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A field study on the relationship between perceived store crowding and consumer response

Um estudo de campo sobre a relação entre a percepção do *crowding* em lojas e a resposta do consumidor

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Resumo

A maior parte da pesquisa sobre *crowding* em lojas, um estado experiencial sobre a natureza restritiva do espaço limitado como percebido pelos compradores em uma loja física, tem sido realizada normalmente em condições artificiais, como por meio de experimentos de laboratório ou em ambientes fora da loja real, predominantemente em países desenvolvidos. Nossa pesquisa verifica a relação entre *crowding* nas lojas e preferência e atitude do consumidor em relação à loja em situações reais de compras no Brasil, país caracterizado por alto perfil heterogêneo em relação à renda, à educação e às preferências de compra. Nós administramos um estudo piloto por meio de entrevistas em profundidade com os compradores para ajudar a projetar uma pesquisa para coletar dados em quatro condições diferentes: 2 (alto vs. baixo *crowding*) x 2 (alta versus baixa renda), em uma loja de supermercado. Variáveis independentes foram medidas, não manipuladas. Os resultados mostram que o *crowding* percebido reduziu a atitude positiva em relação à loja (H1) e à preferência pela loja (H2), mas os indivíduos com renda mais alta tiveram uma atitude mais negativa em relação à loja e os níveis de preferência diminuíram, à medida que aumentou o *crowding*. O artigo apresenta implicações para teoria e prática.

Palavras-chave: *Crowding*, Estudo de campo, Varejo físico, preferência do consumidor, atitude na loja

Abstract

Most of research in store crowding, an experiential state about the restrictive nature of limited space as perceived by shoppers in a physical store, has been performed customarily in artificially conditions, such as through laboratory experiments or in settings outside the real store, predominantly in developed economies. Our research verifies the relationship of store crowding and shopper patronage and attitude toward the store in real shopping situations in Brazil, a country characterized by high heterogeneous profile regarding income, education and purchasing preferences. We administered a pilot study through in-depth interviews with shoppers to help designing a survey to collect data in four different conditions: 2 (high vs. low crowding) x 2 (high vs. low income),in a supermarket store. Independent variables were measured, not manipulated. Results show that perceived crowding reduced positive attitude toward the store (H1) and store patronage (H2), but individuals with higher income had a more negative attitude toward the store, and patronage levels reduced, as perceived crowding increased. We provide implications for both theory and practice.

Keywords: store crowding, field study, physical retailing, store patronage, attitude toward the store.

1. Introduction

Retail shoppers are highly influenced by store environments, an area that began to emerge in the early 1960s, but only with Kotler (1973) was the term "atmosphere" introduced to refer to controlled and structured environment to influence buyer behavior. Store atmosphere depends not only on the retailer but also on the shopper, so retail crowding or perceived crowding[1] turn out to be an important environmental factor in the buyers' evaluation of service experiences (Grayson & McNeill, 2009). Retail density refers to the number of people or objects in a limited space and it is a primary antecedent of perceived crowding (Stokols, 1972). It has shown to affect consumption responses such as time spent in the store and satisfaction (Machleit, Kellaris, & Eroglu, 1994) and, therefore, it is a fundamental determinant of the shopping experience.

Crowding is defined as an experiential state that refers to the restrictive nature of limited space as perceived by individuals; it is experienced when the restrictive aspects of space limitation become prominent and aversive (Mehta, 2013). Although studies on store environments and their variables (such as density) emerged in the early 1960s, the effects of perceived crowding on consumer behavior began to be studied by environmental psychology only in the mid-1970s and it became a specific area of this subject (Kiliçarslan & Caber, 2018).

Crowding at the store plays a critical role in customer approach and avoidance (Hui & Bateson, 1991; Li et al., 2009), emotions (Machleit et al., 2000), perceived value (Eroglu et al., 2005), time spent in store (Michon et al., 2005), and satisfaction (Machleit et al., 2000). While crowding has been considered in many studies as a driver of negative emotions at the store, leading to an unpleasant shopping experience, some studies show contrary evidence that it can lead to enthusiasm and pleasure in certain shopping contexts (Byun & Mann, 2011). Several international studies show that crowding has negative consequences for shopper satisfaction (Eroglu & Machleit, 1990; Machleit et al., 2000), attitudes toward stores (Mehta et al., 2013), and behavioral responses (Pan & Siemens, 2011). Therefore, there is no consensus yet about the positive or negative effect of crowding on shopper attitudes and behavior. Such inconsistent results might indicate intervening variables (probably specific to the individual) affecting the relation between crowding and attitudes. This article contributes to reduce such inconsistencies by verifying the relationship of store crowding and shopper patronage and attitude toward the store, as well as whether this relation is moderated by individual characteristics such as income and hedonic motivation. Patronage here refers to shopper evaluations and the likelihood of choosing a particular retailer.

Our settings are: i) the supermarket sector, that made up 5.2% of Brazilian GDP in 2018 (ABAD, 2019); ii) Brazil, a country with very peculiar characteristics. On the supply side, the country has a very heterogeneous food retail, even within the general category of supermarkets. Brazilian process of retail modernization occurred in such a way that the emergence of large supermarket chains did not eliminate the fringe of independent retailers (Neves et al, 2018). The average prices of many products in independent stores are lower than those found in large chain stores, and the different types of food retailers in the country compete strongly for consumers, who also have a heterogeneous profile regarding income, education and purchasing preferences (Monteiro et al., 2012). On the demand side, low-income consumers represent almost 70% of the Brazilian population, being responsible for more than half of the food market. According to Barki & Parente (2007), spatial and human crowding is considered a manifestation of liveliness and attractiveness by the low income consumers market, for whom the higher volume of products exposed indicates that the store is well managed, well stocked and has lower prices.

We carried out our research in the field, which is unusual in consumer behavior research, an area that predominantly applies laboratory experiments (Turley & Milliman, 2000; Machleit et al., 2000; Li et al., 2009). This gives more external validity to the findings, given that there is a lack of field research to aid the understanding of retail crowding (Mehta, 2013). The remaining of the article is structured as follows: after this introduction that presented the objective and rationale of the research, we present next the theoretical framework of the relevant variables. The third section presents a pilot study that uses a qualitative approach, followed by the field study. The article ends with the main conclusions, implications, limitations, and suggestions for future research.

2. Theory

Burlison e Oe (2018) referred to the store environment as "the overall 'feel' that the store offers to its consumers". Turley and Chebat (2002) suggested five types of store environment variables: (1) exterior cues -such as the size and shape of the building and park availability; (2) general interior variables - such as lighting, music and temperature; (3) layout and design variables - such as merchandise groupings, customer traffic and placement of cash registers; (4) decoration and point-of-purchase variables- such as the display of products and store sign age and (5) human variables - such as employee presentation and customer crowding. Baker et al. (2002) consider three distinct dimensions: store design (visual elements and the way store's architecture and layout make consumers feel), ambience (the atmosphere of the store, composed for cues that tend to affect non visual senses and influence consumers' behavior at a more subconscious level, as music) and social factors (e.g. the relationship that store employees have with the consumers).

Such variables generate a perception of the store environment that can stimulate cognitive, emotional and physiological responses, leading the customer to approach or avoidance behaviors (Thomas & Saenger, 2019). Individual responses in terms of approach or avoidance are determined by the specific situational context, so the choice of a grocery store is both a function of positive expectations related to this behavior (approach), as an attempt to avoid undesirable consequences associated with alternative behaviors (avoidance) (Harris et al., 2017; Penz and Hogg, 2011).Environment elements of a store may result in not only dissatisfying buying experiences but also embarrassment and awkwardness (Tomazelli et al., 2018), and function as a source of information that directly influences consumer decision processes (Loken et al., 2008). This is a common reaction in the service sector, where the consumer has difficulty in understanding the quality and value of the service provided, seeking evidence in the environment to assess and decide on the service (Zeithalm, 1988). The atmospherics of a store can affect the emotions and perceptions of consumers, and even their shopping behaviors (Tifferet & Vilnai-Yavetz, 2017). So, with the lack of direct product information, the shopper has the store environment as the main source of information, which can indicate quality, price, and shopper experience. In many countries, and specifically in Brazil, an example of store environment becoming one of the main sources of information for the shopper is discount stores, which often manage their store layouts in a way that make people concentrate near the front door of the store, so shoppers perceive that the store is full and associates this human density with, for example, price promotion, easing inflow into the store.

Such human density is only one dimension of the "density" variable, which is formed by human and spatial dimensions. Human density refers to the relationship between the number of people in an environment and its physical area, while spatial density refers to the number of products, ads, and layout items in the store environment. Density relates to the objective measurement of the physical aspects of store environments and perceived crowding relates to the definition of subjective aspects and the emotional consequences of density (Stokols et al., 1973).

When shoppers cannot get direct information about a product, the store environment and its characteristics tends to influence their value perception and the buying decision. This influence is mainly due to the easy access the shopper has to social cues offered by store environment density (Baker et al., 2002), and it is related to intrinsic stimuli (individual specific), whether hedonic or utilitarian. For example, there is a common consumer preference to attend fuller bars, considering that stimuli often involve socializing with friends, having fun, and meeting new people (all hedonic stimuli). When it is not possible to obtain enough information about the experience and the products offered, consumers have the environment as their primary source of information, preferring bars with higher human density. Shirai (2017) demonstrated a positive effect of crowding as an informational cue, indicating that when the consumption domain was more hedonic than utilitarian, retail crowding was an informational cue for judging acceptance of underdog businesses and enhanced the evaluation when the retail environment was adequately crowded rather than uncrowded. An example of utilitarian motivation would be two businessmen who decide to go out to eat and talk about a new business and, since they find a very full bar uncomfortable and with undesirable characteristics such as queue and noise, they opt for a quiet, more comfortable bar with lower human density. Such internal factors (of the individual) may be important moderators of crowding (Stokols, 1972) and are considered in this article.

Retail environments that are crowded with consumers, often viewed as an obstacle to consumer approach behavior, may instead be perceived positively by socially excluded consumers, who exhibit a heightened affiliation motivation that increases crowding perceptions (Thomas & Saenger, 2019). Therefore, they are more likely to choose a crowded retail space and exhibit higher intentions to browse and spend more money at a crowded retailer. However, international research mostly assume that crowding generates negative shopper responses, considering that individuals would always be in an uncomfortable and stressful position in high-density environments, as shown by the results of much (Eroglu & Machleit, 1990; Machleit et al., 2000). As crowding relates to individual perception (Machleit et al., 2000), there can be positive consumer response to retail environments with high human density (Oliveira et al, 2017;Shirai, 2017) and even a positive relationship between crowding and purchase intention (Brandão & Parente, 2012; Li et al., 2009; Wu & Luan, 2007).So, we expect that:

H1. There is a negative relationship between perceived crowding and shopper positive attitudes toward the store.

Perceptions of human crowding may have a positive relationship to discount store image (Lee, Kim & Li, 2011). Although research examining the effect of household resources on price sensitivity has produced mixed results, Wakefield & Inman (2003) found that low income consumers are relatively price sensitive for more functional needs, as compared to more hedonic needs. As the products sold in our supermarket store is mostly functional, we expect that, as consumers perceive crowding associated with a discount image, low income consumers (who are more price sensitive to functional products) present a more positive attitude toward the crowded store, as compared to high income consumers. So:

H1a. The negative relationship between perceived crowding and shopper positive attitudes toward the store is moderated by income. So, low income shoppers have a more positive attitude toward the crowded store, as compared to high income shoppers.

Burlison e Oe (2018) analyzed literature between 1950 and 2017 and identified eight dimensions of store image – merchandise, service, convenience, promotion, client, physical facilities, atmosphere and institutions - and each of them had corresponding sub-sections (e.g. merchandise is made up of quality, assortment, price, fashion and guarantee). The eight dimensions are used to determine functional qualities and psychological attributes that define a store's image in the minds of the consumers, which, in turn, will have impact on store patronage, understood as an incentive that the shopper provides to an organization by recommending it and buying from it. If a store meets the functional and psychological demands of a consumer, and such demands are met consistently, s/he will then develop a sense of patronage toward the store (Burlison & Oe, 2018). Creating a superior in-store experience is critical to retail patronage (Baker et al., 2012; Burlison & Oe, 2018), and since the perception of crowding impacts the evaluation of the in-store shopping experience, we expect that:

H2. There is a negative relationship between perceived crowding and shopper patronage of the store.

Using the same rationale for H1a, we predict that:

H2a. The negative relationship between perceived crowding and shopper patronage for the store is moderated by income. So, low income shoppers have a higher level of patronage for the crowded store, as compared to high income shoppers.

Next we present the empirical studies develop to test the aforementioned hypotheses.

3. Pilot study: in-depth interviews

To better understand the relationship of the variables stated in hypotheses, exploratory research was carried out through in-depth interviews with consumers and experts on the subject. Two semi-structured interview scripts were elaborated, based on theoretical framework related to crowding. Three shoppers (familiar with buying in supermarkets) and a consultant expert in retail crowding were interviewed. The script for shoppers addresses personal issues and real contact with the store environment studied here (a supermarket), as well as issues related to perceived crowding and its effect on consumer purchase intentions and attitudes toward the store. The interview script for the expert was basically about the differences of crowding perceived by customers of different income segments and how companies deal with the phenomenon in Brazil and abroad.

Interviews with an average duration of 35 minutes were conducted individually in December, 2013, in environments familiar to the respondents. Snowball technique was used to prospect the interviewed shoppers. We used content analysis to code and structure the responses in order to have insights and explanation about the phenomenon (Flick, 2009). All interviews were recorded with the consent of the respondents and they were not personally identified. All respondents had the notion that human density inside the store environment varies along the day, affecting somehow the act of purchasing. It was observed that the perception of human density varies across respondents. Respondents M1 and M2 have a more utilitarian motivation for shopping. So, they have a negative perception of high-density levels because they feel that it takes them to spend more time shopping than necessary. Several studies show that shopper motivation - whether hedonic or utilitarian - is one of the antecedent variables that influences perceived crowding by consumers (Aguiar et al., 2015; Brandão & Parente, 2012; Quezado et al., 2014)). For the Respondent M2, shopping is done because it is necessary and maximum efficiency in the "task" is desired ("*For me, one of the most important factors of a supermarket is the amount of people shopping and how fast the service is*"). Due to his utilitarian motivation, Respondent M2 perceives crowding negatively ("*A few years ago, I changed the supermarket I go to. The previous one was too crowded, and I started running out of patience*"). On the other hand, Respondent M3 has a strong hedonic motivation, that is, going to the supermarket is a pleasure because it is associated with meeting friends and interacting with people. The respondent expects high human density and even the possibility to socialize while in checkout queue("*I end up going to the supermarket I like the most, just because I can find people I know and to talk to*"). The availability of income permeates the M2 Respondent's considerations about the store ("*I do not usually compare supermarket prices. As there is only my husband and I at home, it does not make much difference to household bills. So, I end up going to the supermarket I like the most ..., and I do not care much if it is too crowded or even wheter it is more expensive*"). Thus, there is individual specific variation in the way perceived crowding and reflects in shopper attitudes and behaviors - which reinforces H1 and H1a.

According to the expert in the supermarket sector, consumer purchase behavior and patronage are influenced by human density and perceived crowding ("*There are a lot of reasons why human density has a positive effect. If the individual has hedonic motivation or if the person seeks a price promotion, then more people in the store means a more positive perception of the store*").Therefore, if the manager knows customer reactions to human density, the store layout can be adapted to meet consumer expectations ("*Depending on the layout, on how the retailer allocate shelves and products, the perception of human density may vary*").

Large companies adjust the layout to change perceived crowding ("*In some supermarket stores, the electronics section is at the entrance, so attention and promotion lead people to the front of the store, changing the perception of crowding in that part of the store*").In smaller companies, managers intuitively know that human density influences consumer perceptions ("the small retailer controls human density, sometimes unconsciously, by changing layout and promotion along the store"). Since retailers perceive the crowding effect on consumer response as positive, and change store human density to make it more attractive, especially to shoppers who are more sensitive to price promotions, H2 and H2a may also be intuitively sound. The pilot study provided knowledge of the field, and led to refinement of hypotheses to be tested empirically.

4. Survey

We designing a survey to collect data in four different conditions: 2 (high vs. low crowding) x 2 (high vs. low income) in a supermarket store. The dependent variables are patronage and attitudes toward the store. We also collected demographic variables (such as income) and shopper hedonic motivation, as a covariate, for the statistical analysis. We had questionnaires completed in periods when the store had higher or lower human density, when it was more organized and more disorganized, and at peak and non-peak times.

Independent variables. Respondents' perception of crowding was measured by the four-item scale adapted from Machleit et al.'s (1994) (*the store seems tight to me*; *I had no problems walking around the store while buying; it seems to me that the store is full of people; the store seems spacious*) (items 2 and 4 were reverse coded). The factorial scores below the median (2.50) obtained the value 0 and scores above the median obtained the value 1. We measured income per capita, and the values 0 and 1 were also used to group the scores below and above the median (U$400.00), respectively. Hedonic motivation was measured by three-item scale of Kim's (2006) (*I find buying stimulating; When I'm in a down mood, I go shopping to make me feel better; I find buying exciting*). The factorial scores were used as covariates in the ANCOVA model.

Dependent variables. Store patronage was measured by the three-item scale of Dodds et al.'s (1991)(*the likelihood of buying from this store again is high; I am willing to buy something from this store; I would recommend this store to my friends*). Attitude toward the store was measured by the six-item scale of Pan's& Siemens's (2000) (*the store was (un)favorable; bad/good; (un)pleasant; (un)interesting; (not) likable; high/low quality*). The factorial scores of the items were used in the analysis. All scales are Likert's five-point scale (1 = *strongly disagree*, 5 = *totally agree*), except the five-point semantic differential scale of Pan's and Siemens's (2000). Scales in the study were translated and pretested with ten respondents (not included in the final sample) to improve comprehension among the respondents. All scales showed high internal consistency (reliability): perceived crowding (α = 0.753); hedonic motivation (α = 0.705); patronage (α = 0.794); and attitudes at the store (α = 0.916). Table 1 displays the means of store patronage and attitude toward the store, by measured condition.

Table 1 - Means of store patronage and attitude toward the store, by measured condition.

	Perception of Crowding	Income	N	Mean
Attitude toward the Store	low	low	35	4.30 (0.70)
	low	high	27	4.66 (0.63)
	high	low	53	3.94 (0.94)
	high	high	42	2.41 (0.67)
Store Patronage	low	low	35	4.39 (0.58)
	low	high	27	4.49 (0.52)
	high	low	53	4.17 (0.66)
	high	high	42	3.01 (0.56)

Standard Deviation in parentheses; (N = 157).

Respondents were approached randomly (never being in queue or in waiting time) to answer the questionnaire inside the supermarket store, and also randomly according to the period of time during the store open hours. Crowding varied along the day, but the crowding variable was measured in terms of shopper perception. The supermarket store of an average city in the countryside of the state of São Paulo in May-June 2014. The final sample was composed of 157responses. Fifty one incomplete questionnaires were discarded.

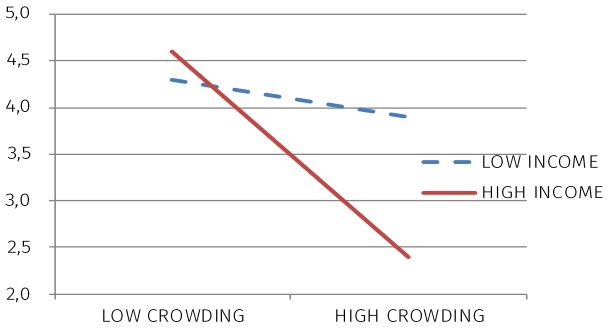
Results

Table 2 shows the two-way ANOVA on store patronage and attitude toward the store, as a function of perception of crowding and income. Higher perceived crowding made consumers have a negative attitude toward the store ($F = 26.14$, $p < 0.01$) and this relation is moderated by income ($F = 4.25$; $p = 0.04$). Graph 1 shows the main effect of perceived crowding on attitude toward the store moderated by income. Crowding has no effect on attitudes at the store when income is low, but when income is high crowding leads consumers to a more negative attitude toward the store, confirming H1 (there is a negative relationship between perceived crowding and shopper positive attitudes toward the store) and H1a (the negative relationship between perceived crowding and shopper positive attitudes toward the store is moderated by income). So, low income shoppers have a more positive attitude toward the crowded store, as compared to high income shoppers), since the interaction between the two variables was significant ($F = 11.25$, $p < 0.01$). The hedonic motivation was not significant, for both store patronage and attitude toward the store, and was not considered in the analysis.

Table 2 – Two-way ANOVA on Store Patronage and Attitude toward the Store, as a function of Perception of Crowding and Income.

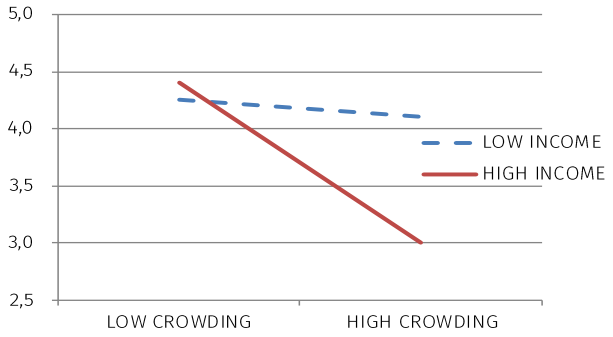
	F	P
Attitude toward the Store		
Intercept	1,185.79	0.000
Crowding	26.14	0.000
Income	4.25	0.041
Crowding x Income	11.25	0.001
Store Patronage		
Intercept	3,169.32	0.000
Crowding	23.83	0.000
Income	17.21	0.000
Crowding x Income	23.01	0.000

Graph 1: Effect of perceived crowding on attitude toward the store, moderated by income.



Perceived crowding reduces consumer patronage (F = 23.83, p <0.01) and that this relationship is moderated by income (F = 17.21, p <0.01). Graph 2 shows the main effect of perceived crowding on consumer patronage moderated by income.

Graph 2: Effect of perceived crowding on store patronage, moderated by income.



Graphs 2 depicts that perceived crowding has no effect on patronage levels when income is low, but when income is high, perceived crowding reduces consumer patronage, confirming H2 (there is a negative relationship between perceived crowding and shopper patronage of the store) and H2a (the negative relationship between perceived crowding and shopper patronage for the store is moderated by income), so low income shoppers have a higher level of patronage for the perceived crowded store, as compared to high income shoppers(F = 23.01, p < 0.01).

Since the results obtained through the two-way ANOVA were consistent with the previously raised hypothesis, one-way ANOVAs were carried out in order to better observe the influence of each of the independent variables on consumer attitudes. This new analysis shows that the crowding variable is significant, by itself, in explaining patronage (F = 5.24, p <0.05) and consumer attitudes at the store (F = 9.52, p <0.01).Next we present the implications, limitations and suggestions for future research.

5. Final remarks

Brazil, one of the tenth largest economies in the world, is also the world's tenth most unequal country (UNDP, 2017). Its population is characterized by a large segment of low-income population, which appreciates crowded (space and people) environments with an abundance of stimuli, while those on high incomes usually prefer clean store environment. Even within the general category of supermarkets, Brazil has a very heterogeneous food retail, for whom decisions about the design and store environment are crucial elements in their competition for consumers, since the ability to offer a unique store atmosphere generates an advantage that is hard to be copied for competitors.

The aim of this study was to provide evidence on the effect of perceived crowding on attitudes toward the store and patronage levels, as well as to test whether this effect is moderated by individual characteristics such as income and hedonic motivation in a retail context. Hedonic motivation was controlled in the analysis as a covariate, but had no significant effect in the analysis. All hypotheses tested were supported by evidence from the sample analyzed in a real purchase situation. Perceived crowding reduced positive attitudes toward the store (H1), which confirms, in a Brazilian context, the results of research conducted in other countries (Machleit, 2000) and contributes to the validation of this theory in Brazil. In addition, perceived crowding reduced consumer patronage (H2). Individuals with higher incomes had a more negative attitude toward the store and patronage levels reduced as perceived crowding increased, while those who had lower incomes did not have their attitude or patronage level influenced. It means that consumer income moderates the relationship between perceived crowding and consumer attitudes at the store (H1a) as well as between perceived crowding and consumer patronage (H2a). This has implications for retail strategies related to customer income segmentation: marketing professionals responsible for supermarket stores whose target public are high-income shoppers need to pay attention to aspects related to the negative or positive effects of crowding.

Many of the experiments so far test the effect of perceived crowding were conducted in laboratory-like environments with high degree of artificiality (Turley &Milliman, 2000; Machleit et al., 2000; Li et al., 2009). Our research contributes to the literature by testing the aforementioned effect in the field (a survey carried out in a real supermarket store). Research shows that, depending on the income of the target public, companies should stimulate a certain level of human density in stores to increase/decrease perceived crowding, as this may increase consumer patronage and positive attitudes in relation to the store. In our sample, crowding should be perceived as low for a more positive attitudes toward the store for segments with higher income. This can be done by modifying the size of the store, changing the layout or attracting more shoppers by promotional and other marketing techniques. With these results, there is a series of possible combinations to be sought by business managers.

Limitations and suggestions for future research

There are some limitations that should be considered. All the independent variables were measured, not manipulated, so we can infer about relationships about variables, not about causality. As we have strong theory to support the hypotheses, we have used the term “effect” throughout the manuscript, but we may interpret this with concern. Also, we dichotomized the independent variables, which can be object of criticism, although still an usual practice in measurement (Fitzsimons, 2008). Some limitations of the method used in the pilot study should be taken into account, that is, the use of semi-structured interviews, depending on how questions are formulated, can lead respondents to give socially acceptable answers.

In the field research, the main limitations were due to the relatively short period of time during the day for administering the questionnaire, which could have resulted in less representative data and data collection that was not as heterogeneous as in the reality. Also, the fact that the survey was carried out in a single supermarket reduces generalizability. Other types of stores, even though they from the supermarket sector may have different characteristics due to other cultural variables, such as collectivism and individualism, and variables of personality and shopper style.

Finally, one must consider the possible existence of other moderating variables, that is, individual variables—such as lifestyle and gender—and variables of store environment—such as smell, temperature, color, sound, and type of product sold. These are important for consumer attitude and purchase decisions. Future research can test not only the influence of perceived crowding in purchase decisions, but also on how consumer browse products when the store is perceived as crowded.

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[1] The terms "crowding" and "perceived crowding" are interchangeably used in the text.

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