

DUAL EFFECT OF SENSORY EXPERIENCE: ENGAGEMENT VERSUS DIVERSIVE EXPLORATION

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Acknowledgment

This work was supported by the Junta de Castilla y León (Spain) [project references VA112P17 and VA085G18] and by the Ministry of Economy, Industry, and Competitiveness (Spain) [project reference ECO2017-86628-P].

This is the accepted version of the manuscript: Lashkova, M., Antón, C., Camarero-Izquierdo, C. (2019). Dual effect of sensory experience: engagement versus diversive exploration. Accepted for publication in the International Journal of Retail & Distribution Management.

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Abstract

Purpose. The objective of this work is to examine the dual effect of sensory experiences on customer behaviour in the context of retailing. Based on the theoretical framework of the optimal stimulation level theory, the authors propose that sensory experiences reinforce satisfaction, engagement, and loyalty, but increase customers' diversive exploration and curiosity for other experiences and may eventually led to reduced loyalty.

Design/methodology/approach. A self-administrated online questionnaire was distributed via email to 1,000 households in a Spanish town, and 325 usable responses of supermarket customers were collected. The hypothesized relationships were tested using the partial least squares approach. The analysis is extended with an experiment in online fashion stores that explores whether a varied sensory experience reinforces consumers' diversive exploration. Sixty-eight students participated in the study. Hierarchical regression analysis is performed to analyse the results of the experiment.

Findings. Findings support the notion that a pleasant sensory experience increases customer satisfaction and therefore their engagement and behavioural loyalty (exclusivity) towards the retailer whilst also generating more ambitious consumer expectations vis-à-vis the shopping experience and thus encouraging them to search for new retailers and, so, to be less loyal.

Research implications. This research warns of the risk of increasing customers' expectations and reducing their loyalty; hence indicating that satisfaction is not enough. Retailers should consider offering new experiences and so surprising customers every so often by attempting to curtail the effect of satiation or over-arousal.

Originality/value. The novelty of this study is the proposal of a twofold effect of sensory experience on loyalty; a positive effect, through satisfaction, and a negative effect, through the search for new experiences.

Keywords: Sensory experiences; engagement; diversive exploration; variety seeking.

1. INTRODUCTION

Past research has argued that retailers use sensory stimuli to provide their customers with a more pleasant atmosphere and environment, which will eventually increase patronage intentions (Baker *et al.*, 2002; Soars, 2012; Spence *et al.*, 2014). The literature has offered a few glimpses of the positive affective and cognitive responses to sensory experiences (Spence *et al.* 2014), which in turn influence consumers' decisions to stay and shop as well as their loyalty intentions (Wakefield and Baker, 1998; Baker *et al.*, 2002). Ailawadi and Keller (2004) claim that retailer brands are more multisensory than product brands, e.g. retailers can create their brand images by attaching unique associations to the quality of their service, merchandising, signage, displays, and other activities. Experiences in retail stores can thus play an important role in consumer opinion and behaviour as well as loyalty.

However, Verhoef *et al.* (2009) propose further research on the dynamics of the customer experience. Specifically, they argue that consumers eventually expect greater intensity or valence of experience and might become bored or accustomed to the experience offered: "I have seen it, I have experienced it, what's new?" (Verhoef *et al.*, 2009, p. 38). This reflexion posits the likelihood of an adverse effect of sensory experiences. Although an enjoyable environment may lead consumers to evaluate a store positively, it may also have the opposite effect. Indeed, in contrast to the literature highlighting the positive impact of sensory experiences on customer behaviour, some authors have already alerted to the possible negative effects, such as consumer scepticism (Lunardo, 2012), distraction and disturbance (Michel *et al.*, 2017).

In this context of discussion concerning the positive and negative effects of sensory experiences, we propose that sensory experiences may make a customer more demanding and less loyal. Unlike other experiences (emotional, relational, etc.), those based on experiences perceived through the senses are likely to trigger consumer sensory adaptation, even satiation (Larson *et al.*, 2013). Sevilla *et al.* (2019) explain that when consumers anticipate satiation will occur, they may choose to seek variety as a proactive behaviour to delay satiation. Therefore, their intention to seek and try other retailers, who might provide them with new and different experiences, also grows. Added to this, as consumers become accustomed to enjoying different sensory experiences, their expectations increase, and they

demand more and more. As a consequence, consumers may choose to get to know other options until new favourites are found (Sevilla *et al.*, 2019). Indeed, retailers must respond to empowered and more hedonistic customers who demand new experiences.

Responding to this proposal, the aim of the current paper is to examine the dual effect of sensory experiences on customer loyalty. On the one hand, sensory experiences reinforce satisfaction and thus the possibility of greater engagement and loyalty. On the other hand, they induce consumers to increase their expectations (Yi and La, 2004) and curiosity for other experiences, i.e., diversive exploration (Berlyne 1966), making consumers become more hedonistic and seek and learn other options, which therefore reduces their loyalty. This proposal is supported by the optimal stimulation level theory. According to Raju (1980), the optimum stimulation level will have significant positive correlations with exploratory tendencies. People who prefer higher levels of stimulation and have a higher stimulation threshold are more likely to manifest exploratory behaviours in the consumer-behaviour context (Jang *et al.*, 2018).

The contributions of this study are as follows. First, although all the literature has highlighted the need to provide customers with satisfactory and memorable experiences, in this study the authors draw attention to the possible negative effects: positive experiences will transform customers into clients who have greater expectations, who seek new experiences and thus new consumption alternatives. Second, most studies focus on the individual analysis of different sensory experiences in stores, yet few focus on customer perception of the multisensory experience. Helmefalk and Berndt (2018) underline the importance of analysing multisensory atmospheres and congruency in the retail context, rather than the impact of single cues. In this study, particular special interest is placed on the holistic multisensory experience or atmosphere perceived by customers in the store; that is, the set of sensory and design aspects that impact on the senses (smells, music, temperature, etc.). We provide evidence from a field study in the context of supermarkets and an experiment in the context of online fashion stores, in order to cover both functional and hedonic purchases.

2. THEORETICAL AND CONCEPTUAL FRAMEWORK

2.1. Sensory experience in retail establishments

Sensory marketing involves providing consumers with experiences that draw on each of the five human senses (smell, sound, sight, taste, and touch) as well as all the senses together (Krishna, 2012).

This forms the basis of a multi-sensory experience and gives the company the opportunity to differentiate from competitors and build its brand image.

Thus, a multi-sensory experience is the result of the reactions of the senses to different elements or marketing factors. Visualization, sounds, and flavours (Krishna *et al.*, 2010) serve to clarify the identity and image of a brand. Further, an important part of customers' emotional impressions is achieved through smell (Mattila and Wirtz, 2001) and it is important to establish brand image in customers' memory over a long-term period of time (Krishna *et al.*, 2010). Finally, the ability to touch and interact with products increases the possibility of impulsive or unplanned purchases (Peck and Wiggins, 2006). Stimulating the five senses is also important with regard to creating a holistic multisensory experience in retail establishments (Spence *et al.*, 2014).

Stimulating the sense of sight in the retail industry appears in the store's internal and external design as well as in the use of visual elements in order to enhance brand awareness and establish a differentiated brand image. Some studies have explored the influence of colours (Puccinelli *et al.*, 2013; Baek *et al.*, 2018), lighting (Summers and Herbert, 2001) and visual complexity (Jang *et al.*, 2018). As for the sense of smell, odours are instant and merely perceiving an aroma is sufficient to activate our senses and emotions. Characteristic and unique aromas can be used to make the experience enjoyable (Spangenberg *et al.*, 2006). Music also influences consumption experiences (Jain and Bagdare, 2011) and can help to build a stronger identity (Garlin and Owen, 2006). As a result, companies use specific songs or jingles. In addition, background music allows the retailer to create different atmospheres and to adapt the store to different periods or times of year. In order to stimulate the sense of taste, the client must be allowed to test product samples. To this end, retail establishments must ensure they provide attractive product presentation and an adequate environment for tasting. In order to interact through the sense of touch, customers must be able to handle the

products on sale. Close attention should be paid to the materials, shapes and textures used in different objects a client can touch (shopping carts, shelving, furniture, scanners, etc.) as well as to room temperature.

Eventually, stimulating all the senses in retail establishments makes sense perception an effective tool for setting up holistic experiences. It also allows customers to be drawn in a personal way, guided by the emotions, feelings or memories that are created or activated and by the expectation of being immersed in an environment that is both pleasant and enjoyable (Holbrook and Hirschman, 1982).

2.2. From sensory stimulation to diversive exploratory behaviour: theoretical background.

The main theoretical framework explaining individuals' response to stimuli is the optimal stimulation level theory. According to this theory, every individual seeks to achieve a certain level of stimulation, the optimal stimulation level (Raju, 1980). The relationship between the stimulus that individuals receive and their emotional reaction forms an inverted U-shaped function with the most successful intermediate levels of stimulation (Steenkamp and Baumgartner, 1992). Excess stimulation can trigger a reduction in satisfaction and lead to variety seeking. This theory is supplemented with the theory of sensory-specific satiety, whereby satiety induces consumers to seek variety, particularly in those attributes which interact with the senses, such as taste, compared to other non-sensory attributes, such as brand (Inman, 2001). This theory has been used to compare the change between flavours and food product brands.

The theory of human curiosity (Berlyne 1966) explains individuals' exploratory responses. On the one hand, there are specific exploratory responses (i.e. curiosity), namely those triggered by the discomfort caused by inadequate information. On the other hand, there are situations of diversive exploration, when the individual seeks stimulation that offers novelty, surprisingness, complexity, change, or variety. Diversive exploratory behaviour is likely to be strong after an individual has spent time in a monotonous stimulation. Individuals seek out opportunities to engage in exploratory behaviours and are driven to maintain a pleasurable sense of arousal through these exploratory behaviours.

Finally, Keinan and Kivetz (2010) propose the productivity orientation of consumers and the consumption of collectable experiences. Consumers are motivated by the desire to collect new experiences. They explain that “by expanding their collection of diverse experiences, consumers obtain a sense of accomplishment and progress” (Keinan and Kivetz, 2010, p. 935). Consumers with a productivity orientation are more likely to want collectable experiences.

These theoretical frameworks allow us to support the proposal of a dark side of sensory experiences. Indeed, sensory experiences may provoke a saturation process, diversive exploratory behaviours, and a predisposition to collect experiences, as we explain in the following section.

3. HYPOTHESES DEVELOPMENT

The current work identifies two opposite effects of sensory experiences in customers on behavioural loyalty towards retail establishments. The positive effect implies the mediating effect of satisfaction and engagement: sensory experiences reinforce satisfaction and thus the possibility of engagement and loyalty. The negative effect implies the mediating effect of alternatives seeking: sensory experiences induce consumers to seek other alternatives and, thereby, reduce loyalty. In the following sections, we explain the two paths and the subsequent hypotheses.

3.1. The positive side of sensory experiences: from sensory experience to satisfaction and engagement

Steenkamp and Wedel (1991) define store satisfaction as “the overall attitude toward the store, based upon the perceptions of relevant store attributes” (Hunneman *et al.*, 2015, p. 517). This definition identifies customer satisfaction as the result of multiple factors, such as perceived service quality (Frank *et al.*, 2014), store attributes (Hunneman *et al.*, 2015), the relationship with the customers (DeWulf and Odekerken-Schroder, 2003), or customer expectations (Szymanski and Henard, 2001). Satisfaction is expected to be the result of sensory experience in purchase or consumption. The overall atmosphere of the store offers informational cues that consumers use to make inferences about products and service (Wakefield and Baker, 1998; Baker *et al.*, 2002; Grewal *et al.*, 2003). Specifically, several authors confirm that the ambient and the sensory stimuli influence the

satisfaction with the shopping experience. For instance, music causes consumers to view the servicescape as more pleasant (Grewal *et al.*, 2003) and thematic designs within stores and scent could serve as attracting drivers (Puccinelli *et al.*, 2009). Therefore, retailers may intensify the experience with stimuli that affect the five senses: sounds, scents, lights, as well as aesthetics and design. Nevertheless, since satisfaction is made of multiple factors, the magnitude of the sensory effect is difficult to predict and may depend on other contingent elements.

However, Ballantine *et al.* (2010) conclude that not only is the effective use of stimuli which attract attention (interactive product displays or attractive display features) important, but also the use of stimuli that facilitate engagement such as comfort and lighting. In this sense, Hunneman *et al.* (2015) maintain that the effect of store attributes on satisfaction may shift over time, for instance depending on the economic climate. For different in-store stimuli combinations, Das and Hagtvedt (2016, p. 213) also find that “two high-arousal or two low-arousal stimuli jointly produce a more favourable influence on consumer evaluations of the store environment than do mixes of high-arousal and low-arousal stimuli”. Michel *et al.* (2017) analyse in-store music and its impact on customers' responses and find that the effect on emotions is positive, yet also report negative effects, since customers may feel distracted or disturbed. Therefore, we state that appropriately designed stimuli in a retail establishment may be positively perceived and contribute to a pleasant, delightful, and, in general, satisfactory perception of the holistic experience.

H1: The perception of an appropriate sensory experience in a retail establishment has a positive effect on customer satisfaction.

Satisfaction has been criticized as failing to measure the depth of customers' responses to consumption situations and as an unreliable predictor of attitudinal loyalty (Bowden, 2009). To overcome the limitations of satisfaction, the term “engagement” has emerged in academic marketing and service literature in recent years to account for the depth of customers' cognitive, affective, and

behavioural responses, parallel to the process of continuous adaptation which companies and brands are undergoing in an effort to reach an increasingly demanding and involved consumer.

There are multiple concepts and definitions related to the term “engagement”. As for concepts, notions such as “brand engagement”, “customer brand engagement”, “customer engagement”, or “emotional engagement” have emerged. Over the last few years, a range of definitions have been suggested (Van Doorn *et al.*, 2010; Hollebeek, 2011a; Brodie *et al.*, 2011; Vivek *et al.*, 2012). In general, all the concepts refer to a client’s involvement, participation or connection with a brand or company on the cognitive, emotional and behavioural level. According to these definitions, and particularly in line with Brodie *et al.* (2011, p. 260), it may be concluded that engagement means establishing solid, strong, reciprocal, permanent, and long-term relationships with customers that should come about through their co-creative, interactive experience with an object (for example, a brand). Engagement is understood as a multidimensional concept which embraces cognitive, affective and behavioural aspects, with the literature review highlighting the prominence of this multidimensional perspective (Brodie *et al.*, 2011; Hollebeek, 2011a). In retailing, an engaged customer will have updated information about the store (cognitive engagement), will have an emotional bond with the store (affective engagement), and will be predisposed to actively participate and become involved in any activity (behavioural engagement). Although satisfaction and affective engagement deal with the customer’s attitudinal response, satisfaction merely reflects the attitude caused by the experience (the customer is pleased, delighted, or satisfied with the experience), while engagement reflects a general emotional bond or attachment to the store, beyond the specific experiences (customers consider the store to be a part of their life and feel enthusiasm towards it).

Previous research has shown that the relationship between satisfaction and engagement could be thought of as bidirectional. Bowden (2009) proposes that satisfaction is the antecedent of engagement. She differentiates the process of engagement for new and for existing customers. While the former build engagement on the basis of calculative commitment, the latter are driven by affective commitment. However, in the context of virtual brand communities, Brodie *et al.* (2011) propose satisfaction as a consequence of engagement. Finally, Hollebeek (2011b) indicates that satisfaction

can be an outcome of engagement for new customers, but an antecedent of engagement for existing customers. Customers who have relevant levels of satisfaction with a focal brand may engage with the brand. Therefore, in our research, since we explore the response of existing customers, we adopt Bowden's (2009) perspective: existing customers have well-formed knowledge structures, such that they engage in affective commitment and loyalty driven by previous satisfactory experiences. Customers who are satisfied with their experience of a product, service or brand are more likely to engage with it (Tax *et al.*, 1998) and to forge a cognitive, emotional and behavioural link. In the present paper, customer engagement with a commercial establishment is therefore seen as a result of their satisfaction with the shopping experience. The following assumption is thus proposed:

H2: Satisfaction has a positive effect on customer engagement with a retail establishment.

Finally, high levels of satisfaction with buying experiences and high levels of engagement are predictors of behavioural loyalty. Behavioural loyalty is understood as repeat purchases driven by a strong internal willingness over a period of time. There is much empirical evidence regarding the positive effects of customer satisfaction on repeat purchases, customer retention or loyalty (Oliver *et al.*, 1997; Oliver, 1999). Oliver *et al.* (1997) note that satisfaction with an experience sparks a desire to keep that pleasure going throughout future consumption. On the basis of the abundant research addressing the relationship between satisfaction and behavioural loyalty, Kumar *et al.* (2013) propose generalizing such a relationship. However, they concede that this relationship may be moderated by other customer, relational, and marketplace characteristics, that this relationship may change over the customer's lifecycle, and that other variables may explain and predict behavioural loyalty. Therefore, in line with Kumar *et al.* (2013), in the current study we maintain the relationship between satisfaction and behavioural loyalty as a generalization, and we introduce additional variables to explain behavioural loyalty. One such variable is customer engagement. Customer engagement with a brand or product (in our case, a retail brand) implies an intention to purchase it, although engagement is by no means merely a strong and durable consumer relationship with a brand. In her model, Bowden (2009) illustrates engagement as an iterative process that begins with customer satisfaction and

culminates in customer loyalty, and as a psychological process modelling the underlying mechanisms by which the loyalty of new consumers is formed, and the mechanisms by which loyalty can be maintained for repeat purchase customers. An engaged customer is the key to maintaining and strengthening a long-term relationship with a company (Bowden, 2009; Brodie *et al.*, 2011). Based on this notion, the following hypothesis is proposed:

H3. Engagement with a retail establishment has a positive effect on behavioural loyalty.

3.2. The negative side of sensory experiences: from sensory experience to generating new expectations and diversive exploration

Although a pleasant and congruent sensory experience affects shoppers' emotions and purchase behaviour in a retail store (Spence *et al.*, 2014; Helme Falk and Hultén, 2017) and may lead to consumer loyalty, it also leads to a search for new experiences. In the present study, we propose that a positive experience intensifies consumers' expectations about what they hope to receive in a commercial establishment, since it increases learning whilst, at the same time, also causes possible saturation.

An experience involves novelty and surprise (Barnes *et al.*, 2016). When the sensory experience has been repeated on several occasions, novelty and surprise are lost, and the process of saturation by sensory stimuli commences. This argument is supported by the optimal stimulation level theory (Steenkamp and Baumgartner, 1992). Excess stimulation can trigger a reduction in satisfaction and lead to variety seeking. Moreover, an experience also involves learning during the period of time that customers interact with different elements of the context created by a service provider. Customers become accustomed to the set of sensory stimuli received and may perceive that this is the minimum level of service they expect to receive. The sensory attribute becomes a part of the expected product. This learning leads to new expectations being created as a cognitive response to the experience. Consumer behaviour literature has confirmed the importance of experience in forming expectations. For instance, Oliver (1980) sees the consumer experience as being enriched with information that is received and with the characteristics of the commercial context, while Yi and La (2004) explain the

dynamic nature of expectations. Learning is taking place continually, and initial beliefs and expectations are updated as information is accumulated over time. Adjusted expectations will thus guide future purchase behaviour.

In retail establishments, customers' sensory experience generates a learning process that increases their expectations and thus leads to the search for alternatives with new sensations to experience once they have reached a certain level of saturation. One can argue, therefore, that positive sensory experiences generate greater expectations in consumers with regard to what they wish to receive in an establishment either through the accumulation of learning or because they reach a saturation threshold as a result of always being subjected to the same sensory stimuli. Therefore:

H4. The sensory experience with a retail establishment has a positive effect on the generation of new expectations.

Expectations generated in an establishment can lead to greater customer engagement as a response to the reciprocity and recognition towards an establishment that has provided positive experiences and raised customer expectations. At the same time, and without proving contradictory, new expectations will encourage a client to seek alternatives, a search motivated by the fact that the sensory experiences provided by an establishment are highly valued by the client and encourage them to look for fresh experiences.

As regards engagement, the direct relationship between customer expectations and engagement with a product or a brand has scarcely been analysed. Customers who expect more from retail establishments, in other words clients who are more demanding and who look more closely at other establishments after visiting their usual one, acknowledge that the latter has become a reference point for them. They are thus predisposed to maintain or reinforce their attachment to the establishment that has made them appreciate and reinforce the importance of a good shopping experience. They will be more willing to show their appreciation and to correspond at a cognitive, emotional and behavioural level.

However, new expectations also encourage clients to seek and experience fresh purchase alternatives. According to the theory of curiosity (Berlyne, 1966), curiosity about discovering other alternatives that might provide new ideas and experiences is conceptualized as diversive exploratory behaviour. Individuals may search for alternatives in relation to a particular product or service (in this case, retail establishments), conditioned by prior learning. Customers will want to change and to seek something new, conditioned by the fact that they now have a benchmark and higher expectations. Oliver and DeSarbo (1988) indicate that expectations form a benchmark for an individual's subsequent processing. Individuals' learning based on their own experiences helps build more accurate and stable expectations, implying that consumers who are more experienced in buying a product make more accurate and satisfactory purchase decisions. Thus, we propose that consumer expectations motivate diversive exploration. As consumers grow accustomed to enjoying different sensory experiences in a retail establishment, they demand more and may begin to search for alternatives which will enable them to enjoy fresh experiences. Customers who are used to sensory experiences in a retail establishment will learn about the positive feelings this provokes and will want to discover new global sensory experiences in other stores: new stimulation of the sense of sight with different lights and other visual elements, new aromas and scents or new sounds and music. Therefore, when expectations increase, consumers are likely to search for new alternatives that meet their changing needs. In this line, Sevilla *et al.* (2019) propose the existence of pro-active variety choices influenced by individuals' expectations, expectations which may depend upon the satiation experienced, anticipated boredom, or curiosity about untried options which might provide greater utility. Clarkson *et al.* (2012) also suggest that novelty seeking may be a selective process, and they posit the existence of strategic novelty seeking. Consumers strategically make consumption choices to protect special memories or to diversify their collection of memories. Therefore:

H5. New expectations about retail establishments have a positive effect on engagement with the retail establishment (H5a), but also a positive effect on diversive exploration (H5b).

The search for alternatives negatively affects the creation of stable relationships with a brand or company. On the one hand, the very need for variety generates in consumers a desire or inner tension that reduces their level of commitment. The possibility of finding superior alternatives that offer greater value can lead to diversive exploratory behaviours that break or modify the stable relationship and commitment towards a retail establishment. However, customers who display a tendency towards diversive exploration are more likely to change, not because they are dissatisfied with the product or because they do not feel any emotional attachment to it, but merely for the pleasure of change. Previous research on variety seeking has concluded that consumers who have a higher need for variety are more likely to engage in variety-seeking behaviour than in repeat purchasing (Raju 1980, Steenkamp and Baumgartner 1992; Van Trijp et al., 1996). Helm and Landschulze (2009) explain that curiosity-motivated consumers display an interest in product-related information. As they become more informed, the perceived risk in purchase decisions decreases, and the willingness to choose new products or brands increases. Therefore, customers of a retail establishment who feel motivated to seek new experiences in other establishments will likely reduce their level of behavioural loyalty to the current one, but will not reduce their level of engagement with that establishment, particularly when the search for alternatives has been conditioned by a positive experience.

H6. Diversive exploration has a negative effect on behavioural loyalty towards a retail establishment.

Insert here Figure 1

3. METHODOLOGY AND RESULTS

3.1. Sample and data collection

In order to test the proposed hypotheses, supermarkets were chosen as the object of the study. Specifically, the population consists of supermarket customers (family members responsible for the daily shopping) of a Spanish town with 126,000 registered inhabitants. Undergraduate students collaborated in the sample selection by providing an email address of 1,000 households from the town. Households were selected taking into account the location in order to have a uniform distribution of the sample throughout the geographic area and to reach customers from as many supermarkets as possible.

The questionnaire was devised as a survey instrument to measure the impact of sensory experience on buyer behaviour. A self-administrated online questionnaire was distributed via email to the sample of approximately 1,000 households. The questionnaire was addressed to the family member responsible for the daily shopping. Respondents were asked to indicate what supermarket they usually went to and were invited to answer the questions based on their experience at that supermarket. Over a one-month data collection period, 325 usable responses were collected (33.25% response rate).

The supermarkets indicated by the respondents belong to the category of generalist supermarkets, which basically stock three sections (food, hygiene, and cleaning products) and are located in the urban area. By age, 27.1% of respondents are under 25 years old, 35.1% between 25 and 34, 16.6% between 35 and 44, 15.7% between 45 and 54, and 5.5% over 55 years old. By gender, the sample is composed of 37.8% men and 62.2% women.

3.2. Measurement of variables

In order to measure the variables, where possible we used scales validated in previous studies. Sensory experience and engagement emerged as type II second-order constructs (Jarvis *et al.*, 2003), i.e. multidimensional concepts measured with reflective scales in the constructs of the first level and with formative components in the construct of the second level. In the case of sensory experience, since there are few generalized scales for measuring this concept, we considered ten indicators that allude to various specific as well as general aspects of the sensory perception of an establishment on the basis of various previous research. We included the sensory dimension of Brakus' (2009) brand experience scale, the store atmosphere dimension proposed by Yoon (2013) to measure in-store experiences, and four additional items to include the use of sounds, scents, light, and taste to enhance the experience. As there are a large number of indicators, exploratory factor analysis was performed to determine the possible existence of different dimensions. Principal component analysis identifies three dimensions. The first factor indicates the overall-sensory experience and is basically represented by three indicators that reflect the positive assessment made by the customer of the overall sensory experience offered by the establishment. The second factor alludes to the atmosphere, since it is

mainly represented by indicators measuring the attraction of the building's aesthetic appearance. The third factor refers to the intensification of the senses and is represented by four indicators that allude to the intensification of each of the senses through music, perfume, light, or food. Convergent validity of these three dimensions was tested using confirmatory factor analysis with AMOS software. After eliminating an item, all the measurement items significantly loaded on their corresponding constructs with loadings above 0.5 and goodness of fit was acceptable ($\chi^2(23)=300.92$; GFI=0.966; AGFI =0.934; NFI=0.960; CFI=0.963; RMSEA=0.079), thus confirming convergent validity. The three dimensions were summed up in three indexes (average indicators) that were taken as formative indicators of sensory experience.

Fifteen indicators adapted from the scales proposed by Cheung *et al.* (2011) and Hollebeek, Glynn, Brodie (2014) were used to measure engagement. They encompass three dimensions: cognitive engagement (consumer interest in the activity of the establishment), emotional engagement (positive customer attitude towards the establishment) and behavioural engagement (customer interest in participating in the supermarket's activities). Four factors were extracted in the prior exploratory factor analysis of the indicators: cognitive engagement, emotional engagement, behavioural engagement, and recommendation. These four dimensions were validated in confirmatory factor analysis. Two items of the behavioural engagement scale were dropped from the analysis because of small loadings. The retained measurement items significantly loaded on their corresponding constructs and goodness of fit was acceptable ($\chi^2(56)=1475.28$; GFI=0.934; AGFI =0.892; NFI=0.948; CFI=0.950; RMSEA=0.088), thereby confirming convergent validity. The four dimensions were summarized in four indices (average indicators) that were used as formative indicators of engagement.

Satisfaction with the experience in the establishment was measured with a six-indicator reflective scale based on the studies of Wong (2004) and Ha and Jang (2013). To measure the generation of new expectations, a four-indicator reflective scale was devised related to the degree to which going to the supermarket increased individuals' expectations and demands.

As explained, diversive exploration refers to the variety-seeking behaviour encouraged by prior learning and prior experiences, i.e., curiosity about discovering other options that might provide new ideas and experiences. Therefore, diversive exploration is represented by three items created ad hoc, indicating the degree to which visiting the supermarket has encouraged the customer to search for other different supermarkets and for new experiences. Behavioural loyalty to the supermarket was measured as a formative construct with two indicators adapted from Bustos-Reyes and González-Benito (2008): the percentage of times a customer goes to that supermarket and an indicator of exclusivity of the establishment, calculated as the inverse of the number of supermarkets the individual visits.

Finally, variety-seeking behaviour, perceived as a general consumer tendency to switch brands or suppliers, prevents building lasting relationships (such as loyalty and engagement) and at the same time promotes the search for alternatives. Consequently, we include variety-seeking behaviour as a control variable, measured using a three-item scale adapted from studies by Yu and Dean (2001) and Michaelidou and Dibb (2009). Moreover, to eliminate potential bias, we introduced gender and age as control variables in the model estimation.

Partial least squares (PLS) was used to perform the joint estimation of the measuring model and the structural model. The computer application used was SmartPLS v3.2 (Ringle *et al.*, 2015). Table 1 illustrates the scales used with their means and standard deviation. Since the proposed model has been estimated by partial least squares analysis (PLS), Table 1 also shows loadings and factor weights of the items as well as reliability indicators (Cronbach's alpha (α), composite reliability (ρ) and average variance extracted (AVE)) that test the internal consistency of the reflective scales (satisfaction, new expectations, diversive exploration and variety-seeking behaviour). The reliability values are acceptable, above the recommended thresholds ($\alpha > 0.7$; $\rho > 0.7$, $AVE > 0.5$, and the standardized loadings > 0.7), except for the control variable, variety-seeking behaviour ($\alpha = 0.6$ and an item with a standardized loading below 0.7). In the case of formative constructs (sensory experience, engagement and behavioural loyalty), the diagnosis of multicollinearity shows that the variance inflation factor (VIF) is in all cases under the recommended value of 10, which proves the absence of

multicollinearity problems in formative scales. However, in the construct of engagement, the indicator “cognitive engagement” is not significant.

Table 2 shows the correlation matrix and the Fornell-Larcker criterion ensuring discriminant validity between the proposed reflective variables. In addition, we confirmed that the heterotrait-monotrait ratio of correlations (HTMT criterion) is below 0.9 for all the reflective constructs (Henseler *et al.*, 2015). Therefore, we can conclude that the reflective constructs demonstrate sufficient discriminant validity.

Insert here Table 1

Insert here Table 2

Since we collected survey data from single informants, common method variance (CMV) bias is a threat to the validity of our results. To avoid CMV bias, we followed some recommendations of Podsakoff *et al.* (2003) when designing the questionnaire: item wording was revised so as to avoid ambiguous or unfamiliar terms; and question order did not match the causal sequence in the model. To assess the impact of common method bias, we performed the following statistical analyses: (1) Harman’s single factor approach, (2) a test with an unmeasured latent method factor (Podsakoff *et al.*, 2003; Liang *et al.*, 2007). The exploratory factor analysis with all the indicators reveals nine factors with an eigenvalue greater than one accounting for less than 68.1% of explained variance, and with a first factor explaining 14.87% of total variance, indicating that CMV is not apparent in our study. The unmeasured latent method factor test (Podsakoff *et al.*, 2003) was performed following the approach discussed by Liang *et al.* (2007). We introduced a CMV factor that includes all the principal constructs’ indicators and calculated the degree to which each indicator’s variance was explained by its principal construct (i.e., substantive variance) and by the CMV factor. While substantive variance averaged 0.674, the average method-based variance is 0.019 (Table 3). As the ratio of substantive variance to method variance is about 36:1, and most of the method factor loadings are insignificant, this analysis also indicates that CMV is unlikely to be a critical factor for this study.

Insert here Table 3

3.3. Results

As mentioned, empirical testing of the proposed hypotheses was carried out with PLS. The significance level of coefficients was calculated by bootstrapping with 500 subsamples. Two models were estimated, the proposed model (with sensory experience as a multidimensional construct) and an alternative model in which the first order constructs of sensory experience (sense intensification, atmosphere, and overall sensory experience) were introduced as independent variables. Table 4 summarizes the empirical results achieved in the two models. In addition to the R^2 values for the endogenous variables, PLS-SEM also provides SRMR and RMS_{theta} as model fit indexes. In both cases, these values are above the CB-SEM recommended criterion ($SRMS < 0.08$ and $RMS_{\text{theta}} < 0.12$). However, these thresholds are considered too low for PLS-SEM (Hair *et al.*, 2017, p. 193). Therefore, the goodness fit is acceptable in the two models.

Insert here Table 4

Results indicate there are two feasible routes leading from sensory experience to engagement and loyalty. On the one hand, hypotheses H1 and H2 are supported: sensory experience in the supermarket (sense intensification, atmosphere, and overall sensory experience) has a positive influence on customer satisfaction (H1 is supported) and satisfaction fosters emotional and behavioural customer engagement with the supermarket (H2 is supported) as well as behavioural loyalty towards the supermarket. Moreover, in the alternative model, we observe that the three dimensions of the sensory experience have a positive and significant effect on satisfaction. However, hypothesis H3 was not supported. Engagement does not imply greater behavioural loyalty toward the retail establishment. Simply feeling a cognitive, emotional and behavioural engagement towards the establishment does not necessarily lead to exclusivity with that establishment when making purchases.

The results also support the existence of the negative aspect derived from improving customer experience. A better sensory experience generates greater expectations of supermarkets (H4 is supported). Again, the alternative model shows that the three dimensions of the sensory experience (sense intensification, atmosphere, and overall sensory experience) have a positive and significant effect on generating new expectations. Although new expectations reinforce the engagement with the

current supermarket (H5a is supported), it also increases diversive exploration, i.e., the customer's desire to buy in other supermarkets and to be surprised by new experiences (H5b is supported). Finally, diversive exploration reduces customer loyalty to the supermarket (H6 is supported). Lastly, as for the control variables, the general trend to seek variety (variety-seeking behaviour) reduces customer loyalty and increases diversive exploration. The effect of age and gender are not significant.

3.4. Experimental design

The results obtained in the previous study suggest that a better sensory experience generates new expectations in the consumer that in turn trigger diversive exploration. However, cross-sectional research cannot fully capture the dynamics of the process. We wonder what happens when an individual is constantly exposed to the same stimuli and what happens when an individual is subject to more varied shopping environments. How does the assessment of the sensory experience affect diversive exploration when the individual stays in the same store? Does the effect change when the individual has visited different stores and has accumulated diverse sensory experiences? Specifically, we wonder whether the individual's response to sensory stimulation at any given time may differ depending on the variety of sensory experiences accumulated up to that point.

To answer these research questions, we extended our research with an experiment in which we simulated the dynamics from sensory experience to diversive exploration. Following Hoeffler et al. (2013), we distinguish two dimensions of experience: intensiveness and extensiveness. Sensory experience reflects the intensity of sensory stimulation (intensiveness). It is graduated as the perception of an experience based on or reinforced by senses. Variety of sensory stimulation reflects the breadth or the variety of exposure a person has accumulated (extensiveness). Participants were required to go through several stages in which they were exposed to sensory stimulation with different levels of variety. The manipulated variable was the variety of sensory stimulation (extensiveness) achieved by the individual at the end of the test. This takes two values: high variety (exposed to sensory stimulation in several stores) and low variety (exposed to sensory stimulation in a single

store). Figure 2 shows the focus of this study and the new relationships we analyse. The objective is to find out whether the variety of sensory stimulation the individual reaches might moderate the effect of sensory experience on diversive exploration. To enhance the empirical contrast, we also consider the effect of overall experience on diversive exploration.

Insert here Figure 2

The experiment was carried out in the context of online fashion stores since this helped to more realistically reproduce the process being studied. In addition, it expands the empirical evidence from an offline context to an online one and from a functional purchase (food and commodities) to a hedonic purchase (fashion). Sixty-eight students participated in the study in exchange for course credits. Participants had to navigate in an online fashion store to perform four tasks. They had to find inspiration, first, for t-shirts, shirts, or sweatshirts; second, for trousers or dresses; third, for a whole outfit; and fourth, for glasses and other accessories. Participants had eight minutes to perform each task. Since the objective was to find inspiration, they were asked not to focus on prices. Participants were randomly assigned to one of two conditions of varieties of sensory stimuli: (1) low variety of sensory stimulation: navigating in the same online fashion store to perform the four tasks (www.zara.com), and (2) high variety of sensory stimulation: navigating in four different online fashion stores and performing each task in a different store (1-www.zara.com; 2-www.mango.com; 3-www.stradivarius.com, for men, and www.pullandbear.com, for women; 4-www.armani.com). All these stores use images and moving images, but with different design and quality. The manipulation check was performed by visual inspection. Staff attending participants found that each participant followed the given instructions on which page to navigate and how long to navigate.

Before commencing the experiment, participants were asked some questions in order to control the effects of a set of variables on the results of the experiment. An item measured their attitude towards the brands (“I like this brand”), three items from Zaichkowsky (1994) measured subjects’ involvement towards buying clothes and accessories (“For me, buying clothes and accessories is an important/interesting/attractive activity”) ($\alpha=0.888$), and four items from Steenkamp and

Baumgartner (1995) measured their optimum stimulation level (e.g. “I am continually seeking new ideas and experiences”) ($\alpha=0.797$).

After navigating, that is, after the test, they were asked to rate the overall experience using five emoticons, the sensorial experience (“The experience in the store has been visually and sensorially animated”), and diversive exploration (“If I had to continue browsing, I would prefer to do it in another online store”). They also had to indicate the degree of confusion (“There was so much information that I felt confused”). The purpose of measuring confusion was to test whether navigating in the same online fashion store or in different stores might cause different feelings of over-arousal, and eventually, affect diversive exploration.

We conducted a hierarchical regression analysis to test the effect of sensorial experience and overall experience on diversive exploration under the two conditions (subjects visiting the same store and those visiting different stores). Results are shown in Table 5. We estimated three models. In Model 1, as a baseline model, we considered the control variables (gender, attitude, involvement, optimum stimulation level, and confusion). In Model 2, we included the main effects (variety condition [0=No 1=Yes], sensory experience, and overall experience) and compared it with the baseline model. Finally, in Model 3, we entered the interaction effects and compared it with Model 2. Model 3 was estimated again with variety codified in the reverse sense [0=Yes 1=No].

Insert here Table 5

When the individual has visited several stores, (see Model 3), diversive exploration is lower ($\beta_{\text{Variety=YES}}=-1.214$, $p<0.01$), but interaction between variety and sensorial experience and variety and overall experience are significant ($\beta_{\text{Variety*Sensory}}=0.928$, $p<0.05$; $\beta_{\text{Variety*Experience}}=-0.892$, $p<0.05$). In a situation with more variety of stimuli (see Model 3bis), a better sensory experience increases diversive exploration, i.e., browsing in other online stores ($\beta_{\text{Sensory}}=0.770$, $p<0.05$) while a better overall experience reduces diversive exploration ($\beta_{\text{Experience}}=-0.808$, $p<0.05$). However, in a situation of less variety of stimuli (see Model 3), neither the sensory experience ($\beta_{\text{Sensory}}=-0.158$, $p>0.05$) nor the overall experience ($\beta_{\text{Overall}}=0.083$, $p>0.05$) has an effect on diversive exploration. The effect of sensory experience on diversive exploration is plotted in Figure 3. As for control variables, gender,

involvement, optimum stimulation, and confusion have no significant effect, while a positive attitude towards the brand reduces diversive exploration.

Insert here Figure 3

4. DISCUSSION

4.1. Findings and theoretical implications

Empirical results suggest that there are two alternative paths from holistic sensory experience to behavioural loyalty. Specifically, through the first route, the pleasurable stimulation of senses strongly enhances the feeling of satisfaction with the establishment and, in turn, reinforces behavioural loyalty, consequently increasing the supermarket's exclusivity. Results show that the three dimensions of the sensory experience (sense intensification, atmosphere, and overall sensory experience) have a positive impact on customer satisfaction although the magnitude of the effect is different. The perception of an appealing atmosphere (the look and the exterior and interior design) is the aspect which most influences satisfaction and will therefore be the most decisive aspect vis-à-vis achieving behavioural loyalty. On the other hand, the overall sensory experience, that is, the perception of an experience that affects the five senses, proves more relevant when generating satisfaction than the intensification of the individual senses. Consequently, the likelihood of securing a loyal customer is greater when the sensory experience is perceived as global and complete than when it comes from stimulating specific senses. These results are consistent with previous studies that relate sensory stimuli and the overall atmosphere with pleasant and satisfactory experiences (Grewal *et al.*, 2003; Ballantine *et al.*, 2010; Pantano and Viassone, 2015).

Moreover, consumers who experience continual satisfaction will engage and increase their commitment to the establishment, particularly at the emotional and behavioural levels (emotional and behavioural engagement). Thus, the more satisfied that consumers are the greater their enthusiasm and interaction with the supermarket, which they will demonstrate publicly by expressing their preference through participating in the proposed activities, making suggestions and recommending the store to other consumers. However, contrary to expectations, perceived engagement does not lead

to behavioural loyalty. There is a latent commitment, a link between consumer and supermarket, which fails to engender customer exclusivity with a supermarket.

The second route shows how sensory experiences generate new expectations. The sensations experienced at the supermarket open up a range of possibilities and shopping experiences to individuals. The sensorial experience teaches them to value aspects that had previously gone unnoticed in addition to making them more demanding, and generating new and greater expectations. In this case, the three dimensions of sensory experience (sense intensification, atmosphere, and overall sensory experience) have a similar impact on generating new expectations. These new expectations engender greater customer engagement with the establishment. Consumers who discover and learn to enjoy sensorial experiences in a specific supermarket and who develop greater expectations of what they anticipate from a store will compare other establishments with the present one. The supermarket becomes a reference of comparison, a valuable benchmark. As a result, customers will strengthen the link with the establishment that has taught them to enjoy a better shopping experience. Consumers with greater expectations, aroused by curiosity and a desire to learn, manifest a greater tendency towards diversive exploration, that is, to seek out new sensations and fresh alternatives. In line with the optimal stimulation level theory (Steenkamp and Baumgartner, 1992) and the theory of sensory-specific satiety (Inman, 2001), too much stimulation leads to variety seeking, especially when individuals are stimulated through their senses.

A similar result is obtained in the experiment conducted in the context of online shopping stores. We observe that for individuals exposed to a greater variety of stimulation, i.e., those who have navigated in different stores and been subject to different stimuli of image design, image movement, or videos, a satisfactory overall experience reduces the intention to continue exploring, but a positive sensory experience increases the intention to continue browsing in other online stores and to gather new experiences (Keinan and Kivetz, 2010).

4.2. Managerial implications

At the beginning of our study we recalled the research proposal of Verhoef *et al.*, (2009) who questioned the extent to which sensory experiences help secure more committed and more loyal customers. According to the results, sensory experiences trigger customer engagement and loyalty, yet also pave the way to weakening customer loyalty. Identifying these two pathways may prove interesting and have a number of implications for retailers.

As regards inferences for practice, the findings suggest that it is advisable to offer satisfactory sensory experiences while attempting to curtail the effect of satiation these might cause. On many occasions, designs and activities in the store are so similar and so routine that consumers flee from them due to boredom. Traditional product tasting or the “no obligation trial” accompanied by the usual sales pitch may be taken as an example. The best antidotes for boredom and saturation are novelty and variety. As a result, an establishment should consider offering new experiences every so often, surprising customers, and making changes to the environment through music, lighting or decoration. In this regard, the perception of a global and comprehensive sensory experience proves more effective vis-à-vis winning over customers than the perception of individual actions aimed at intensifying specific senses. Special attention should be devoted to the elements that contribute to create a pleasing and attractive atmosphere, since this is the aspect of sensory experience which has the greatest impact on satisfaction and subsequent behaviour. For instance, some supermarkets launch interesting initiatives to suggest menus prepared by well-known chefs. Others create very special atmospheres in certain sections, such as fresh or gourmet sections. There are also those who occasionally devote part of their commercial retail space to leisure activities (a cocktail bar, a botanical garden, for example). In this regard, one aspect to be taken into account is the potential of new technologies (QR codes, mobile applications, virtual reality or hypersonic sound) to create digital and interactive experiences in stores which surprise and engage the customer and provide value. There are special offers of products or brands that use animated holographic projections, displayed elements that produce music when touched or screens that connect directly to the food’s places of origin.

Another alternative for providing consumers with variety and reducing satiation stems from the establishment’s actual location. If the store is situated in a mall or in a commercial area of the city,

surrounded by many other different shops, exposure to different environments will make individuals perceive variety and will clear their sense of satiation toward a particular stimulus. Similarly, within the retail establishment itself, it is possible to slow down the process of saturation by rationing experiences, programming them in different sections over a period of time or drawing attention to the different aspects recreated.

On the other side, the fact that the client seeks new experiences in other shopping alternatives may not necessarily be perceived as a problem for the retailer. Nelson and Meyvis (2008) show that interruptions in the consumption of hedonic products and positive experiences enhance the overall experience to the extent that they break up the process of adaptation to a stimulus and allow the experience to resume. It may prove more effective to provide a sequence of experiences with brief interruptions that allow the consumer to be surprised or feel thrilled every time the experience resumes.

However, there is very often a dark side to providing new sensory experiences and changes in the environment. The initial “surprise effect” quickly becomes a new “surprise threshold”. The dynamic nature of expectation provokes such a fast adaptation that it will be more difficult to satisfy the customer in the future. Stores must avoid falling into the trap of preventing adaptation by simply adding sensory stimuli. There is a risk of creating too complex an atmosphere, which triggers sensory overload (over-arousal), especially if it is based on the same kind of stimulus (Raju, 1980). To avoid over-arousal, sensory stimulation should be controlled by rationing experiences or by introducing rest periods, as mentioned previously. Retailers should therefore adequately plan the intensity and programming of activities that involve sensory experiences.

4.3. Limitations and future research

As for the limitations of this study and possible future research, the authors note the measurement of the behavioural loyalty variable. A formative construct of behavioural loyalty was created using two indicators which basically include the aspect of exclusivity that involves loyalty. In future studies, it would be suitable to supplement these measures with other items that provide information about consumption intensity (purchase or expenditure volume) and future behaviour (repurchase intention).

Moreover, we merely consider sensory experience as an antecedent of satisfaction with the experience, whereas additional factors should be included.

Secondly, considering consumer profile (e.g. involvement and interest in the product category) as a moderating variable on the satisfaction-loyalty relationship might improve the estimation of the effects of sensory experience.

Third, the field study is performed for supermarkets, a type of establishment involving predominantly functional purchases and behaviour. This context may be less rich in sensory experiences than other establishments geared towards hedonic consumption. We therefore extended our research with an experiment in online fashion stores. The online environment does, however, limit the scope of sensory experiences although sensations can be evoked through imagery (e.g., pictures, videos). Nevertheless, the variety of sensory experiences is smaller than what might otherwise be experienced in local stores.

Finally, we acknowledge that the survey method only allows the conscious effects of the sensory experience to be measured. Memories may be fuzzy or inaccurate. Checking on the sensory stimuli that supermarkets were implementing at the time the information was being collected would have provided a more accurate picture of the reliability and validity of the responses. It would also have been desirable to help and guide respondents in recalling their experience by providing additional questions; for example, by asking them to specify the sensory experience on which they based their response or the specific location and moment at which they were aware of it. In this sense, neuromarketing research techniques are more suited to measuring the unconscious effects of the sensory experience on the individuals' behaviour and to analysing the effect of specific stimuli.

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Figure 1. Proposed model

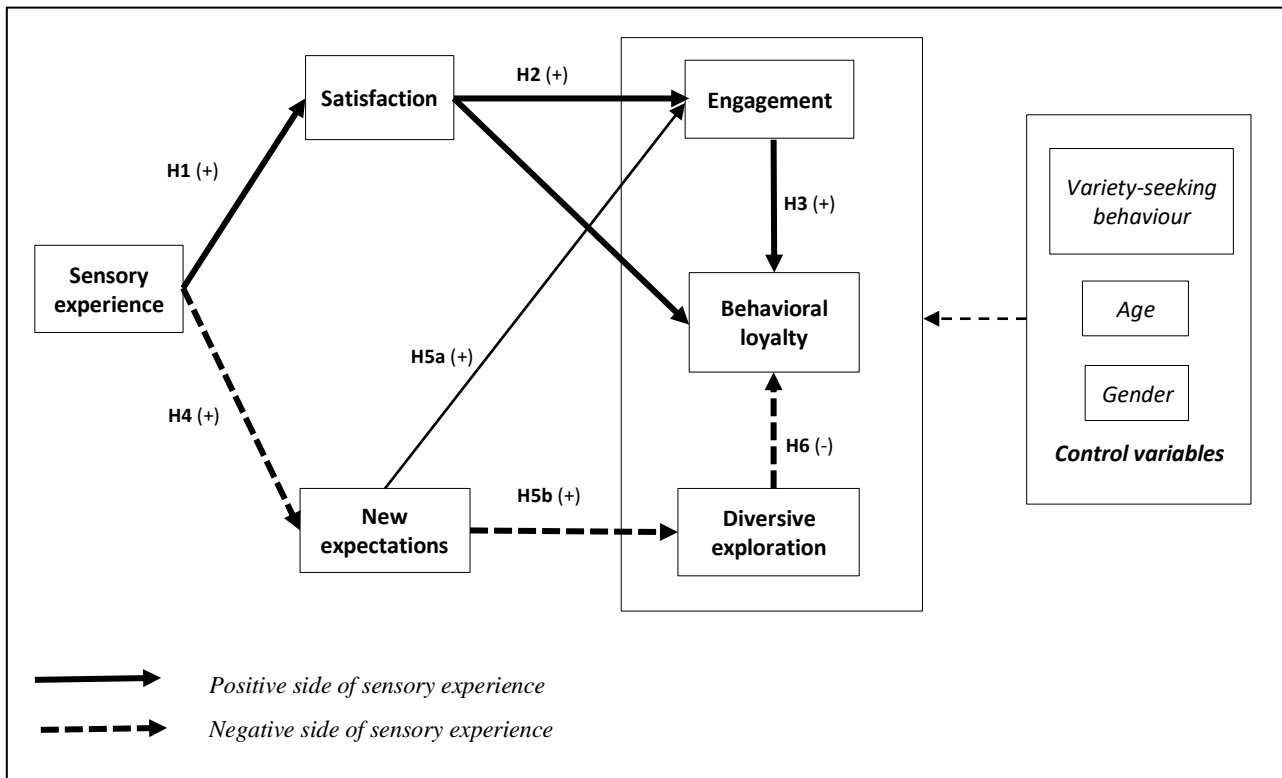


Figure 2. Extension of the research

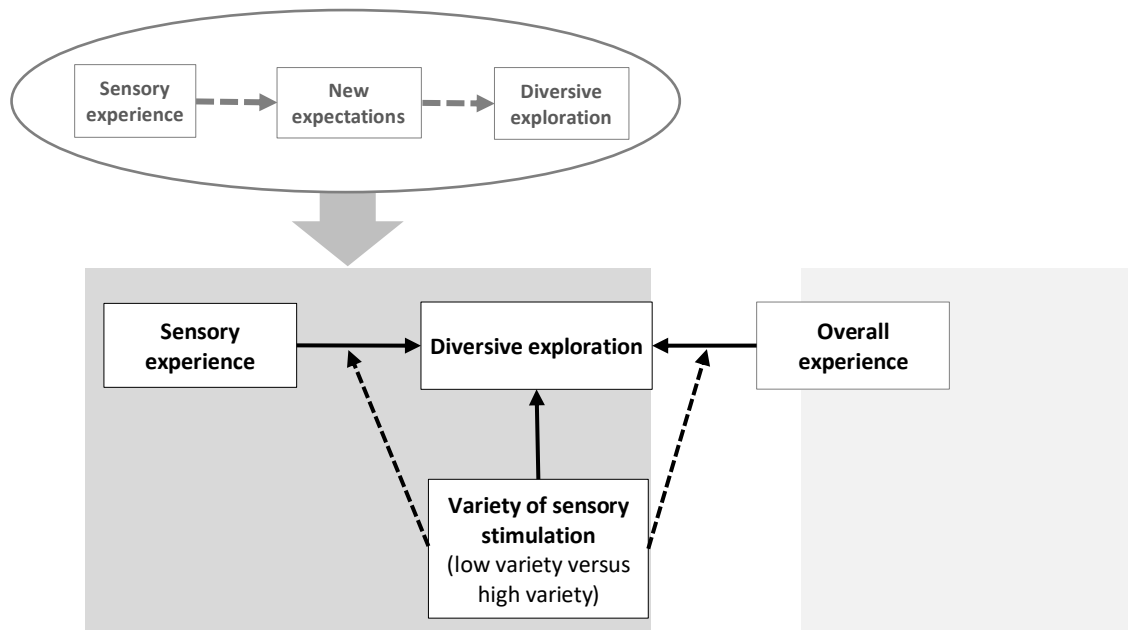


Figure 3. Interaction effect

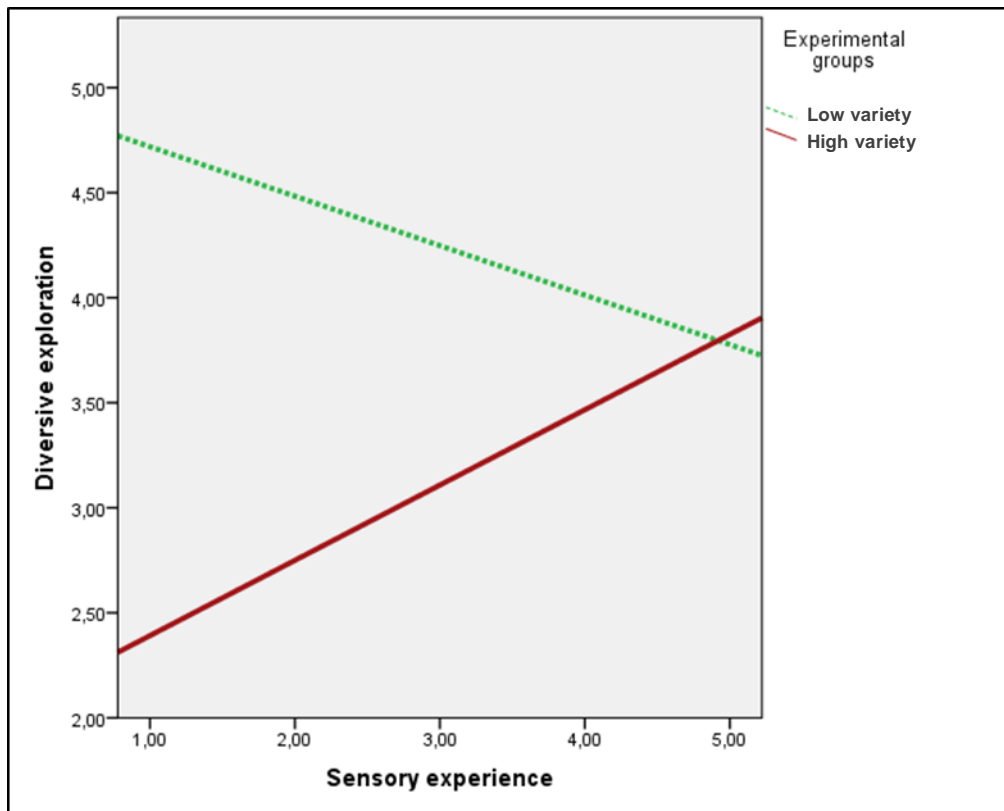


Table 1. Descriptive statistics for manifest items

Variables and indicators	Mean	SD	Loadings (CFA)	PLS estimates	
				Loadings	Weights
Sensory experience (second order formative scale)					
<i>Sense intensification (VIF=1.169)</i>					
Ambient sound and music intensify the experience in the supermarket	2.83	1.110	0.700**		0.220**
Ambient scents intensify the experience in the supermarket	3.19	1.172	0.778**		
Gastronomic experiences in the supermarket are special	2.66	1.232	(a)		
The illumination intensifies the experience in the supermarket	3.36	0.992	0.534**		
<i>Atmosphere (VIF=1.178)</i>					
I like the look of the supermarket	3.53	0.941	0.572**		0.629**
The exterior design of the building is aesthetically appealing	2.59	1.091	0.630**		
The interior design of the building is aesthetically appealing	2.89	0.982	0.995**		
<i>Overall sensory experience (VIF=1.204)</i>					
The situations that affect the five senses are reproduced in the supermarket	1.99	0.969	0.793**		0.461**
Sensory experience in the supermarket is complete	2.10	0.920	0.904**		
The experience implies all the senses strongly	2.03	0.947	0.868**		
Satisfaction (AVE=0.730 $\rho=0.942$ $\alpha=0.925$)					
The experience of this supermarket is pleasant	3.27	0.956		0.893**	
I was pleased with this supermarket since the first time I went there	3.00	1.176		0.777**	
I am delighted with the experience in the supermarket	2.94	1.035		0.910**	
I am pleased with the experience in the supermarket	3.24	1.023		0.910**	
I feel glad with the experience in the supermarket	2.80	1.053		0.868**	
In general, I feel satisfied with the experience in this supermarket	3.55	0.994		0.758**	
New expectations (AVE=0.663 $\rho=0.887$ $\alpha=0.829$)					
I expect more from any supermarket since I have found this one	2.69	1.111		0.851**	
I compare all supermarkets I attend with this one	3.15	1.188		0.806**	
Since I attend this supermarket I have become more demanding	2.55	1.176		0.855**	
The attendance at this supermarket taught me to appreciate new aspects of the food experience that I haven't taken into account before	2.54	1.169		0.739**	
Diversive exploration (AVE=0.712 $\rho=0.881$ $\alpha=0.798$)					
The attendance to this supermarket encouraged me to search for different ones	2.14	1.125		0.834**	
Since I attend this supermarket, I search for new ideas and experiences about buying food	2.35	1.174		0.868**	
Due to discover this supermarket I get more informed about others	2.26	1.160		0.829**	
Behavioural loyalty					
The percentage of times a customer attends his favourite supermarket (VIF=1.129)	0.65	0.200			0.634**
The number of supermarkets where a customer usually does his shopping ⁻¹ (VIF=1.129)	0.32	0.129			0.588**
Engagement (second level formative scale)					
<i>Cognitive engagement (VIF=1.699)</i>					
I keep up-to-date with everything related to the supermarket	2.26	1.066	0.860**		-0.023
I would like to know more about the supermarket	2.49	1.161	0.643**		
<i>Emotional engagement (VIF=2.031)</i>					
I feel great enthusiasm with this supermarket	2.29	1.113	0.879**		0.463**
I am fascinated by doing shopping in this supermarket	2.19	1.170	0.917**		
This supermarket is the part of my life	2.35	1.233	0.622**		
My day to day life wouldn't be the same without this supermarket	2.05	1.222	0.596**		
Doing shopping in this supermarket is <i>exciting</i> for me	1.96	1.037	0.888**		
<i>Behavioural engagement (VIF=2.080)</i>					
In this supermarket they make me feel involved	1.99	0.926	0.797**		0.208**
I've made recommendations on what I like in this supermarket	1.82	1.145	(a)		
If some activities are organized in this supermarket I would like to participate	2.05	1.141	0.674**		
I like to show how much I like this supermarket	2.03	1.024	0.735**		
I participate in activities related to the supermarket	1.56	0.959	0.565**		
I am a follower of this supermarket in social networks	1.42	0.970	(a)		
<i>Recommendation (VIF=1.498)</i>					
I recommend this supermarket to everybody who asks me for advice	3.25	1.127	0.931**		0.526**
I encourage people to attend this supermarket	3.16	1.128	0.928**		
Control variables					
<i>Variety-seeking behaviour (AVE=0.588 $\rho=0.809$ $\alpha=0.664$)</i>					
I like to be surprised with new things	3.59	1.166		0.809**	
I like to attend different supermarkets	3.22	1.144		0.668**	
I like to search stores that stand out by their decoration or internal environment	3.00	1.285		0.814**	
Age¹ : under 25; between 25-34; between 35-44; between 45-54; over 55 years old	32.5	11.62			
Gender : man =0; woman =1	0.62	0.486			

(a) Items deleted due to poor reliability. ¹ The class mark has been calculate for each interval.

Significance level: * p< 0.05; **p< 0.01

Table 2. Correlation matrix, Fornell-Larcker criterion, and HTMT ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Age	1.000	0.034	na	na	0.066	0.036	na	0.154	0.087
(2) Diversive exploration	-0.012	0.844	na	na	0.763	0.242	na	0.083	0.470
(3) Behavioural loyalty	0.048	-0.101	na	na	na	na	na	na	na
(4) Engagement	-0.036	0.474	0.121	na	na	na	na	na	na
(5) New expectations	-0.061	0.631	0.136	0.681	0.814	0.548	na	0.121	0.490
(6) Satisfaction	-0.001	0.215	0.162	0.677	0.484	0.855	na	0.029	0.377
(7) Sensorial experience	-0.004	0.262	0.071	0.531	0.401	0.605	na	na	na
(8) Gender	-0.154	-0.076	-0.035	-0.062	-0.110	0.021	-0.026	1.000	0.037
(9) Variety-seeking	-0.072	0.357	-0.137	0.362	0.409	0.331	0.269	-0.029	0.767

The diagonal shows the squared-root of the AVE. Over the diagonal is shown the Heterotrait-Monotrait ratio.

Table 3. Common method variance analysis

<i>Variables</i>	<i>Indicators</i>	<i>Construct loading (CL)</i>	<i>CL²</i>	<i>Method-Factor Loading (MFL)</i>	<i>MFL²</i>
<i>Sensory experience</i>	Sense intensification	0.774**	0.599	-0.152**	0.023
	Atmosphere	0.733**	0.537	0.069*	0.005
	Overall sensory experience	0.728**	0.530	0.044	0.002
<i>Satisfaction</i>	Satisfaction 1	0.956**	0.914	-0.074	0.005
	Satisfaction 2	0.528**	0.279	0.277**	0.077
	Satisfaction 3	0.911**	0.830	-0.001	0.000
	Satisfaction 4	0.969**	0.939	-0.064	0.004
	Satisfaction 5	0.776**	0.602	0.105	0.011
	Satisfaction 6	0.976**	0.953	-0.243**	0.059
<i>New expectations</i>	New expectations 1	0.819**	0.671	0.043	0.002
	New expectations 2	0.854**	0.729	-0.046	0.002
	New expectations 3	0.977**	0.955	-0.142**	0.020
	New expectations 4	0.587**	0.345	0.162*	0.026
<i>Diversive exploration</i>	Diversive exploration 1	0.951**	0.904	-0.172**	0.030
	Diversive exploration 2	0.796**	0.634	0.110*	0.012
	Diversive exploration 3	0.788**	0.621	0.059	0.003
<i>Behavioural loyalty</i>	Percentage	0.817**	0.667	0.011	0.000
	N° supermarkets ⁻¹	0.820**	0.672	-0.011	0.000
<i>Engagement</i>	Cognitive engagement	1.017**	1.034	-0.297**	0.088
	Emotional engagement	0.795**	0.632	0.075	0.006
	Behavioural engagement	0.925**	0.856	-0.090	0.008
	Recommendation	0.594**	0.353	0.210**	0.044
<i>Average</i>		0.822	0.693	-0.006	0.019

Significance level: * p< 0.05; **p< 0.01

Table 4. Model estimation

<i>Proposed model</i>			<i>Alternative model</i>	
Hypotheses	Relationships	β^a	Relationships	β
H1	Sensory experience → Satisfaction	0.605**	Sense intensification → Satisfaction	0.096*
			Atmosphere → Satisfaction	0.445**
			Overall sensory experience → Satisfaction	0.253**
H2	Satisfaction → Engagement	0.451**	Satisfaction → Engagement	0.451**
	Satisfaction → Behavioural loyalty	0.154*	Satisfaction → Behavioural loyalty	0.154*
H3	Engagement → Behavioural loyalty	0.151	Engagement → Behavioural loyalty	0.151
H4	Sensory experience → New expectations	0.401**	Sense intensification → New expectations	0.130*
			Atmosphere → New expectations	0.220**
			Overall sensory experience → New expectations	0.197**
H5a	New expectations → Engagement	0.447**	New expectations → Engagement	0.448**
H5b	New expectations → Diverse exploration	0.583**	New expectations → Diverse exploration	0.583**
H6	Diverse exploration → Behavioural loyalty	-0.139*	Diverse exploration → Behavioural loyalty	-0.139*
	Variety-seeking → Engagement	0.029	Variety-seeking → Engagement	0.029
Control	Variety-seeking → Diverse exploration	0.120*	Variety-seeking → Diverse exploration	0.120*
	Variety-seeking → Behavioural loyalty	-0.192**	Variety-seeking → Behavioural loyalty	-0.192**
Control	Age → Engagement	-0.010	Age → Engagement	-0.010
	Age → Diverse exploration	0.032	Age → Diverse exploration	0.032
	Age → Behavioural loyalty	0.032	Age → Behavioural loyalty	0.032
Control	Gender → Engagement	-0.023	Gender → Engagement	-0.023
	Gender → Diverse exploration	-0.003	Gender → Diverse exploration	-0.003
	Gender → Behavioural loyalty	-0.040	Gender → Behavioural loyalty	-0.040
R² values	R ² Satisfaction = 0.364		R ² Satisfaction = 0.392	
	R ² Engagement = 0.616		R ² Engagement = 0.616	
	R ² Behavioural loyalty = 0.069		R ² Behavioural loyalty = 0.069	
	R ² New expectations = 0.158		R ² New expectations = 0.164	
	R ² Diverse exploration = 0.403		R ² Diverse exploration = 0.403	
Goodness of fit (PLS)	RMSEA= 0.100		RMSEA= 0.090	
	RMS _{Theta} = 0.152		RMS _{Theta} = 0.142	

(**) p< 0.01; (*) p<0.05

(a) Standardized Coefficients

Variety-seeking = Variety-seeking behaviour.

Table 5. Hierarchical regression analysis*(Dependent: Diversive exploration)*

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 3bis</i>
<i>Constant</i>	3.772**	4.377**	4.284**	3.071**
Gender	0.034	-0.023	0.010	0.010
Attitude	-0.290	-0.469*	-0.605**	-0.605**
Involvement	-0.129	0.053	0.193	0.193
Optimum stimulation	0.205	0.131	0.101	0.101
Confusion	0.222	0.174	0.168	0.168
Variety [0=No 1=Yes]		-1.028**	-1.214**	
Variety [0=Yes 1=No]				1.214**
Sensory experience		0.083	-0.158	0.770*
Overall experience		-0.164	0.083	-0.808*
Variety * Sensory experience			0.928*	-0.928*
Variety * Overall experience			-0.892*	0.892*
R ² adjusted	0.049	0.194		0.245
F	1.680	2.987**		3.147**
Change F (sig.)	1.680	4.660**		3.006*

Significance level: * p<0.05; ** p<0.01