affects the memory for, perception of, and choice of products (North, Sheridan, and Areni, 2015).

There exists a congruity between the features of a musical genre and the specific products. The influence that this congruity exercises regards the sales and the perception of the products themselves. In particular, classical music has been much discussed in the previous literature. In fact, Baker et al. (1992) and Grewal et al. (2003) have shown that a classical music background determines a higher quality perception of services and products.

North et al. (2015) explained the cognitive processes obtained from these musical congruity effects and reported the results of three laboratory experiments demonstrating the effects of musical congruity on recall, product perceptions and choice. In their experiments the classical music premium pricing is attributed to the social identity of products (except for utilitarian products) and is enhanced by the inclusion of priming. Second, country music appears to have a premium pricing effect on utilitarian products, also stimulated by priming. Therefore, priming and spreading activation can be considered good explanations for music-congruent consumer behavior. "It is not simply the case that playing classical (or country) music in a retail environment positively impacts on the prices that consumers are prepared to pay. Rather the key factor is the correspondence between the type of product (in this case, social identity or utilitarian) and the music in question (which, in this case, expressed social identity or utilitarian values)" (North, Sheridan and Areni, 2015).

Therefore, I propose the following hypothesis:

H2: Classical music compared to pop music will make customers perceive higher prices.

2.1.3 H3: Healthy food compared to junk food will increase customer loyalty

In an experiment conducted by Namkung and Jang (2007) results show that overall food quality significantly affects customer satisfaction and behavioral intentions and also revealed that the satisfaction is a mediator between food quality and customer behavioral intentions. Moreover, healthy food options had a

significant influence on behavioral intentions: this could reflect the increasing interest for physical well-being through healthy foods.

Food has a great impact on consumer satisfaction and consumer loyalty since it is a primary component of the restaurant experience (Namkung and Jang, 2007).

Healthy options involve offering nutritious and healthy food. As proposed by Johns and Tyas (1996), healthy food could affect the customer-perceived evaluation of the restaurant experience. Furthermore, Kivela et al. (1999) suggested that nutritious food represents one of the core properties in dining satisfaction and customer loyalty. Indeed, it is clear that restaurant customers are increasingly interested in healthy menu items (Sulek and Hensley, 2004).

Consumers are eating out more often, but they increasingly put a premium on saving time and eating healthy. Thus, the new quick-casual segment has emerged as a growth category in the foodservice industry and fills a restaurant niche between fast-food and full-service (Ryu, Han, and Jang, 2010)

Hence, the fourth hypothesis is as follows:

H3: Healthy food compared to junk food will increase customer loyalty.

2.1.4 H4: Bright interior design compared to darker interior design will increase customer loyalty

Colors play a significant role for customers in making decisions on what they like and dislike. In particular, colors provoke various emotional feelings such as excitement, energy, and calmness. These emotional feelings are called “color emotions” (Ou, Luo, Woodcock, and Wright, 2004). The process of formation of these color emotions involves that colors, perceived in the form of light, are processed by the brain so that feelings and emotions are evoked (Billmeyer and Saltzman, 1981). Many studies in the field of color emotion show that each color, as well as each combination of colors, transmits its own range of meanings (Kobayashi, 1981)

This is a mere process of inference (Baker, Grewal and Parasuraman, 1994) according to which there are prominent linkages among store environment, service and merchandise quality and store image. In fact, the environment of the retail store offers several stimuli that can serve as cues to customers in order to form their heuristics.

Baker, Grewal and Parasuraman (1994) demonstrated how combinations of specific elements of the store environment could prime the consumers’ inferences about merchandise and service quality. Moreover, in their research service and merchandise quality and store environment are considered antecedents of store image. Darden et al. (1983) found that consumer behavior and intentions are affected by the store’s physical attractiveness more than by the quality of products. However, literature confirms that the quality of merchandise and the service quality influence the perceptions of store image (e.g., Hildebrandt, 1988; Mazursky and Jacoby, 1986).

The purpose of the experiment conducted by Yildirim et al. (2011) was to assess whether different colors across room interiors evoke different moods in people. Digital images of two imaginary living rooms

were used as experimental settings, and for each of the experiments the rooms' spatial features were fixed, except for the color: either warm, cool, or achromatic colors. The results show that warm colors tend to cause stronger participant responses when rating the scene on "high arousal", "exciting", and "stimulating". On the other side, cool colors tended to be associated with "not very arousing", while being tendentially rated higher on "spacious" and "restful". Therefore, the spatial features of the imaginary spaces themselves affected participants' responses only on measures of "happiness" and "vividness". Furthermore, differences among sexes were found, with women's ratings generally more positive than those of men.

Again in a study of emotions evoked by color with regard to simulated interior spaces, Hogg et al. (1979) identified five factors that affect color perception: dynamism, spatial quality, emotional tone, complexity and evaluation, and demonstrated that dynamism and emotional tone were connected to the color characteristics of chroma and hue, respectively. Gelineau (1981) showed that "color value" and "color sensation" could be differentiated into three essential characteristics, hue, tone, and chroma, which describe the warmth, coolness, and brightness of the built environment.

In particular, a color's hue or gradation is determined by its wavelength. Short wavelengths are associated with cool colors, with violet being the shortest, followed by blue. Instead, longer wavelengths are associated with warm colors, with red being the longest, followed by orange.

Research of color usage in interior design has systematically shown that short wavelength colors are preferred by users, which leads to a general association between affective tone and wavelength (Valdez and Mehrabian, 1994). Experimental research demonstrated that the cool colors, blue and green, have a relaxing effect and make an interior space seem peaceful, evoking increased perceptions of spaciousness, while warmer hues, such as red and orange, seem to have a stimulating effect, and tend to make an interior seem less spacious (Nelson, Pelech, and Foster, 1984; Smith, Whitfield, and Wiltshire, 1990; Crowley, 1993)

Moreover, Bellizzi and Hite (1992) studied effects of red and blue in shopping-related contexts: red was perceived as negative and tense as well as physically arousing. Instead, blue was considered as calm, cool and positive.

Wright and Rainwater (1962) categorized 48 color-emotion scales into six factors: happiness, showiness, forcefulness, warmth, elegance, and calmness. They showed connections among these factors and the three color-appearance attributes, that is, hue, lightness, and chroma. They suggested that the influence of lightness and chroma on color emotions was greater than that of hue.

Then, Hogg et al. (1979) identified five factors, including dynamism, spatial quality, emotional tone, complexity, and evaluation. They stated that dynamism and emotional tone were connected with chroma and hue, respectively. Both spatial quality and complexity were found to be associated with lightness. According to a study conducted by Levy (1984), color and emotion are consistently related: it was found that warm colors stimulate "active feelings," such as anger (red) and sadness (yellow). On the other hand, cool colors seem to provoke "calm feelings," such as relaxation (blue) and calmness (purple).

In terms of differences between genders, Ou et al. (2004) compared males and females with regard to 11 color-combination emotions. The results show that feminine gender was inclined to reply “like” to color pairs that were “light”, “relaxed”, “feminine” or “soft”, while masculine gender did not reply with these associations. Another study conducted by Byatzis and Varghese (1994) illustrated that feminine gender responses are positive with respect to brighter colors and negative with respect to dark colors, instead men tend to respond more positively to dark colors.

In the HoReCa business the influence of the environment on consumer behavior is more apparent than in other business providing goods (rather than services, as in the case of HoReCa field) (Bitner, 1986; Booms and Bitner, 1982; Kotler, 1973-1974; Shostack, 1977; Upah and Fulton, 1985; Parasuraman, Zeithaml, and Berry, 1985). This influence occurs because of the purchase and the consumption happen simultaneously. Furthermore, the environment could also exercise an influence on the employees’ behavior (Baker, Berry and Parasuraman, 1988): this phenomenon is referred to as “serviscapes”, that is “the built environment (i.e. the manmade, physical surroundings as opposed to the natural or social environment)” (Bitner, 1992).

Baker (1986) differentiates the environment elements into three groups: ambient factors (music, lighting, smell), design factors (floor covering, wall covering, display/fixtures, color, cleanliness, ceilings, dressing rooms, aisles, layout, signs) and social factors (salespeople). In particular, for what concerns design factors, i.e. more visual elements than ambient factors, they can be functional or exclusively aesthetic: for example, researches (Bellizzi, Crowley, and Hasty, 1983) illustrated that the customer evaluation not only of the store but also of the merchandise is affected by colors. Moreover, researchers found that darker carpeting makes customers perceive the carpet as a higher quality carpet than lighter shades do (Farias, Aguiar, and Melo, 2014; Orth and Wirtz, 2014; Turley and Milliman, 2000; Wheatley and Chiu, 1977). Nevertheless, in other studies (Bellizzi, Crowley, and Hasty 1983; Crowley, 1993) customers perceive the merchandise as more up to date with warm colored interiors than with cool colored interiors (Bellizzi, Crowley, and Hasty 1983; Crowley, 1993).

However, Baker et al. (1994) did not find that interior design factors affect how customers perceive the quality, suggesting that managers should work on ambient and social factors.

The results accomplished by Jang (2012) suggest that interior design could be an effective way to boost the return patronage in Korean restaurants.

In conclusion, the more complex the interior design, the more attractive it is (especially in a utilitarian shopping situation, that is, when the consumer enters the store with utilitarian versus hedonic goals, and when viewers are more field dependent). Researchers demonstrated that processing fluency and pleasure are mediators for the complexity-attractiveness relationship. Less complexity means giving importance to organization and symmetry, using few colors, textures and materials (Orth and Wirtz, 2014). Processing fluency means ease and speed with incoming stimuli (Reber, Winkielman, and Schwartz, 1998): it indicates that the stimulus is likely to be “benign” (Winkielman, Halberstadt, Fazendeiro, and Catty, 2006). Processing fluency is also driven by visual complexity (Creusen, Veryzer, and Schoormans, 2010): this visual complexity

is determined by the number of objects, irregularity, detail, dissimilarity, asymmetry and irregularity of objects (Kent and Allen, 1994; Pieters, Wedel, and Batra, 2010) and variations in colors and contrast (Carbon and Leder, 2005). This processing fluency of a stimulus has a positive effect instantaneously because in the evolution of human being fluent stimuli have represented safety, therefore a favorite state (Halberstadt and Rhodes, 2000; Winkielman and Cacioppo, 2001).

Based on the above literature, I proposed the following hypothesis:

H4: Bright interior design compared to darker interior design will increase customer loyalty.

2.1.5 H5: Classical music compared to popular music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer

An experiment conducted by Baker et al. (1994) combined two atmospheric variables, music and lighting, illustrating that classical music together with lighting produced expectations of higher service and products quality with respect to top-forty music and bright lighting.

In the light of this experiment, my thesis intends to demonstrate that music, color (bright versus darker) and the quality of food (which, according to the aforementioned literature, can today be translated into healthy food) are interconnected in the human brain.

Therefore, if a consumer were sitting at a cafeteria table as in *Fig. 1* with a bright interior design rather than a darker one, with classical music in the background and healthy food served, the possibility that they return to the same cafeteria is higher. This is compared to a cafeteria with a darker interior design, pop music in the background and junk food served.

Summarizing, the final hypothesis to be proposed is as follows:

H5: Classical music compared to popular music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer loyalty.



Fig. 1 Example of cafeteria with a bright interior design with classical music in the background and healthy food served

2.1.6 The moderation: Big Five Model

This thesis intends to investigate whether a personality trait belonging to the Five Factor Model could be a moderator between the independent variables and the dependent variable.

About that, the Five Factor Model or the Big Five Model is the major model used to study the personality within the area of trait psychology. This model, that is a hierarchical organization of personality traits in terms of five basic dimensions, has received much attention about the its validity and relevance (e.g. Digman, 1990; Furnham, Richards, and Paulhus, 2013).

Many psychologists thought that the natural language is a source of attributes for a scientific taxonomy (Klages, 1926; Baumgarten, 1933; Allport and Odbert, 1936). In particular, in his studies McDougall (1929; 1932) proposed that personality could be divided into five components: disposition, temperament, temper, intellect and character.

Afterward, Allport and Odbert (1936) used an English dictionary to conduct a lexical study of personality-relevant terms dividing 17,953 terms into four categories: temporary moods, activities, and states (4,541 terms); capacities, talents, physical qualities, and other terms that were loosely related to personality (3,682 terms); strongly evaluative appraisals of character, reputation, and personal conduct (5,226 terms); and personality traits (4,504 terms).

Some years after, using part of the terms from Allport and Odbert's personality trait categories and a few hundred more from the other categories, Cattell (1943; 1945; 1946; 1947) developed a list of the major personality traits: he grouped the 4,000-plus terms into 35 personality variables, which were later reduced to 12 factors from which the 16 Personality Factors (16PF) questionnaire (Cattell, Eber, and Tatsuoka, 1970) derives.

Though following studies were unsuccessful in replicating Cattell's work (Fiske, 1949; Tupes and Christal, 1961), researchers find support for a five-factor model.

In 1961, Tupes and Christal found support for a five-factor model of personality on the basis of Cattell and Fiske's data. Their five factors were Dependability, Agreeableness, Culture, Surgency, and Emotional Stability.

However, Norman changed the labels of those five factors to Extraversion or Surgency, Emotional Stability, Agreeableness, Conscientiousness, and Culture (Norman, 1963). Norman's labels have been referred to as the "Big Five" or "Norman's Big Five" (Barrick and Mount, 1991).

Finally, with Costa and McCrae's research (1992) there were approved the Big Five definitive and commonly used today labeled as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness.

More specifically, John et al. (2008) defined the Big Five as follows: Extraversion is "an energetic approach toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality"; Agreeableness "contrasts a prosocial and communal orientation toward others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty"; Conscientiousness

refers to "socially prescribed impulse control that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing, and prioritizing tasks"; Neuroticism "contrasts emotional stability and even temperedness with negative emotionality, such as feeling anxious, nervous, sad, and tense"; Openness is "the breadth, depth, originality, and complexity of an individual's mental and experiential life" (p. 120).

In conclusion, it should be emphasized that the personality traits cannot be reduced to only the five traits, rather the Big Five represent the broadest level of abstraction of the personality characteristics.

3. Research design and methodology

The research methodology literature suggests that, in order to examine the issues involved in this study, an ad-hoc and scientific quantitative research design was appropriate.

It is a causal research providing evidence that a cause-and-effect relationship exists or not among variables.

The questionnaire has been performed via Qualtrics, a subscription software for collecting and analyzing data for market research, customer satisfaction and loyalty, product and concept testing, employee evaluations and website feedback.

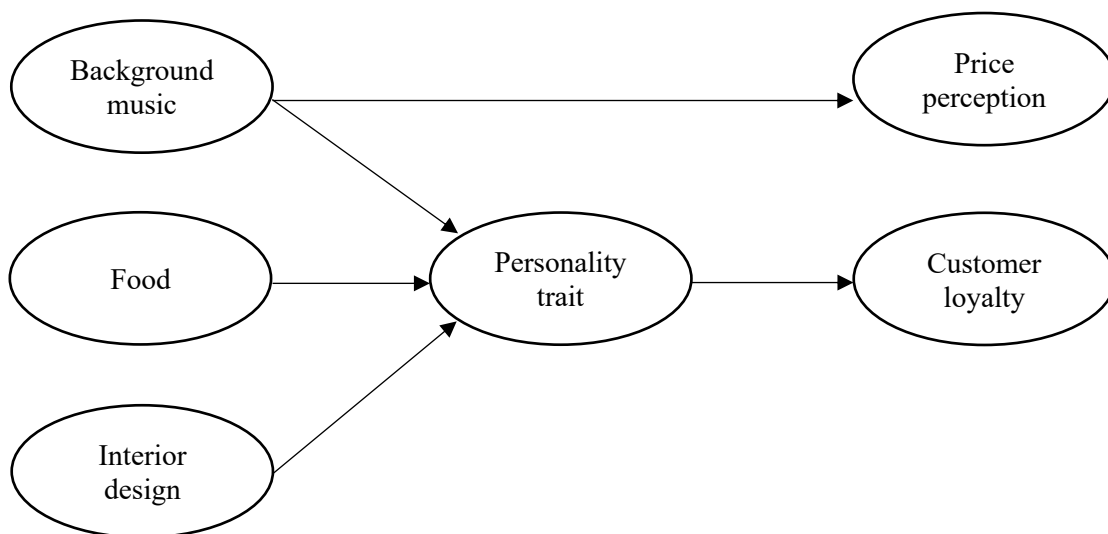


Fig. 2 Research model

3.1 Participants

The participants were 71 males and 94 females. The questionnaire proposed was written in Italian, thus participants are all Italian-speaking. Their age range varies between 14 and 72 years old, with a mean of 29 years old.

Participants were selected randomly via Facebook and WhatsApp, and based on the network of friends, friends of friends and family.

The explanation of the objective of the questionnaire was not provided, at the beginning it is said only that it serves for a master's degree thesis in marketing.

A total of 257 responses were generated, of which 165 were considered eligible (92 were incomplete), thus the response rate is 64.2 per cent.

3.2 Scale items

A survey research instrument was developed using measures adapted from previous literature. Effects of background music on customer loyalty (H1) were measured using a scale with three, seven-point Likert-type items. Despite the scale was described as measuring "the store ambient factor" in a couple of studies (Baker, Grewal and Parasuraman, 1994; Baker, Levy, and Grewal, 1992), it is clear from an examination of the items that only the music aspect of the retail atmosphere is being assessed. The scale used by Baker, Levy and Grewal (1992), Baker, Grewal and Parasuraman (1994), as well as Baker, Grewal and Parasuraman (2002) was original of the 1992 study. The scale items, then translated in Italian, are:

1. *The background music would make shopping in this cafeteria pleasant.*
2. *If I shopped at this cafeteria, the background music would bother me.*
3. *The background music was appropriate.*

The second hypothesis concerning the impact of background music on price perception was tested using a scale whose source was not stated by Srivastava and Lurie (2004) but it appears to have been developed by them. The scale has three items with seven-point response formats. The scale items, then translated in Italian, are:

1. *Based on the description, the overall prices at the cafeteria are most likely:
very low / very high*
2. *Relative to other stores, the prices at the cafeteria are most likely to be:
lower than average / higher than average*
3. *Your general expectation about the overall price level at the cafeteria is:
very low / very high*

The third hypothesis concerning the effects of a certain kind of food on customer loyalty was tested using a scale adapted from the study conducted by Lichtenstein et al. (2004), it was apparently developed in dissertation research by Hess (1998). This scale is composed of four items with seven-point Likert-type statements. The scale items, then translated in Italian, are:

1. *The emotional reward I get from shopping at this cafeteria makes it worth it for me.*
2. *Shopping at this cafeteria gives me a sense of warmth and comfort.*
3. *Shopping at this cafeteria makes me happy.*
4. *I would experience an emotional loss if I could no longer shop at this cafeteria.*

The scale used to assess the fourth hypothesis concerning the effects of interior design on customer loyalty is taken from the work of Mattila and Wirtz (2001). But, of the seven items used by Mattila and Wirtz

(2001), six were taken from the Fisher (1974) scale. Due to the originality of the version of the scale used by Baker et al. (2002), here both the scale developed by Mattila and Wirtz (2001) and by Baker et al. (2002) are reviewed together: in fact, both scales examine the same construct and one is a subset of items in the other.

The version developed by Mattila and Wirtz (2001) has seven, seven-point bipolar adjectives and was called “store environment”. While, the version used by Baker et al. (2002) has three unipolar adjectives, a six-point response format, and was referred to as “psychic cost perceptions”. The directions of the scale appearing as follows were provided by Mattila (2004). The scale items, then translated in Italian, are:

Directions: How did you find the store environment? Please rate the store environment on the following dimensions:

1. *unattractive / attractive*
2. *uninteresting / interesting*
3. *bad / good*
4. *depressing / cheerful*
5. *dull / bright*
6. *uncomfortable / comfortable*
7. *pleasant / unpleasant*

At the end, the last hypothesis, grouping together the inputs given in order to assess their effects on consumer loyalty, was measured with four, ten-point statements. The scale was originally developed by Both Nijssen et al. (2003) and Sirdeshmukh et al. (2002) who adapted their scale from a scale by Zeithaml et al. (1996). The scale items, then translated in Italian, are:

How likely are you to:

1. *do most of your future shopping at this cafeteria?*
2. *recommend this cafeteria to friends, neighbors, and relatives?*
3. *use this store the very next time you need to shop for a cafeteria item?*
4. *spend more than 50% of your cafeteria budget at this store?*

This thesis intends to prove that a personality trait belonging to the Five Factor Model is a moderator between the independent variables and the dependent variable.

About that, the Five Factor Model or the Big Five Model is the major model used to study the personality within the area of trait psychology. This model, that is a hierarchical organization of personality traits in terms of five basic dimensions, has received much attention about the its validity and relevance.

In order to measure a personality trait as a moderator, a short version of the original Big Five questionnaire (Costa and McCrae, 1992) is used. We use five-point Likert-type statements to measure the degree of agreement with certain sentences. The scale items, then translated in Italian, are:

Rating I...:

1. *am the life of the party*
2. *feel little concern for others*

3. *am always prepared.*
4. *get stressed out easily.*
5. *have a rich vocabulary.*
6. *don't talk a lot.*
7. *am interested in people.*
8. *leave my belongings around.*
9. *am relaxed most of the time.*
10. *have difficulty understanding abstract ideas.*

Finally, participants are asked about gender and age.

3.3 Stimuli

In order to test the first hypothesis and the second hypothesis, pieces of 19 seconds of classical and pop music are used, respectively “Cello Suite No.2 in D minor, BWV 1008” by Bach and “We don’t talk anymore” by Charlie Puth feat. Selena Gomez.

Instead, the third hypothesis is studied by submitting the participants to the vision of two images that are randomized, respectively one representing healthy food (*Fig. 3*) and the other representing junk food (*Fig. 4*).

The fourth hypothesis is tested starting from other two images, also randomized, which depict two cafeterias, one with a bright interior design (*Fig. 5*), the other with a darker interior design (*Fig. 6*).

Finally, the last hypothesis is studied on the basis of all the previously proposed stimuli, namely musical pieces, images of food and images of interior design.



Fig. 3 Picture representing healthy food



Fig. 4 Picture representing junk food



Fig. 5 Picture representing a bright interior design

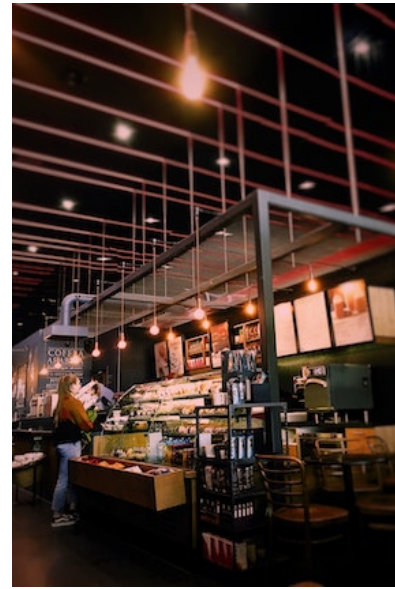


Fig. 6 Picture representing a darker interior design

4. Results

4.1 Demographic analysis

A total of 257 responses were generated, of which 165 were considered eligible (92 were incomplete), thus the response rate is 64.2 per cent.

The participants were 71 males and 94 females. Their age range varies between 14 and 72 years old, with a mean of 29 years old (Fig. 7).

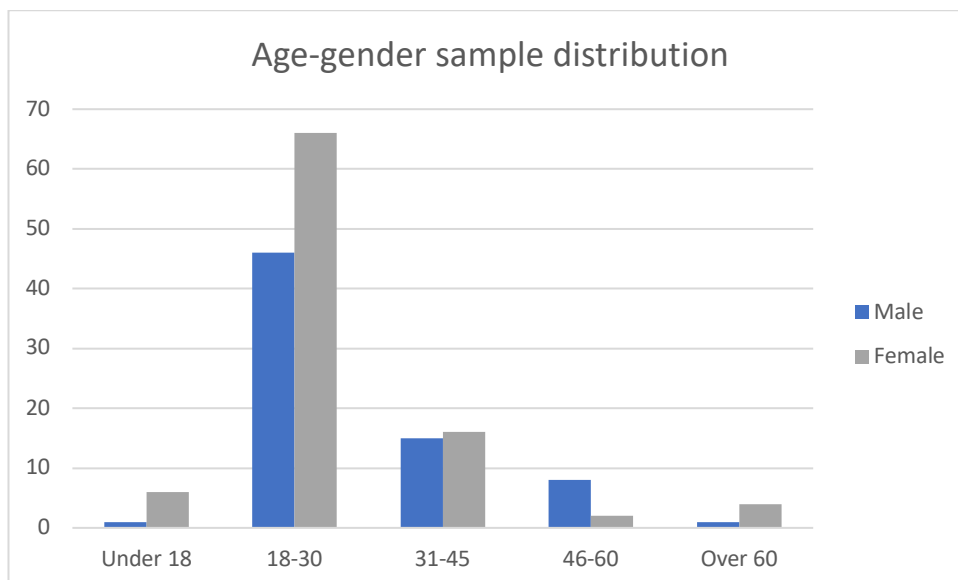


Fig. 7 Age-gender sample distribution

4.2 Descriptive analysis

Our study involves three conditions: music, food and interior design. With each of them we study the behaviors for two subgroups: people listening to classical or to pop music, people seeing healthy or junk food

pictures, and people seeing bright or darker interior design pictures. In particular, the first condition serves a dual purpose, that is it is the independent variable both for customer loyalty and for price perception. Then, we call the conditions *MusicLoyalty* (condition for customer loyalty), *MusicPrice* (condition for price perception), *FoodLoyalty* and *InteriorLoyalty*.

The following descriptive analysis is based on the different groups of respondents, each of them had one stimulus (pop or classical music, healthy or junk food, and bright or dark interior design).

For what concerns the first condition *MusicLoyalty* the subgroup of participants listening to classical music ($m=3.9$; $SD=1.69$) had a lower mean than the subgroup listening to pop music ($m=4.38$; $SD=1.67$).

Then, in the case of the condition *MusicPrice* the subgroup listening to classical music had a higher mean ($m=4.70$; $SD=1.36$) than the subgroup listening to pop music ($m=3.68$; $SD=1.30$).

For what concerns *FoodLoyalty*, the subgroup that has seen the picture representing the healthy food has a higher mean ($m=4.35$; $SD=1.49$) than the subgroup with the picture representing the junk food ($m=4.00$; $SD=1.79$).

Instead, for what concerns the two subgroups with the condition *InteriorLoyalty* one seeing the picture representing a bright interior design and the other seeing a picture representing a darker interior design: the subgroup which has seen the bright interior design has a higher mean ($m=4.48$; $SD=0.99$) than the subgroup with the darker interior design ($m=4.05$; $SD=0.97$).

4.3 Inferential analysis

4.3.1 Levene's test

Since we have unequal sample sizes, we conduct a Levene's test for the four conditions in order to verify the homogeneity assumption required before running an ANOVA test: this assumption states that the population variances are equal for all groups.

The null hypotheses states that the subgroups we are comparing (that is, the subgroup listening to classical music and the one listening to pop music, the subgroup seeing healthy food and the one seeing junk food, and the subgroup seeing bright interior design and the one seeing dark interior design) all have equal population variances (homoscedasticity).

After running the Levene's test for *MusicLoyalty* we see that $F(1,163)=0.02$, $p=0.89$. Thus, by being $Sig>0.05$, we accept the null hypothesis, that is the two subgroups one listening to classical music and the other listening to pop music have equal variances.

Levene's test for *MusicPrice* shows that the variances for people listening to music (pop or classical) were equal, $F(1,163)=0.07$, $p=0.79$. Therefore, we accept the null hypothesis.

Levene's test for *FoodLoyalty* shows that the variances for people seeing the picture representing food (healthy or junk) were not equal, $F(1,163)=5.77$, $p=0.02$. Thus, we reject the null hypothesis.

Levene's tet for *InteriorLoyalty* shows that the variances for people seeing the picture representing an interior design (bright or dark) are equal, $F(1,163)=0.18$, $p=0.67$. Thus, we accept the null hypothesis.

4.3.2 ANOVA

The ANOVA test is run to determine whether differences between the means of the subgroups exist or not. Therefore, this technique analyzes the sample variances (the total variation in the dependent variables, that is, the consumer loyalty and the price perception).

In this analysis of variance the null hypothesis states that all the groups have the same mean. The F-test is the ratio of the two variances: $F = \text{variance between groups} / \text{variance within groups}$.

The analysis of variance executed for *MusicLoyalty* states that $F(1,163)=3.31$, $p=0.07$, thus the null hypothesis is confirmed. There is no difference in the mean of loyalty depending on the stimuli given (*Fig. 8*).

The analysis of variance executed for *MusicPrice* states that $F(1,163)=24.19$, $p=0.00$, thus the null hypothesis is rejected as deduced from the Levene's test. Thus, there is significant difference between the two groups (*Fig. 9*).

The analysis of variance executed for *FoodLoyalty* states that $F(1,163)=1.83$, $p=0.18$, thus the null hypothesis is confirmed. There is no difference in the mean of loyalty depending on the stimuli given (*Fig. 10*).

For last, the analysis of variance executed for *InteriorLoyalty* states that $F(1,163)=1.83$, $p=0.01$, thus the null hypothesis is rejected. There is significant difference in the mean of loyalty depending on the stimuli given (*Fig. 11*).

In order to understand whether the independent variables, namely music, food and interior design, taken together have a statistically significant effect on the consumer loyalty, we conduct ANOVA tests. The tests show how the differences in the mean of customer loyalty depending on music genre, kind of food and on the type of interior design are or not statistically significant.

An ANOVA test was conducted to examine the effect of music and food on the consumer loyalty. There is a statistically significant interaction between the effects of music and food on consumer loyalty, $F(1,163)=0.17$, $p=0.001$.

The same was conducted to examine the effect of music and interior design on the customer loyalty. There is a statistically significant interaction between the effects of music and interior design on consumer loyalty, $F(1,163)=0.61$, $p=0.004$.

Then, an ANOVA test was conducted also to test the effect of interior design and food on the customer loyalty. There is statistically significant interaction between the effects of interior design and food on customer loyalty, $F(1,163)=0.48$, $p=0.003$.

Most important, an ANOVA test was conducted to examine the effect of all the three independent variables, music, food and interior design, on the customer loyalty. There is a statistically significant interaction between the effects of the independent variables on customer loyalty, $F(1,163)=4.49$, $p=0.02$.

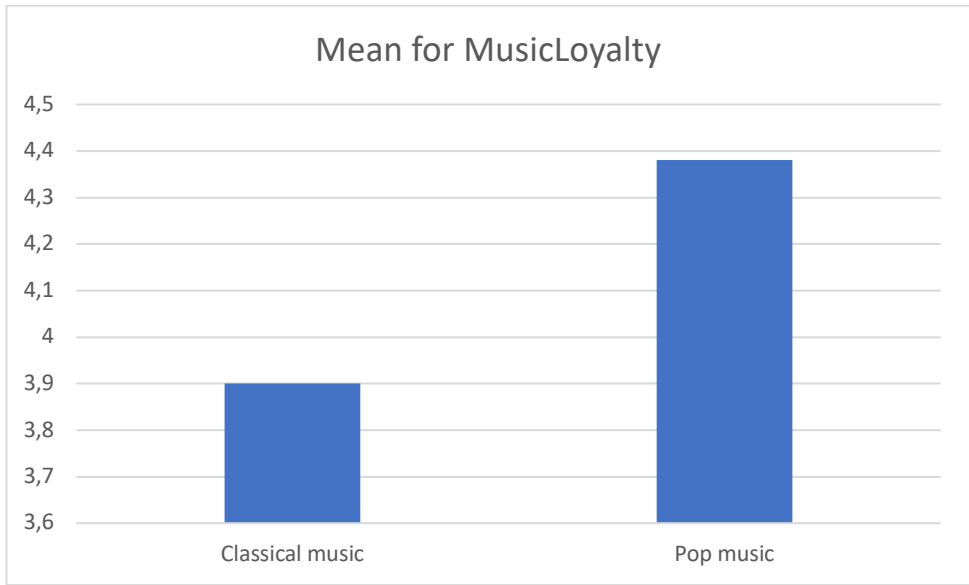


Fig. 8 Mean for MusicLoyalty

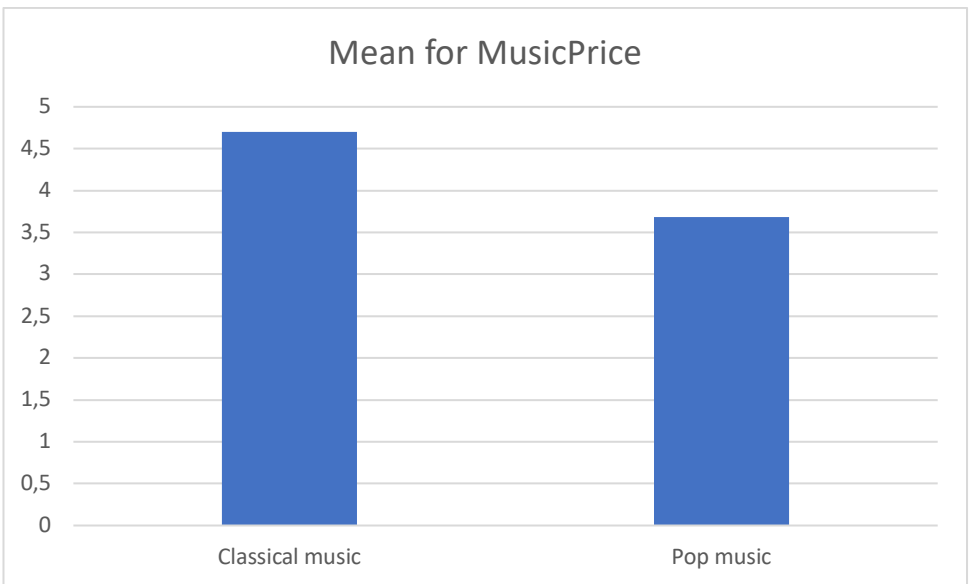


Fig. 9 Mean for MusicPrice



Fig. 10 Mean for FoodLoyalty

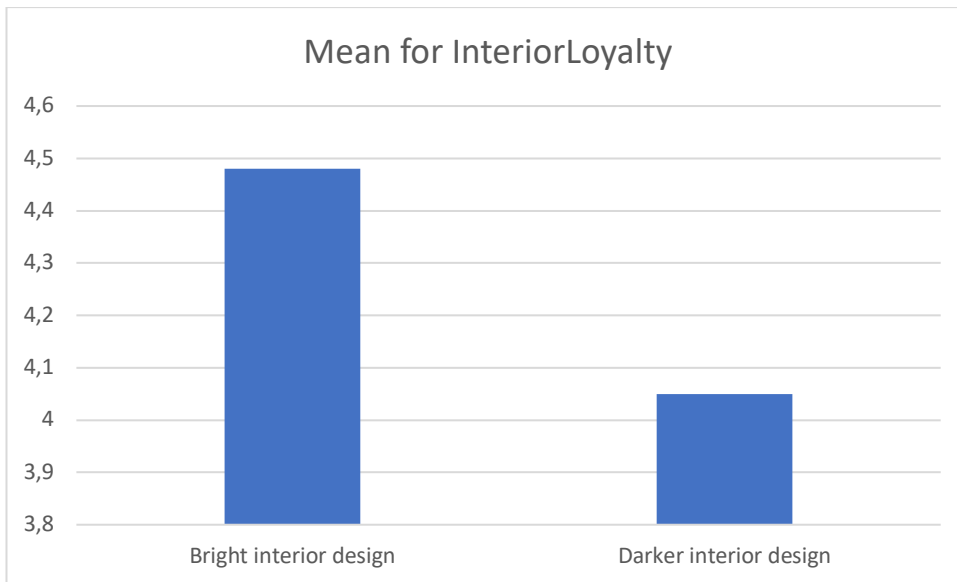


Fig. 11 Mean for InteriorLoyalty

4.3.3 Regression analysis

As shown by the regression analysis conducted, personality trait does not seem to be a moderator. In fact, we conduct a multiple regression analysis where the null hypothesis states that the regression coefficient β is equal to zero, and the bilateral alternative hypothesis states that β differs from zero. This regression analysis shows that the personality trait is not a moderator between the independent variables (music, food and interior design) and the dependent variable (consumer loyalty) since we accept the null hypothesis.

5. Discussion

5.1 Summary of the achieved results

Through the specific statistical analysis methods that have been used, it has been possible to test the five hypotheses and the moderation developed in the present thesis and to comment the relative obtained results.

In order to get a comprehensive overview of the conclusions obtained from the statistical analysis carried out, it is possible to summarize the results as follows:

- The first hypothesis was not supported, this was deduced from the ANOVA test where people who had the classical or pop music as stimuli did not have a significantly different mean of loyalty.

The analysis of variance also has been used to test the second hypothesis: here it has been possible to prove the statistical validity of the second hypothesis that states that “Classical music compared to pop music will make customers perceive higher prices”. In fact, it has been proved that there is difference between the two groups, one listening to classical music and the other listening to pop music. In particular, the group listening to classical music shows a higher price perception.

The third hypothesis was not supported, this was deduced from the ANOVA test too. People who had the healthy or junk food as stimuli did not have a significantly different mean of loyalty.

Instead, the statistical validity of the fourth hypothesis has been proved. This hypothesis states that “Bright interior design compared to darker interior design will increase customer loyalty”. In fact, it has been proved that there is difference between the two groups, one seeing the picture of bright interior design and the other seeing the picture of darker interior design. In particular, the group seeing the picture of bright interior design shows a higher customer loyalty.

The fifth hypothesis was not supported with the analysis of variance. People who had the music, the food and the interior design as stimuli did not have a significantly different mean of loyalty.

- As shown by the regression analysis conducted, personality trait does not seem to be a moderator between the independent variables (music, food and interior design) and the dependent variable (customer loyalty).

5.2 Discussion about the first hypothesis

The formulation of the first hypothesis of the conceptual model is mainly based on the experiments did by North and Hargreaves (1996; 1998; 2000) investigating the perception of the listening environment or the approach-avoidance for the listening environment.

These experiments serve for the purpose of our first hypothesis that states that “Classical music compared to pop music will increase customer loyalty”, in particular they show how music has an emotional influence on customer, this influence could play a crucial role in determining whether or not the customer will visit again the cafeteria.

In the case of the present thesis, through the results obtained by means of the conducted analysis and in particular through the ANOVA test, it has not been possible to prove the statistical validity of this first hypothesis.

5.3 Discussion about the second hypothesis

The formulation of the second hypothesis of the present study has been based mainly on the study of North et al. (2015) appearing on the research paper of the *Journal of Retailing*, “Music Congruity Effects on Product Memory, Perception, and Choice”.

The authors of this scientific paper have shown that hearing a specific musical genre, for example classical, stimulates the appearance of related concepts in memory (for instance, expensive, sophisticated, formal, educated), which affects the memory for, perception of, and choice of products. This congruity between the features of a musical genre and the specific products may influence the sales and the perception of the products themselves. In particular, classical music has been much discussed in the previous literature. In this regard, Baker et al. (1992) and Grewal et al. (2003) have shown that a classical music background determines a higher quality perception of services and products.

As the case of the present thesis, also Han and Ryu (2009) in their experiment found that ambient conditions, and among them the music, have a significant effect on price perception in the case of a restaurant. Here, in the case of a cafeteria, through the results obtained by means of the conducted analysis and in particular through the ANOVA test, it has been possible to prove the statistical validity of the second hypothesis of the present study, which states that “Classical music compared to pop music will make customers perceive higher prices”.

5.4 Discussion about the third hypothesis

The formulation of the third hypothesis of the present study has been based mainly on the study of Namkung and Jang (2007) appearing on the research paper of the *Journal of Hospitality & Tourism Research* “Does Food Quality Really Matter in Restaurants? Its Impact On Customer Satisfaction and Behavioral Intentions”. An experiment conducted by the authors demonstrates that the overall food quality affects customer satisfaction and behavioral intentions and also reveals that the satisfaction is a mediator between food quality and customer behavioral intentions. Moreover, healthy food options significantly influence behavioral intentions: this could reflect the increasing interest for physical well-being through healthy foods. Namkung and Jang declare that food has a great impact on customer satisfaction because it is a primary component of the restaurant experience.

Looking for healthy options means choosing nutritious and healthy food. Johns and Tyas (1996) proposed that healthy food could influence the customer-perceived evaluation of the restaurant experience. Furthermore, Kivela et al. (1999) suggested that nutritious food represents one of the primary components in

return patronage. Indeed, it is clear that restaurant customers are increasingly interested in healthy menu items (Sulek and Hensley, 2004) and that they increasingly put a premium on saving time and eating healthy. Thus, the new quick-casual segment has emerged as a growth category in the foodservice industry and fills a niche between fast-food and full-service (Ryu, Han, and Jang, 2010).

Despite the previous literature, it has not been possible to prove the statistical validity of the third hypothesis that states that “Healthy food compared to junk food will increase customer loyalty”.

5.5 Discussion about the fourth hypothesis

The formulation of the fourth hypothesis of the present study has been based mainly on the theory of “color emotions” (Ou, Luo, Woodcock, and Wright, 2004). “Color emotions” refer to the several emotional feelings such as excitement, energy and calmness that are evoked by either colors or color combinations. The evocation of these emotional feelings is determined exclusively by a process of inference (Baker, Grewal and Parasuraman, 1994) according to which there are prominent linkages among store environment, service and merchandise quality and store image.

In a study conducted by Baker, Grewal and Parasuraman (1994) results demonstrated how combinations of specific elements of the store environment could prime the consumers’ inferences about merchandise and service quality. Moreover, the research concluded that service and merchandise quality and store environment were posited to be antecedents of store image. And this demonstration serves for the purpose of our fourth hypothesis that states that “Bright interior design compared to darker interior design will increase customer loyalty”, in particular it shows the emotional influence of colors on consumer behavior, this influence could play a crucial role in determining whether or not the customer will visit again the cafeteria.

The results achieved by Jang (2012) suggest that interior design could be an effective way to encourage customers to revisit Korean restaurants, as in the case of the present thesis but with reference to the ambient of a cafeteria.

The present thesis, through the results obtained by means of the conducted analysis and in particular through the ANOVA test, has proved the statistical validity of this fourth hypothesis.

5.6 Discussion about the fifth hypothesis

My thesis intends to demonstrate also that music, color (bright versus darker) and the quality of food (which can today be translated into healthy food) are interconnected in the human brain.

Therefore, according to the fifth hypothesis, if a consumer were sitting at a cafeteria table with a bright interior design rather than a darker one, with classical music in the background and healthy food served, the possibility that they return to the same cafeteria is higher. This is compared to a cafeteria with a darker interior design, pop music in the background and junk food served.

It has not been possible to prove the statistical validity of the fifth hypothesis that states that “Classical music compared to pop music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer loyalty”.

5.7 Discussion about the moderation

Finally, this thesis wanted to use a personality trait belonging to the Five Factor Model as moderator between the independent variables and the dependent variable. These Big Five consist in Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (Costa and McCrae, 1992). But personality traits cannot be reduced to only the five traits, rather the Big Five represent the broadest level of abstraction of the personality characteristics.

Nevertheless, through the results obtained by means of the conducted analysis and in particular through the regression analysis, it has not been possible to prove the statistical validity the moderation of a personality trait of the relationship between the independent variables, namely music, food and interior design, and the customer loyalty.

5.8 Academic implications

Summing up, since the statistical validity of H1, H3, H5 has not been proven we can deduce that the sample should be enlarged to verify whether strategies of the managers of cafeterias should be based or not on music, on the type of food and on music, food and interior design taken together to boost the customer loyalty. Furthermore, in the case of the present thesis even the moderation of the Big Five was not statistically proven, so further research should investigate more deeply whether personality traits serve as levers for customer loyalty.

This thesis adds understandings to the previous literature about the influence of background music, food and interior design on consumer behavior in the context of a cafeteria. Among the main insights, this thesis wanted to explore the consumer behavior in the context of a cafeteria: this context was not much investigated in the previous literature. In particular, the results for the second and fourth hypotheses, whose statistical validity was proven, offer new insights because previous research does not regard cafeterias but other service environments.

5.9 Managerial implications

From the practical standpoint, the results of this study could help managers of cafeterias to better understand the important role that atmospherics play in price perception and customer loyalty.

Customer loyalty depends largely on customer satisfaction (Fornell et al., 1996; Ladhari, 2008; McDougall and Lavesque, 2000). Thus, many studies in the field of service marketing have focused on identifying the elements that enhance customer satisfaction. Studies show that customer satisfaction strongly depends on physical surroundings and price perception (Stevens and Patton, 1995; Varki and Colgate, 2001).

Unlike buyers of tangible products, service customers evaluate their overall experience on the basis of a small number of cues because of the intangible nature of the service (Nguyen and Leblanc, 2002; Reimer and Kuehn, 2005). In many cases, customers' evaluation relies only on price and physical environment (Bitner, 1992; (Zeithaml, 1981). Thus, the service provider should develop strategies on the basis of these two essential elements that influence the level of customer satisfaction, and ultimately enhance customer loyalty (Bolton and Lemon, 1999; Nguyen and Leblanc, 2002; Reimer and Kuehn, 2005; Ryu and Jang, 2007; Varki and Colgate, 2001).

The results of the present thesis offer a number of insights to restaurant managers. They suggest that an atmosphere characterized by a certain musical genre and with a certain interior design can affect customers. If their budget permits, then managers of cafeterias should consider making reasonable investments in interior design, as well as they should consider doing a price strategy that pries up background music, which could bring added benefits.

While for what concerns the investments in interior design managers should just consider how customers appreciate more the interiors of the cafeteria trying to arouse positive emotions, and price management could consider three different strategies: Premium Pricing, Psychological Pricing and Value Based Pricing.

According to the background music that is played in the cafeteria managers should consider the customer's reaction and its perception of price: they could set high price to indicate that the products are "exclusive" (Premium Pricing), or they could consider the psychology of price and the positioning of price within the marketplace (Psychological Pricing), or they could consider the value of products sold to customers rather than the costs to produce them (Value Based Pricing).

6. Limitations and future research

This research will play an important role in providing academic and managerial implications regarding consumers' responses in a HoReCa environment focusing on atmospherics and food.

The major limitations of the current study lie first of all in the size of the sample studied and in its representativeness: in fact, the participants in the questionnaire were identified with a technique of convenience sampling and snowball sampling through a word-of-mouth among the major social networks. Then, the sample is composed only of people who have available the social networks from which the questionnaire was sent.

Another limitation of the study conducted is certainly due to the lack of incentives that pushed the participants to pay maximum attention to the questionnaire. Precisely for this reason, future research is to be carried out with face-to-face interviews and offering incentives to obtain better accuracy and attention in the answers to the questionnaire.

Even the cultural identity of the sample studied is a limit as the participants in the study are only Italian. Furthermore, the Italian cultural identity also limits the representativeness of the answers since Italian

cafeterias might not be places as popular as in other countries and because, for example, junk food is not often served in cafeterias in Italy.

Furthermore, the answers to the questionnaires could have depended on a certain type of stimulus proposed rather than on another: the two musical pieces, "We don't talk anymore" and "Cello Suite No.2 in D minor, BWV 1008", are chosen to represent respectively a piece of pop music and a piece of classical music, certainly, however, the musical preferences of the individual participant may have influenced the answers to the questions. The same goes for the stimuli of interior design and food: here the personal tastes of the participants relative to the pictures representative of the interior design of a certain type (bright or darker) and of the food of a certain type (healthy or junk) may have influenced the answers.

Future research could take to explore the entire HoReCa field by investigating consumer behavior in other kind of environments up to expanding out of the HoReCa field and investigating how the atmosphere can influence consumer choices in stores and in all the environments, where certainly the effect of the food offered would not be investigated.

From a managerial point of view, the impact of atmospherics and of the food offered, as evidenced by this thesis, can have profitable consequences, therefore understanding which atmosphere to prefer and which food to offer is fundamental for managers in the HoReCa field.

The term "neuromarketing" was first coined by Ale Schmidts and it is defined as "a part within marketing that studies the effect of marketing stimuli on consumers' sensimotor, cognitive and affective (emotional) responses" (Ramsøy, 2015).

The traditional market research technique depends exclusively on the answers provided by the focus group consumers (questionnaires, surveys, etc.). However, often verbal responses are not spontaneous and sincere, or the consumer is not aware of some of his deeper needs that market techniques cannot detect. Neuromarketing seeks to overcome these limits.

In particular, there exist three notable effects that argue for a need to assess unconscious consequences in consumer choice. First, our choices are often based on unconscious processes and framing effects affect our choices without being aware of this. Second, emotions affect our choices substantially. And third, decisions are made before complete information is obtained (Ramsøy, 2015).

Therefore, in future research the present study could evolve taking into consideration neuromarketing methods. For instance, the experiment could involve the use of virtual reality viewers allowing the participants to immerse themselves in different environmental and experiential realities in different cafeterias, including the cafeteria with the characteristics to be studied, that is a cafeteria with a bright or darker interior design offering healthy or junk food options. While the user wears the viewers, he is subject to a different musical background, classical or pop.

At this point, I would perform a study of Area of Interest (AOI) based on the virtual reality combined with eye-tracking in order to measure the Fixation Count (FC), that is the number of fixations that the

customers make within the AOI, to verify which areas are most appealing (that is, the interior design and the food).

Then, thanks to the help of a mobile electroencephalogram during the vision of the cafeteria and while hearing a selected musical genre we could measure the pleasantness, as a mediating variable between the independent variables and the dependent variable, that is the customer loyalty. In this case, the activity in the left frontal hemisphere is related to the pleasantness.

In conclusion, I would analyze the relationship between independent variables and the dependent variable of my study starting from the traditional methodology deepening it with neuromarketing techniques.

References

- Allport, G. W., & Odbert, H. S. (1936). Trait-names: A Psycho-lexical Study. *Psychological Monographs*, 47(1), i-171.
- Alpert, J. I., & Alpert, M. I. (1986). The Effects of Music in Advertising on Mood and Purchase Intentions. *unpublished working paper - University of Texas*.
- Alpert, J. I., & Alpert, M. I. (1988). Background Music as an Influence in Consumer Mood and Advertising Responses. *Advances in Consumer Research*, 16, 485-491.
- Areni, C. S., & Kim, D. (1993). The Influence of Background Music on Shopping Behavior: Classical Versus Top-Forty Music in a Wine Store. *Advances in Consumer Research*, 20, 336-340.
- Baker, J. (1986). The Role of Environment in Marketing Services: the Consumer Perspective. In J. A. Czpeil, C. Congram, & J. Shanaham, *The services marketing challenge: integrated for competitive advantage* (p. 79-84). Chicago (IL): AMA.
- Baker, J., & Cameron, M. (1996). The Effects of the Service Environment on Affect and Consumer Perception of Waiting Time: An Integrative Review and Research Propositions . *Journal of the Academy of Marketing Science*, 338-349.
- Baker, J., Berry, L. L., & Parasuraman, A. (1988). The Marketing Impact of Branch Facility Design. *Journal of Retail Banking*, 10(2), 33-42.
- Baker, J., Grewal, D., & Parasuraman, A. (1994). Article Metrics Related Articles Cite Share Explore More Download PDF The Influence of Store Environment on Quality Inferences and Store Image. *Journal of the Academy of Marketing Science*, 22(4), 328-339.
- Baker, J., Levy, M., & Grewal, D. (1992). An Experimental Approach to Making Retail Store Environmental Decisions. *Journal of Retailing*, 68(4), 445-460.
- Baker, J., Parasuraman, A., & Grewal, D. (1994). The Influence of Store Environment on Quality Inferences and Store Image. *Journal of the Academy of Marketing Science*, 22(4), 328-339.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions. *Journal of Marketing*, 66(2), 120-141.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance: a Meta-analysis. *Personnel Psychology*, 44(1), 1-26.
- Baumgarten, F. (1933). *Die Chartereigenschaften*. Bern: A. Francke.
- Bellizzi, J. A., & Hite, R. E. (1992). Environmental Color, Consumer Feelings, and Purchase Likelihood. *Psychology and Marketing*, 9(5), 347-363.
- Bellizzi, J. A., Crowley, A. E., & Hasty, R. W. (1983). The Effects of Color in Store Design. *Journal of Retailing*, 59(1), 21-45.
- Billmeyer, F. W., & Saltzman, M. (1981). *Principles of Color Technology*. J. Wiley & Sons.

- Bitner, M. J. (1986). Consumer Responses to the Physical Environment in Service Settings. In M. Venkatesan, D. M. Schmalensee, & C. Marshall, *Creativity in Services Marketing* (p. 89-93). Chicago: American Marketing Association.
- Bitner, M. J. (1992). Serviscapes: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing*, 56(2), 57-71.
- Blood, A. J., Zatorre, R. J., Bermudez, P., & Evans, A. C. (1999, April). Emotional Responses to Pleasant and Unpleasant Music Correlate with Activity in Paralimbic Brain Regions. *Nature Neuroscience*, 2(4), 382-387.
- Bolton, R. N., & Lemon, K. N. (1999). A Dynamic Model of Customers' Usage of Services: Usage as an Antecedent and Consequence of Satisfaction. *Journal of Marketing Research*, 36, 171-186.
- Booms, B. H., & Bitner, M. J. (1982). Marketing Services by Managing the Environment. *Cornell Hotel and Restaurant Administration Quarterly*, 23(1), 35-40.
- Bruner, G. C. (1990). Music, Mood, and Marketing. *Journal of Marketing*, 54(4), 94-104.
- Byatzis, C. J., & Varghese, R. (1994). Children's Emotional Associations with Colors. *The Journal of Genetic Psychology*, 155(1), 77-85.
- Carbon, C. C., & Leder, H. (2005). A Method to Capture Dynamic Effects of Innovativeness and Attractiveness. *Applied Cognitive Psychology*, 19(5), 587-601.
- Cattell, R. B. (1943). The Description of Personality: Basic Traits Resolved into Clusters. *The Journal of Abnormal and Social Psychology*, 38(4), 476-506.
- Cattell, R. B. (1945). The Description of Personality: Principles and Findings in a Factor Analysis. *The American Journal of Psychology*, 58(1), 69-90.
- Cattell, R. B. (1946). *Description and Measurement of Personality*. Oxford: World Book Company.
- Cattell, R. B. (1947). Confirmation and Clarification of Primary Personality Factors. *Psychometrika*, 12(3), 197-220.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. (1970). *Handbook for the Sixteen Personality Factor Questionnaire (16PF)*. Champaign: IPAT.
- Costa, P. T., & McCrae, R. R. (1992). Four Ways Five Factors are Basic. *Personality and Individual Differences*, 13(6), 653-665.
- Creusen, M. E., Veryzer, R. W., & Schoormans, J. P. (2010). Product Value Importance and Consumer Preference for Visual Complexity and Symmetry. *European Journal of Marketing*, 44(9/10), 1437-1452.
- Crowley, A. E. (1993). The Two-Dimensional Impact of Color on Shopping. *Marketing Letters*, 4(1), 59-69.
- Cupchik, G. C., Rickert, M., & Mendelson, J. (1982). Similarity and Preference Judgements of Musical Stimuli. *Scandinavian Journal of Psychology*, 23(1), 273-282.

- Darden, W. R., Erdem, O., & Darden, D. K. (1983). A Comparison and Test of Three Causal Models of Patronage Intentions. In W. R. Darden, & R. F. Lusch, *Patronage Behavior and Retail Management* (p. 29-43). eds. New York: North- Holland.
- Digman, J. M. (1990). Personality Structure: Emergence of the Five-Factor Model. *Annual Review of Psychology*, 41(1), 417-440.
- Dollins, C. (1956). The Use of Background Music in a Psychiatric Hospital to Increase Group Conversational Frequency. *Music Therapy*, 6, 229-230.
- Donovan, R. J., & Rossiter, J. R. (1982). Store Atmosphere: an Environmental Psychology Approach. *Journal of Retailing*, 58, 34-57.
- Donovan, R. J., Rossiter, J. R., Marcolyn, G., & Nesdale, A. (1994). Store Atmosphere and Purchasing Behavior. *Journal of Retailing*, 70(3), 283-294.
- Dubé, L., & Morin, S. (2001). Background Music Pleasure and Store Evaluation: Intensity Effects and Psychological Mechanisms. *Journal of Business Research*, 54(2), 107-113.
- Dubé, L., Chebat, J.-C., & Morin, S. (1995). The Effects of Background Music on Consumers' Desire to Affiliate in Buyer-Seller Interactions. *Psychology & Marketing*, 12(4), 305-319.
- Farias, S. A., Aguiar, E. C., & Melo, F. V. (2014). Store Atmospheric and Experiential Marketing: A Conceptual Framework and Research Propositions for An Extraordinary Customer Experience. *International Business Research*, 7(2), 87-99.
- Fiske, D. W. (1949). Consistency of the Factorial Structures of Personality Ratings from Different Sources. *The Journal of Abnormal and Social Psychology*, 44(3), 329-344.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*, 60(4), 7-18.
- Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of Personality: A 10 Year Review. *Social and Personality Psychology Compass*, 7(3), 199-216.
- Gelineau, E. P. (1981). A Psychometric Approach to the Measurement of Color Preference. *Perceptual and Motor Skills*, 53(1), 163-174.
- González-Benito, Ó., Muñoz-Gallego, P. A., & Kopalle, P. K. (2005). Asymmetric Competition in Retail Store Formats: Evaluating Inter- and Intra-format Spatial Effects. *Journal of Retailing*, 81(1), 59-73.
- Grewal, D., Baker, J., Levy, M., & Voss, G. B. (2003). The Effects of Wait Expectations and Store Atmosphere Evaluations on Patronage Intentions in Service-Intensive Retail Stores. *Journal of Retailing*, 79, 259-268.
- Groeppe-Klein, A. (2005). Arousal and Consumer In-store Behavior. *Brain Research Bulletin*, 67(5), 428-437.
- Gundlach, R. H. (1935). Factors Determining the Characterization of Musical Phrases. *he American Journal of Psychology*, 47, 624-643.

- Halberstadt, J., & Rhodes, G. (2000). The Attractiveness of Nonface Averages: Implications for an Evolutionary Explanation of the Attractiveness of Average Faces. *Psychological Science, 11*(4), 285-289.
- Han, H., & Ryu, K. (2009). The Roles of the Physical Environment, Price Perception, and Customer Satisfaction in Determining Customer Loyalty in the Restaurant Industry. *Journal of Hospitality and Tourism Research, 33*(4), 487-510.
- Herrington, J. D., & Capella, L. M. (1994). Practical Applications of Music in Service Settings. *Journal of Services Marketing, 8*(3), 50-65.
- Hevner, K. (1936). Experimental Studies of the Elements of Expression in Music. *The American Journal of Psychology, 48*(2), 246-268.
- Hildebrandt, L. (1988). Store Image and the Prediction of Performance in Retailing. *Journal of Business Research, 17*(1), 91-100.
- Hogg, J., Goodman, S., Porter, T., Mikellides, B., & Preddy, D. E. (1979). Dimensions and Determinants of Judgements of Colour Samples and Simulated Interior Space by Architects and Non-Architects. *British Journal of Psychology, 70*(2), 231-242.
- Holbrook, M. B., & Hirschman, E. C. (1982). The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research, 9*(2), 132-140.
- II Gordon, C. B. (1990). Music, Mood, and Marketing. *Journal of Marketing, 54*(4), 94-104.
- Jang, S. S. (2012). The Effects of Dining Atmospherics on Behavioral Intentions through Quality Perception. *Journal of Services Marketing, 26*(3), 204-215.
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm Shift to the Integrative Big Five Trait Taxonomy: History, Measurement, and Conceptual Issues: Theory and Research. In O. P. John, R. W. Robins, & L. A. (Eds.), *Handbook of personality (3rd ed.)* (p. 114-158). New York: Guilford Press.
- Johns, N., & Tyas, P. (1996). Use of Service Quality Gap Theory to Differentiate between Foodservice Outlets. *The Service Industries Journal, 16*(3), 321-346.
- Kenhove, P. V., & Desrumaux, P. P. (1997). The Relationship between Emotional States and Approach or Avoidance Responses in a Retail Environment. *The International Review of Retail, Distribution and Consumer Research, 7*(4), 351-368.
- Kent, R. J., & Allen, C. T. (1994). Competitive Interference Effects in Consumer Memory for Advertising: the Role of Brand Familiarity. *Journal of Marketing, 58*(3), 97-105.
- Kivela, J., Inbakaran, R., & Reece, J. (1999). Consumer Research in the Restaurant Environment, Part 1: A Conceptual Model of Dining Satisfaction and Return Patronage. *International Journal of Contemporary Hospitality Management, 11*(5), 205-222.
- Klages, L. (1926). *Die Grundlagen der Charakterkunde*. Leipzig: Barth.
- Kobayashi, S. (1981). The Aim and Method of the Colour Image Scale. *Color Res Appl, 6*, 93-107.
- Kotler, P. (1973). Atmospherics as a Marketing Tool. *Journal of Retailing, 49*(4), 48-64.

- Kotler, P., Armstrong, G., Agnihotri, Y., & Haque, E. U. (2013). *Principles of Marketing – A South Asian Perspective*. licensees of Pearson Education in South Asia.
- Ladhari, R., Brun, I., & Morales, M. (2008). Determinants of Dining Satisfaction and Post-dining Behavioral Intentions. *International Journal of Hospitality Management*, 27(4), 563-573.
- Levy, B. I. (1984). Research into the Psychological Meaning of Color. *American Journal of Art Therapy*, 23(2), 58-62.
- Lichtenstein, D. R., Drumwright, M. E., & Braig, B. M. (2004). The Effect of Corporate Social Responsibility on Customer Donations to Corporate-Supported Nonprofits. *Journal of Marketing*, 68(4), 16-32.
- Lin, Y.-P., Yang, Y.-H., & Jung, T.-P. (2014, May). Fusion of Electroencephalographic Dynamics and Musical Contents for Estimating Emotional Responses in Music Listening. *Frontiers in Neuroscience*, 8(94), 1-14.
- Mandila, M., & Gerogiannis, V. (2012). The Effects of Music on Customer Behaviour and Satisfaction in the Region of Larissa - The Cases of Two Coffee Bars.
- Mattila, A. S., & Wirtz, J. (2001). Congruency of Scent and Music as a Driver of In-store Evaluations and Behavior. *Journal of Retailing*, 77(2), 273-289.
- Mazursky, D., & Jacoby, J. (1986). Exploring the Development of Store Images. *Journal of Retailing*, 62(2), 145-165.
- McDougall, G. H., & Lavesque, T. (2000). Customer Satisfaction with Services: Putting Perceived Value into the Equation. *Journal of Services Marketing*, 14(5), 392-410.
- McDougall, W. (1929). The Chemical Theory of Temperament Applied to Introversion and Extroversion. *The Journal of Abnormal and Social Psychology*, 24(3), 293-309.
- McDougall, W. (1932). Of the Words Character and Personality. *Character Personality*, 1, 3-16.
- Mehrabian, A., & Russel, J. A. (1974). *An Approach to Environmental Psychology*. Cambridge: MIT Press.
- Namkung, Y., & Jang, S. (2007). Does Food Quality Really Matter in Restaurants? Its Impact On Customer Satisfaction and Behavioral Intentions. *Journal of Hospitality & Tourism Research*, 31(3), 387-410.
- Nelson, J. G., Pelech, M. T., & Foster, S. F. (1984). Color Preference and Stimulation Seeking. *Perceptual and Motor Skills*, 59(3), 913-914.
- Nguyen, N., & Leblanc, G. (2002). Contact Personnel, Physical Environment and the Perceived Corporate Image of Intangible Services by New Clients. *International Journal of Service Industry Management*, 13(3), 242-262.
- Norman, W. T. (1963). Toward an Adequate Taxonomy of Personality Attributes: Replicated Factor Structure in Peer Nomination Personality Ratings. *The Journal of Abnormal and Social Psychology*, 66(6), 574-583.
- North, A. C., & Hargreaves, D. (2009). Music and Consumer Behavior. In S. Hallam, I. Cross, & M. Thaut, *Oxford Handbook of Music Psychology*. Oxford University Press.

- North, A. C., & Hargreaves, D. J. (1996). The Effects of Music on Responses to a Dining Area. *Journal of Environmental Psychology, 16*(1), 55-64.
- North, A. C., & Hargreaves, D. J. (1998). The Effect of Music on Atmosphere and Purchase Intentions in a Cafeteria. *Journal of Applied Social Psychology, 28*(24), 2254-2273.
- North, A. C., Hargreaves, D. J., & McKendrick, J. (2000). The Effects of Music on Atmosphere in a Bank and in a Bar. *Journal of Applied Social Psychology, 30*(7), 1504-1522.
- North, A. C., Sheridan, L. P., & Areni, C. S. (2015). Music Congruity Effects on Product Memory, Perception, and Choice. *Journal of Retailing, 1*-13.
- North, A. C., Shilcock, A., & Hargreaves, D. J. (2003). The Effect of Musical Style on Restaurant Customers' Spending. *Environment and Behavior, 35*(5), 712-718.
- Orth, U. R., & Wirtz, J. (2014, June). Consumer Processing of Interior Service Environments: The Interplay Among Visual Complexity, Processing Fluency, and Attractiveness. *Journal of Service Research, 17*(3), 296-309.
- Ou, L.-C., Luo, M. R., Woodcock, A., & Wright, A. (2004). A Study of Colour Emotion and Colour Preference. Part I: Colour Emotions for Single Colours. *Wiley Periodicals - Color research and application, 29*(3), 232-240.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing, 49*(4), 41-50.
- Pieters, R., Wedel, M., & Batra, R. (2010). The Stopping Power of Advertising: Measures and Effects of Visual Complexity. *Journal of Marketing, 74*(5), 48-60.
- Ramsøy, T. Z. (2015). *Introduction to Neuromarketing & Consumer Neuroscience*. Neurons Inc.
- Reber, R., Winkielman, P., & Schwartz, N. (1998). Effects of Perceptual Fluency on Affective Judgements. *Psychological Science, 9*(1), 45-48.
- Reimer, A., & Kuehn, R. (2005). The Impact of Servicescape on Quality Perception. *European Journal of Marketing, 39*(7/8), 785-808.
- Rigg, M. G. (1940). Speed as a Determiner of Musical Mood. *Journal of Experimental Psychology, 27*(5), 566-571.
- Rook, D. W. (1985). The Ritual Dimension of Consumer Behavior. *Journal of Consumer Research, 12*(3), 251-264.
- Russell, J. A. (1978). Evidence of Convergent Validity on the Dimensions of Affect. *Journal of Personality and Social Psychology, 36*(10), 1152-1168.
- Ryu, K., & Jang, S. S. (2007). The Effect of Environmental Perceptions on Behavioral Intentions Through emotions: The Case of Upscale Restaurants. *Journal of Hospitality and Tourism Research, 31*(1), 56-72.

- Ryu, K., Han, H., & Jang, S. (2010). Relationships among Hedonic and Utilitarian Values, Satisfaction and Behavioral Intentions in the Fast-Casual Restaurant Industry. *International Journal of Contemporary Hospitality Management*, 22(3), 416-432.
- Scherer, K. R., & Oshinsky, J. S. (1977). Cue Utilization in Emotion Attribution from Auditory Stimuli. *Motivation and Emotion*, 1(4), 331-346.
- Schmitt, B. (1999). Experiential Marketing. *Journal of Marketing Management*, 15(1-3), 53-67.
- Schultz, M., Hatch, M. J., & Larsen, M. H. (2000). *The expressive organization: Linking Identity, Reputation, and the Corporate Brand*. Oxford: Oxford University Press.
- Shenje, J. (2018). The Impact of Background Music on Customer Purchase Intentions. *Journal of Economics and Management Sciences*, 1(1), 220-229.
- Shostack, G. L. (1977). Breaking Free from Product Marketing. *Journal of Marketing*, 41(2), 73-80.
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer Trust, Value, and Loyalty in Relational Exchanges. *Journal of Marketing*, 66(1), 15-37.
- Smith, N. S., Whitfield, T. W., & Wiltshire, T. J. (1990). A Colour Notation Conversion Program. *Color Research & Application*, 15(6), 338-343.
- Soars, B. (2009). Driving Sales through Shoppers' Sense of Sound, Sight, Smell and Touch. *International Journal of Retail & Distribution Management*, 37(3), 286-298.
- Solomon, M. R. (2008). *Consumer Behavior: Buying, Having and Being (8th ed.)*. New York: Prentice Hall.
- Sommer, D. (1957). The Effect of Background Music on Frequency of Interaction in Group Psychotherapy. *Music Therapy*, 7, 167-168.
- Srivastava, J., & Lurie, N. H. (2004). Price-matching Guarantees as Signals of Low Store Prices: Survey and Experimental Evidence. *Journal of Retailing*, 80(2), 117-128.
- Stevens, P., & Patton, M. (1995). Dineserv: a Tool for Measuring Service Quality in Restaurants. *The Cornell Hotel and Restaurant Administration Quarterly*, 36(2), 56-60.
- Sulek, J. M., & Hensley, R. L. (2004). The Relative Importance of Food, Atmosphere, and Fairness of Wait. *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 235-247.
- Swanwick, K. (1973). Musical Cognition and Aesthetic Response. *Psychology of Music*, 1(2), 7-13.
- Tupes, E. C., & Christal, R. E. (1961). *Recurrent Personality Factors Based on Trait Ratings (ASD-TR-61-97)*. Lackland Air Force Base, TX: Aeronautical Systems Division, Personnel Laboratory.
- Turley, L. W., & Milliman, R. E. (2000). Atmospheric Effects on Shopping Behavior: A Review of the Experimental Evidence. *Journal of Business Research*, 49, 193-211.
- Upah, G. D., & Fulton, J. N. (1985). Situation Creation in Services Marketing, 255-64. In J. Czepiel, M. Solomon, & C. Surprenant, *The Service Encounter* (p. 255-264). Lexington, MA: Lexington Books.
- Valdez, P., & Mehrabian, A. (1994). Effects of Color on Emotions. *Journal of Experimental Psychology: General*, 123(4), 394-409.

- Varki, S., & Colgate, M. (2001). The Role of Price Perceptions in an Integrated Model of Behavioral Intentions. *Journal of Service Research*, 232-240.
- Watson, K. B. (1942). The Nature and Measurement of Musical Meanings. *Psychological Monographs*, 54(2), i-43.
- Wedin, L. (1972). Multidimensional Study of Perceptual-Emotional Quality in Music. *Scandinavian Journal of Psychology*, 13(1), 241-257.
- Wheatley, J. J., & Chiu, J. S. (1977). The Effects of Price, Store Image; and Product and Respondent Characteristics on Perceptions of Quality. *Journal of Marketing Research*, 14(2), 181-186.
- Winkielman, P., & Cacioppo, J. T. (2001). Mind at Ease Puts a Smile on the Face: Psychophysiological Evidence That Processing Facilitation Elicits Positive Affect. *Journal of Personality and Social Psychology*, 81(6), 989-1000.
- Winkielman, P., Halberstadt, J., Fazendeiro, T., & Catty, S. (2006). Prototypes Are Attractive Because They Are Easy on the Mind. *Psychological Science*, 17(9), 799-806.
- Wright, B., & Rainwater, L. (1962). The Meanings of Color. *J Gen Psychol*, 67, 89-99.
- Yildirim, K., Hidayetoglu, M. L., & Capanoglu, A. (2011). Effects of Interiors Colors on Mood and Preference: Comparisons of Two Living Rooms. *Perceptual and Motor Skills*, 112(2), 509-524.
- Zeithaml, V. A. (1981). How Consumer Evaluation Processes Differ between Goods and Services. In J. Donnelly, & W. George, *Marketing of Services* (p. 186-190). Chicago: American Marketing.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, 60(2), 31-46.

Summary

Table of contents

1. Introduction.....	40
2. Literature review.....	40
2.1 H1: Classical music compared to pop music will increase customer loyalty.....	41
2.2 H2: Classical music compared to pop music will make customers perceive higher prices.....	41
2.3 H3: Healthy food compared to junk food will increase customer loyalty.....	42
2.4 H4: Bright interior design compared to darker interior design will increase customer loyalty.....	42
2.5 H5: Classical music compared to pop music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer loyalty.....	43
2.6 The moderation: Big Five Model.....	43
3. Research design and methodology.....	43
3.1 Participants.....	44
3.2 Scale items.....	44
3.3 Stimuli.....	46
4. Results.....	46
4.1 Descriptive analysis.....	46
4.2 Inferential analysis.....	47
5. Discussion.....	48
5.1 Academic implications.....	48
5.2 Managerial implications.....	49
6. Limitations and future research.....	49
References.....	51

1. Introduction

What is an atmosphere? In marketing the term “atmosphere” is used to describe the conscious design of a space in order to stimulate some emotional effect able to affect consumer behavior, in particular to increase the likelihood to purchase (Kotler, 1973). Therefore, according to Kotler (1973) there exists a causal chain connecting atmosphere and purchase probability.

An important milestone was in 1973 when Kotler published his paper “Atmospherics as a marketing tool” where he coined the word "atmospherics".

Kotler (1973) talks about "total product" saying that the entire atmosphere is to be considered in the shopping decision of the consumer and not just the product itself. Even, sometimes the atmosphere can be more important for the decision of the consumer.

During the Eighties a new theory came out: consumer is no more perceived as rational but it was recognized that fun, hedonism, fantasies and feelings are the non-rational factors affecting customer's choices (Holbrook and Hirschman, 1982) and consumption rituals (Rook, 1985). These factors are defined as “experiential” by Holbrook and Hirschman (1982). Thus, today we are enduring an “experiential” economics according to which the product's life doesn't end with its consumption but the product itself is experienced. In the same way, an experiential marketing perspective becomes established.

In particular, the atmosphere influences the consumer behavior under three dimensions: first, it is a mean to draw the consumer's attention through the use of colors, sounds, sights, smells, touch and movement, in order to differentiate them from other competitors (Soars, 2009). Second, it is a mean to transmit a series of characteristics of the environment, that is the relationship between growth, location strategy, and market response (González-Benito, Muñoz-Gallego, and Kopalle, 2005). Third, atmosphere characteristics can trigger emotional states in consumers (Groepel-Klein, 2005).

In 1974 Mehrabian and Russell proposed their M-R model, according to which the emotional responses of individuals to the environment causes avoidance or approach to different aspects of it, and this can be explained in terms of three different dimensions: Pleasure, Arousal, Dominance. In particular, the Pleasure, the Arousal and the Dominance are affected by environmental stimuli and determine the people's response to approach (affiliation, exploration, purchase) or avoidance (disinterest, not purchase) of the environment.

However, subsequent research has focused on pleasantness and arousal stating that they explain the most variance in behavior and affection (Russell, 1978).

In conclusion, based on the previous literature, this thesis aims to understand how the stimuli that the environment offers affect consumer decisions, with a focus on music, food and interior design.

2. Literature review

Several studies demonstrated that the environment positively affects customers' behaviors. This means that the positive emotions aroused lead to more favorable behaviors (Bitner, 1992).

According to North and Hargreaves (2009) there are three main psychological processes upon which many effects depend, namely arousal-based effects, priming effects, and the impact of emotion on behavior.

The objective of this thesis is to understand how the environmental properties of a cafeteria can affect the customer. In particular, it attempts to understand how a certain musical genre can influence customer loyalty and willingness to pay, and how a certain kind of food and a certain type of interior design can alter customer loyalty. Then, we want to understand how these properties can affect customer loyalty if taken together.

Finally, we investigate whether a personality trait belonging to the Five Factor Model could be a moderator between the independent variables and the dependent variable.

2.1 H1: Classical music compared to pop music will increase customer loyalty

The formulation of the first hypothesis of the conceptual model is mainly based on the experiments did by North and Hargreaves (1996; 1998; 2000) investigating the perception of the listening environment or the approach-avoidance for the listening environment. In particular, in the experiments of 1996 made in an on-campus cafeteria the results stated that the music had no influence on the students' likelihood to visit a set "advice stall" and that purchasing is increased by music that makes perception of the environment as upmarket or upbeat. These experiments serve for the purpose of our first hypothesis that states that "Classical music compared to pop music will increase customer loyalty", in particular they show how music has an emotional influence on customer, this influence could play a crucial role in determining whether or not the customer will visit again the cafeteria.

Other literature demonstrated how different rhythms in music are judged differently (Gundlach, 1935), the same is proved for the music tempo: fast music is considered to be happier and/or more pleasant than slow music (Gundlach, 1935).

According to Bruner (1990) the musical genre produces stronger effects on perceptions and preferences compared to volume and time.

In order to encourage approach behavior attracting customers in a service environment, it is necessary that background music, the organization's desired atmosphere and image fit (Herrington and Capella, 1994), for example classical piano music may be appropriate for an upmarket cafeteria rather than for a discount retailer.

2.2 H2: Classical music compared to pop music will make customers perceive higher prices

The formulation of the second hypothesis of the present study has been based mainly on the study of North et al. (2015) appearing on the research paper of the *Journal of Retailing*, "Music Congruity Effects on Product Memory, Perception, and Choice". The authors of this scientific paper have shown that hearing a specific musical genre, for example classical, stimulates the appearance of related concepts in memory (for instance, expensive, sophisticated, formal, educated), which affects the memory for, perception of, and choice of products. This congruity between the features of a musical genre and the specific products may influence

the sales and the perception of the products themselves. In particular, classical music has been much discussed in the previous literature. In this regard, Baker et al. (1992) and Grewal et al. (2003) have shown that a classical music background determines a higher quality perception of services and products.

Han and Ryu (2009) in their experiment found that ambient conditions, and among them the music, have a significant effect on price perception in the case of a restaurant.

These experiments serve for the purpose of our second hypothesis that states that “Classical music compared to pop music will make customers perceive higher prices”.

2.3 H3: Healthy food compared to junk food will increase customer loyalty

The formulation of the third hypothesis of the present study has been based mainly on the study of Namkung and Jang (2007) appearing on the research paper of the *Journal of Hospitality & Tourism Research* “Does Food Quality Really Matter in Restaurants? Its Impact On Customer Satisfaction and Behavioral Intentions”. An experiment conducted by the authors demonstrates that the overall food quality affects customer satisfaction and behavioral intentions and also reveals that the satisfaction is a mediator between food quality and customer behavioral intentions. Moreover, healthy food options significantly influence behavioral intentions: this could reflect the increasing interest for physical well-being through healthy foods. Namkung and Jang declare that food has a great impact on customer satisfaction because it is a primary component of the restaurant experience.

Looking for healthy options means choosing nutritious and healthy food. Johns and Tyas (1996) proposed that healthy food could influence the customer-perceived evaluation of the restaurant experience.

Furthermore, Kivela et al. (1999) suggested that nutritious food represents one of the primary components in return patronage. Indeed, it is clear that restaurant customers are increasingly interested in healthy menu items (Sulek and Hensley, 2004) and that they increasingly put a premium on saving time and eating healthy.

This literature serves for the purpose of our third hypothesis that states that “Healthy food compared to junk food will increase customer loyalty”.

2.4 H4: Bright interior design compared to darker interior design will increase customer loyalty

The formulation of the fourth hypothesis of the present study has been based mainly on the theory of “color emotions” (Ou, Luo, Woodcock, and Wright, 2004). “Color emotions” refer to the several emotional feelings such as excitement, energy and calmness that are evoked by either colors or color combinations. The evocation of these emotional feelings is determined exclusively by a process of inference (Baker, Grewal and Parasuraman, 1994) according to which there are prominent linkages among store environment, service and merchandise quality and store image.

In a study conducted by Baker et al. (1994) results demonstrated how combinations of specific elements of the store environment could prime the consumers’ inferences about merchandise and service quality.

Moreover, the research concluded that service and merchandise quality and store environment were posited to be antecedents of store image. And this demonstration serves for the purpose of our fourth hypothesis that states that “Bright interior design compared to darker interior design will increase customer loyalty”, in particular it shows the emotional influence of colors on consumer behavior, this influence could play a crucial role in determining whether or not the customer will visit again the cafeteria.

Then, the results achieved by Jang (2012) suggest that interior design could be an effective way to encourage customers to revisit Korean restaurants, as in the case of the present thesis but with reference to the ambient of a cafeteria.

2.5 H5: Classical music compared to pop music, healthy food compared to junk food, and bright interior design compared to darker interior design taken together will increase customer loyalty

An experiment conducted by Baker et al. (1994) combined two atmospheric variables, music and lighting, illustrating that classical music together with lighting produced expectations of higher service and products quality with respect to top-forty music and bright lighting. In the light of this experiment, my thesis intends to demonstrate that music, color (bright versus darker) and the quality of food (which, according to the aforementioned literature, can today be translated into healthy food) are interconnected in the human brain. Therefore, according to the fifth hypothesis, if a consumer were sitting at a cafeteria table with a bright interior design rather than a darker one, with classical music in the background and healthy food served, the possibility that they return to the same cafeteria is higher. This is compared to a cafeteria with a darker interior design, pop music in the background and junk food served.

2.6 The moderation: Big Five Model

This thesis intends to investigate whether a personality trait belonging to the Five Factor Model could be a moderator between the independent variables and the dependent variable. These five factors are the Big Five. They consist in Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (Costa and McCrae, 1992). But personality traits cannot be reduced to only the five traits, rather the Big Five represent the broadest level of abstraction of the personality characteristics.

3. Research design and methodology

The research methodology literature suggests that, in order to examine the issues involved in this study, an ad-hoc and scientific quantitative research design was appropriate. It is a causal research providing evidence that a cause-and-effect relationship exists or not among variables. The questionnaire has been performed via Qualtrics.

3.1 Participants

The participants were 71 males and 94 females. The questionnaire proposed was written in Italian, thus participants are all Italian-speaking. Their age range varies between 14 and 72 years old, with a mean of 29 years old. Participants were selected randomly via Facebook and WhatsApp, and based on the network of friends, friends of friends and family. A total of 257 responses were generated, of which 165 were considered eligible (92 were incomplete), thus the response rate is 64.2 per cent.

3.2 Scale items

A survey research instrument was developed using measures adapted from previous literature. Effects of background music on consumer loyalty (H1) were measured using a scale with three, seven-point Likert-type items. The scale used by Baker, Levy and Grewal (1992), Baker, Grewal and Parasuraman (1994), as well as Baker, Grewal and Parasuraman (2002) was original of the 1992 study.

The scale items, then translated in Italian, are:

1. *The background music would make shopping in this cafeteria pleasant.*
2. *If I shopped at this cafeteria, the background music would bother me.*
3. *The background music was appropriate.*

The second hypothesis concerning the impact of background music on price perception was tested using a scale whose source was not stated by Srivastava and Lurie (2004) but it appears to have been developed by them. The scale has three items with seven-point response formats.

The scale items, then translated in Italian, are:

1. *Based on the description, the overall prices at the cafeteria are most likely:
very low / very high*
2. *Relative to other stores, the prices at the cafeteria are most likely to be:
lower than average / higher than average*
3. *Your general expectation about the overall price level at the cafeteria is:
very low / very high*

The third hypothesis concerning the effects of a certain kind of food on customer loyalty was tested using a scale adapted from the study conducted by Lichtenstein et al. (2004). This scale is composed of four items with seven-point Likert-type statements.

The scale items, then translated in Italian, are:

1. *The emotional reward I get from shopping at this cafeteria makes it worth it for me.*
2. *Shopping at this cafeteria gives me a sense of warmth and comfort.*
3. *Shopping at this cafeteria makes me happy.*
4. *I would experience an emotional loss if I could no longer shop at this cafeteria.*

The scale used to assess the fourth hypothesis concerning the effects of interior design on customer loyalty is taken from the work of Mattila and Wirtz (2001): here both the scale developed by Mattila and Wirtz

(2001) and by Baker et al. (2002) are reviewed together. The version developed by Mattila and Wirtz (2001) has seven, seven-point bipolar adjectives and was called “store environment”. While, the version used by Baker et al. (2002) has three unipolar adjectives, a six-point response format, and was referred to as “psychic cost perceptions”. The directions of the scale appearing as follows were provided by Mattila (2004).

The scale items, then translated in Italian, are:

Directions: How did you find the store environment? Please rate the store environment on the following dimensions:

1. *unattractive / attractive*
2. *uninteresting / interesting*
3. *bad / good*
4. *depressing / cheerful*
5. *dull / bright*
6. *uncomfortable / comfortable*
7. *pleasant / unpleasant*

At the end, the last hypothesis, grouping together the inputs given in order to assess their effects on consumer loyalty, was measured with four, ten-point statements. The scale was originally developed by Both Nijssen et al. (2003) and Sirdeshmukh et al. (2002) who adapted their scale from a scale by Zeithaml et al. (1996).

The scale items, then translated in Italian, are:

How likely are you to:

1. *do most of your future shopping at this cafeteria?*
2. *recommend this cafeteria to friends, neighbors, and relatives?*
3. *use this store the very next time you need to shop for a cafeteria item?*
4. *spend more than 50% of your cafeteria budget at this store?*

This thesis intends to prove that a personality trait belonging to the Five Factor Model is a moderator between the independent variables and the dependent variable.

In order to measure a personality trait as a moderator, a short version of the original Big Five questionnaire (Costa and McCrae, 1992) is used. We use five-point Likert-type statements to measure the degree of agreement with certain sentences.

The scale items, then translated in Italian, are:

Rating I...:

11. *am the life of the party*
12. *feel little concern for others*
13. *am always prepared.*
14. *get stressed out easily.*
15. *have a rich vocabulary.*

16. *don't talk a lot.*
17. *am interested in people.*
18. *leave my belongings around.*
19. *am relaxed most of the time.*
20. *have difficulty understanding abstract ideas.*

Finally, participants are asked about gender and age.

3.3 Stimuli

In order to test the first hypothesis and the second hypothesis, pieces of 19 seconds of classical and pop music are used, respectively “Cello Suite No.2 in D minor, BWV 1008” by Bach and “We don't talk anymore” by Charlie Puth feat. Selena Gomez. Instead, the third hypothesis is studied by submitting the participants to the vision of two images that are randomized, respectively one representing healthy food and the other representing junk food. The fourth hypothesis is tested starting from other two images, also randomized, which depict two cafeterias, one with a bright interior design, the other with a darker interior design. Finally, the last hypothesis is studied on the basis of all the previously proposed stimuli, namely musical pieces, images of food and images of interior design.

4. Results

4.1 Descriptive analysis

Our study involves three conditions: music, food and interior design. With each of them we study the behaviors for two subgroups: people listening to classical or to pop music, people seeing healthy or junk food pictures, and people seeing bright or darker interior design pictures. In particular, the first condition serves a dual purpose, that is it is the independent variable both for customer loyalty and for price perception. Then, we call the conditions *MusicLoyalty* (condition for customer loyalty), *MusicPrice* (condition for price perception), *FoodLoyalty* and *InteriorLoyalty*.

The following descriptive analysis is based on the different groups of respondents, each of them had one stimulus (pop or classical music, healthy or junk food, and bright or dark interior design).

For what concerns the first condition *MusicLoyalty* the subgroup of participants listening to classical music ($m=3.9$; $SD=1.69$) had a lower mean than the subgroup listening to pop music ($m=4.38$; $SD=1.67$).

Then, in the case of the condition *MusicPrice* the subgroup listening to classical music had a higher mean ($m=4.70$; $SD=1.36$) than the subgroup listening to pop music ($m=3.68$; $SD=1.30$).

For what concerns *FoodLoyalty*, the subgroup that has seen the picture representing the healthy food has a higher mean ($m=4.35$; $SD=1.49$) than the subgroup with the picture representing the junk food ($m=4.00$; $SD=1.79$).

Instead, for what concerns the two subgroups with the condition *InteriorLoyalty* one seeing the picture representing a bright interior design and the other seeing a picture representing a darker interior design: the

subgroup which has seen the bright interior design has a higher mean ($m=4.48$; $SD=0.99$) than the subgroup with the darker interior design ($m=4.05$; $SD=0.97$).

4.2 Inferential analysis

Since we have unequal sample sizes, we conduct a Levene's test for the four conditions in order to verify the homogeneity assumption required before running an ANOVA test: this assumption states that the population variances are equal for all groups.

The Levene's tests for *MusicLoyalty*, for *MusicPrice* and for *InteriorLoyalty* imply that we accept the null hypothesis, with the exception of *FoodLoyalty* for which we reject the null hypothesis.

Then, the ANOVA test is run to determine whether differences between the means of the subgroups exist or not.

The analysis of variance executed for *MusicLoyalty* states that $F(1,163)=3.31$, $p=0.07$, thus the null hypothesis is confirmed. There is no difference in the mean of loyalty depending on the stimuli given.

The analysis of variance executed for *MusicPrice* states that $F(1,163)=24.19$, $p=0.00$, thus the null hypothesis is rejected as deduced from the Levene's test. Thus, there is significant difference between the two groups.

The analysis of variance executed for *FoodLoyalty* states that $F(1,163)=1.83$, $p=0.18$, thus the null hypothesis is confirmed. There is no difference in the mean of loyalty depending on the stimuli given.

For last, the analysis of variance executed for *InteriorLoyalty* states that $F(1,163)=1.83$, $p=0.01$, thus the null hypothesis is rejected. There is significant difference in the mean of loyalty depending on the stimuli given.

In order to understand whether the independent variables, namely music, food and interior design, have a statistically significant effect on the consumer loyalty, we conduct ANOVA tests.

The tests show how the differences in the mean of customer loyalty depending on music genre, kind of food and on the type of interior design are or not statistically significant.

An ANOVA test was conducted to examine the effect of music and food on the consumer loyalty. There is a statistically significant interaction between the effects of music and food on consumer loyalty, $F(1,163)=0.17$, $p=0.001$.

The same was conducted to examine the effect of music and interior design on the customer loyalty. There is a statistically significant interaction between the effects of music and interior design on consumer loyalty, $F(1,163)=0.61$, $p=0.004$.

Then, an ANOVA test was conducted also to test the effect of interior design and food on the customer loyalty. There is statistically significant interaction between the effects of interior design and food on customer loyalty, $F(1,163)=0.48$, $p=0.003$.

Most important, an ANOVA test was conducted to examine the effect of all the three independent variables, music, food and interior design, taken together on the customer loyalty. There is a statistically

significant interaction between the effects of the independent variables on customer loyalty, $F(1,163)=4.49$, $p=0.02$.

As shown by the regression analysis conducted, personality trait does not seem to be a moderator between the independent variables (music, food and interior design) and the dependent variable (customer loyalty).

5. Discussion

In order to get a comprehensive overview of the conclusions obtained from the statistical analysis carried out, it is possible to summarize the results as follows.

The first hypothesis was not supported, this was deduced from the ANOVA test where people who had the classical or pop music as stimuli did not have a significantly different mean of loyalty.

The analysis of variance also has been used to test the second hypothesis: here it has been possible to prove the statistical validity of the second hypothesis. In particular, the group listening to classical music shows a higher price perception.

The third hypothesis was not supported, this was deduced from the ANOVA test too.

Instead, the statistical validity of the fourth hypothesis has been proved. In particular, the group seeing the picture of bright interior design shows a higher customer loyalty.

The fifth hypothesis was not supported with the analysis of variance.

As shown by the regression analysis conducted, personality trait does not seem to be a moderator between the independent variables (music, food and interior design) and the dependent variable (consumer loyalty).

5.1 Academic implications

Summing up, since the statistical validity of H1, H3, H5 has not been proven we can deduce that the sample should be enlarged to verify whether strategies of the managers of cafeterias should be based or not on music, on the type of food and on music, food and interior design taken together to boost the customer loyalty.

Furthermore, in the case of the present thesis even the moderation of the Big Five was not statistically proven, so further research should investigate more deeply whether personality traits serve as levers for customer loyalty.

This thesis adds understandings to the previous literature about the influence of background music, food and interior design on consumer behavior in the context of a cafeteria. Among the main insights, this thesis wanted to explore the consumer behavior in the context of a cafeteria: this context was not much investigated in the previous literature. In particular, the results for the second and fourth hypotheses, whose statistical validity was proven, offer new insights because previous research does not regard cafeterias but other service environments.

5.2 Managerial implications

From the practical standpoint, the results of this study could help managers of cafeterias to better understand the important role that atmospherics play in price perception and customer loyalty.

Customer loyalty depends largely on customer satisfaction (Fornell et al., 1996). Thus, many studies in the field of service marketing have focused on identifying the elements that enhance customer satisfaction. Studies show that customer satisfaction strongly depends on physical surroundings and price perception (Stevens and Patton, 1995).

Unlike buyers of tangible products, service customers evaluate their overall experience on the basis of a small number of cues because of the intangible nature of the service (Nguyen and Leblanc, 2002). In many cases, customers' evaluation relies only on price and physical environment (Bitner, 1992; Zeithaml, 1981). Thus, the service provider should develop strategies on the basis of these two essential elements that influence the level of customer satisfaction, and ultimately enhance customer loyalty (Bolton and Lemon, 1999).

The results of the present thesis offer a number of insights to restaurant managers. They suggest that an atmosphere characterized by a certain musical genre and with a certain interior design can affect customers.

If their budget permits, then managers of cafeterias should consider making reasonable investments in interior design, as well as they should consider doing a price strategy that pries up background music, which could bring added benefits.

While for what concerns the investments in interior design manager should just consider how customers appreciate more the interiors of the cafeteria trying to arouse positive emotions, price management could consider three different strategies: Premium Pricing, Psychological Pricing and Value Based Pricing.

According to the background music that is played in the cafeteria managers should consider the customer's reaction and its perception of price: they could set high price to indicate that the products are "exclusive" (Premium Pricing), or they could consider the psychology of price and the positioning of price within the marketplace (Psychological Pricing), or they could consider the value of products sold to customers rather than the costs to produce them (Value Based Pricing).

6. Limitations and future research

The major limitations of the current study lie first of all in the size of the sample studied and in its representativeness: in fact, the participants in the questionnaire were identified with a technique of convenience sampling and snowball sampling through a word-of-mouth among the major social networks.

Then, the sample is composed only of people who have available the social networks from which the questionnaire was sent.

Another limitation of the study conducted is certainly due to the lack of incentives that pushed the participants to pay maximum attention to the questionnaire. Precisely for this reason, future research is to be carried out with face-to-face interviews and offering incentives to obtain better accuracy and attention in the answers to the questionnaire.

Even the cultural identity of the sample studied is a limit as the participants in the study are only Italian. Furthermore, the Italian cultural identity also limits the representativeness of the answers since Italian cafeterias might not be places as popular as in other countries and because, for example, junk food is not often served in cafeterias in Italy.

Moreover, the answers to the questionnaires could have depended on a certain type of stimulus proposed rather than on another: the two musical pieces, "We don't talk anymore" and "Cello Suite No.2 in D minor, BWV 1008" could have influenced the answers to the questions on the basis of musical preferences of each individual participant. The same goes for the stimuli of interior design and food: here the personal tastes of the participants relative to the pictures representative of the interior design of a certain type and of the food of a certain type may have influenced the answers.

Future research could take to explore the entire HoReCa field by investigating consumer behavior in other kind of environments up to expanding out of the HoReCa field and investigating how the atmosphere can influence consumer choices in stores and in all the environments, where certainly the effect of the food offered would not be investigated.

From a managerial point of view, the impact of atmospherics and of the food offered, as evidenced by this thesis, can have profitable consequences, therefore understanding which atmosphere to prefer and which food to offer is fundamental for managers in the HoReCa field.

The traditional market research technique depends exclusively on the answers provided by the focus group consumers (questionnaires, surveys, etc.). However, often verbal responses are not spontaneous and sincere, or the consumer is not aware of some of his deeper needs that market techniques cannot detect. Neuromarketing seeks to overcome these limits.

In particular, there exist three notable effects that argue for a need to assess unconscious consequences in consumer choice. First, our choices are often based on unconscious processes and framing effects affect our choices without being aware of this. Second, emotions affect our choices substantially. And third, decisions are made before complete information is obtained (Ramsøy, 2015).

Therefore, in future research the present study could evolve taking into consideration neuromarketing methods. For instance, the experiment could involve the use of virtual reality viewers allowing the participants to immerse themselves in different environmental and experiential realities in different cafeterias, including the cafeteria with the characteristics to be studied, that is a cafeteria with a bright or darker interior design offering healthy or junk food options. While the user wears the viewers, he is subject to a different musical background, classical or pop.

At this point, I would perform a study of Area of Interest (AOI) based on the virtual reality combined with eye-tracking in order to measure the Fixation Count (FC), that is the number of fixations that the customers make within the AOI, to verify which areas are most appealing (that is, the interior design and the food).

Then, thanks to the help of a mobile electroencephalogram during the vision of the cafeteria and while hearing a selected musical genre we could measure the pleasantness, as a mediating variable between the

independent variables and the dependent variable, that is the customer loyalty. In this case, the activity in the left frontal hemisphere is related to the pleasantness.

In conclusion, I would analyze the relationship between independent variables and the dependent variable of my study starting from the traditional methodology deepening it with neuromarketing techniques.

References

- Baker, J., Levy, M., & Grewal, D. (1992). An Experimental Approach to Making Retail Store Environmental Decisions. *Journal of Retailing*, 68(4), 445-460.
- Baker, J., Levy, M., & Grewal, D. (1992). An Experimental Approach to Making Retail Store Environmental Decisions. *Journal of Retailing*, 68(4), 445-460.
- Baker, J., Parasuraman, A., & Grewal, D. (1994). The Influence of Store Environment on Quality Inferences and Store Image. *Journal of the Academy of Marketing Science*, 22(4), 328-339.
- Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions. *Journal of Marketing*, 66(2), 120-141.
- Bitner, M. J. (1992). Serviscape: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing*, 56(2), 57-71.
- Bolton, R. N., & Lemon, K. N. (1999). A Dynamic Model of Customers' Usage of Services: Usage as an Antecedent and Consequence of Satisfaction. *Journal of Marketing Research*, 36, 171-186.
- Bruner, G. C. (1990). Music, Mood, and Marketing. *Journal of Marketing*, 54(4), 94-104.
- Byatzis, C. J., & Varghese, R. (1994). Children's Emotional Associations with Colors. *The Journal of Genetic Psychology*, 155(1), 77-85.
- Costa, P. T., & McCrae, R. R. (1992). Four Ways Five Factors are Basic. *Personality and Individual Differences*, 13(6), 653-665.
- Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*, 60(4), 7-18.
- González-Benito, Ó., Muñoz-Gallego, P. A., & Kopalle, P. K. (2005). Asymmetric Competition in Retail Store Formats: Evaluating Inter- and Intra-format Spatial Effects. *Journal of Retailing*, 81(1), 59-73.
- Grewal, D., Baker, J., Levy, M., & Voss, G. B. (2003). The Effects of Wait Expectations and Store Atmosphere Evaluations on Patronage Intentions in Service-Intensive Retail Stores. *Journal of Retailing*, 79, 259-268.
- Groepel-Klein, A. (2005). Arousal and Consumer In-store Behavior. *Brain Research Bulletin*, 67(5), 428-437.
- Gundlach, R. H. (1935). Factors Determining the Characterization of Musical Phrases. *The American Journal of Psychology*, 47, 624-643.

- Han, H., & Ryu, K. (2009). The Roles of the Physical Environment, Price Perception, and Customer Satisfaction in Determining Customer Loyalty in the Restaurant Industry. *Journal of Hospitality and Tourism Research*, 33(4), 487-510.
- Herrington, J. D., & Capella, L. M. (1994). Practical Applications of Music in Service Settings. *Journal of Services Marketing*, 8(3), 50-65.
- Holbrook, M. B., & Hirschman, E. C. (1982). The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research*, 9(2), 132-140.
- Image of Intangible Services by New Clients. *International Journal of Service Industry Management*, 13(3), 242-262.
- Jang, S. S. (2012). The Effects of Dining Atmospherics on Behavioral Intentions through Quality Perception. *Journal of Services Marketing*, 26(3), 204-215.
- Johns, N., & Tyas, P. (1996). Use of Service Quality Gap Theory to Differentiate between Foodservice Outlets. *The Service Industries Journal*, 16(3), 321-346.
- Kivela, J., Inbakaran, R., & Reece, J. (1999). Consumer Research in the Restaurant Environment, Part 1: A Conceptual Model of Dining Satisfaction and Return Patronage. *International Journal of Contemporary Hospitality Management*, 11(5), 205-222.
- Kotler, P. (1973). Atmospherics as a Marketing Tool. *Journal of Retailing*, 49(4), 48-64.
- Lichtenstein, D. R., Drumwright, M. E., & Braig, B. M. (2004). The Effect of Corporate Social Responsibility on Customer Donations to Corporate-Supported Nonprofits. *Journal of Marketing*, 68(4), 16-32.
- Mattila, A. S., & Wirtz, J. (2001). Congruency of Scent and Music as a Driver of In-store Evaluations and Behavior. *Journal of Retailing*, 77(2), 273-289.
- Mehrabian, A., & Russel, J. A. (1974). *An Approach to Environmental Psychology*. Cambridge: MIT Press.
- Namkung, Y., & Jang, S. (2007). Does Food Quality Really Matter in Restaurants? Its Impact On Customer Satisfaction and Behavioral Intentions. *Journal of Hospitality & Tourism Research*, 31(3), 387-410.
- Nguyen, N., & Leblanc, G. (2002). Contact Personnel, Physical Environment and the Perceived Corporate North, A. C., & Hargreaves, D. (2009). Music and Consumer Behavior. In S. Hallam, I. Cross, & M. Thaut, *Oxford Handbook of Music Psychology*. Oxford University Press.
- North, A. C., & Hargreaves, D. J. (1996). The Effects of Music on Responses to a Dining Area. *Journal of Environmental Psychology*, 16(1), 55-64.
- North, A. C., & Hargreaves, D. J. (1998). The Effect of Music on Atmosphere and Purchase Intentions in a Cafeteria. *Journal of Applied Social Psychology*, 28(24), 2254-2273.
- North, A. C., Hargreaves, D. J., & McKendrick, J. (2000). The Effects of Music on Atmosphere in a Bank and in a Bar. *Journal of Applied Social Psychology*, 30(7), 1504-1522.
- North, A. C., Sheridan, L. P., & Areni, C. S. (2015). Music Congruity Effects on Product Memory, Perception, and Choice. *Journal of Retailing*, 1-13.

- Ou, L.-C., Luo, M. R., Woodcock, A., & Wright, A. (2004). A Study of Colour Emotion and Colour Preference. Part I: Colour Emotions for Single Colours. *Wiley Periodicals - Color research and application*, 29(3), 232-240.
- Ramsøy, T. Z. (2015). *Introduction to Neuromarketing & Consumer Neuroscience*. Neurons Inc.
- Rook, D. W. (1985). The Ritual Dimension of Consumer Behavior. *Journal of Consumer Research*, 12(3), 251–264.
- Russell, J. A. (1978). Evidence of Convergent Validity on the Dimensions of Affect. *Journal of Personality and Social Psychology*, 36(10), 1152-1168.
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer Trust, Value, and Loyalty in Relational Exchanges. *Journal of Marketing*, 66(1), 15-37.
- Soars, B. (2009). Driving Sales through Shoppers' Sense of Sound, Sight, Smell and Touch. *International Journal of Retail & Distribution Management*, 37(3), 286-298.
- Srivastava, J., & Lurie, N. H. (2004). Price-matching Guarantees as Signals of Low Store Prices: Survey and Experimental Evidence. *Journal of Retailing*, 80(2), 117-128.
- Stevens, P., & Patton, M. (1995). Dineserv: a Tool for Measuring Service Quality in Restaurants. *The Cornell Hotel and Restaurant Administration Quarterly*, 36(2), 56-60.
- Sulek, J. M., & Hensley, R. L. (2004). The Relative Importance of Food, Atmosphere, and Fairness of Wait. *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 235-247.
- Zeithaml, V. A. (1981). How Consumer Evaluation Processes Differ between Goods and Services. In J. Donnelly, & W. George, *Marketing of Services* (p. 186-190). Chicago: American Marketing.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, 60(2), 31-46.