Antecedents and consequences of stress in retailing: environmental expectations and promoter scoring

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Abstract

Purpose – The aim of this paper is to examine the effects of the disconfirmation of expectations of crowding and mall accessibility, on stress and two marketing outcomes, satisfaction and promoter scoring.

Design/methodology/approach – Data were obtained through two face-to-face surveys from mall shoppers that answered them at two different moments of their shopping experience, before entering the mall and before leaving it. Results are obtained from 230 customers that answered the two questionnaires.

Findings – The findings suggest that stress indirectly influences customer promoter scoring through satisfaction, while disconfirmation of expectations influences it directly and indirectly.

Practical implications – These results also suggest that stress and disconfirmation of expectations about crowding and accessibility are important in determining promoter scoring. To reduce stress and increase satisfaction and promoter scoring, managers should focus on exceeding customers' expectations about mall accessibility and on ensuring that customers experience a lower level of crowding than they expected.

Originality/value – The article examines Net Promoter Scoring, an outcome that has attracted managers' attention but little is known about its antecedents. The paper provides evidence of the effect of disconfirmation of expectations and negative emotions on promoter scoring.

Keywords Promoter scoring, Stress, Disconfirmation of expectations, Crowding, Accessibility

Paper type Research paper

1. Introduction

Previous research has focused on how to create positive emotions in retailing; however, it might also be useful to study the dark side of the shopping experience and try to identify the environmental elements that create negative consumer feelings during shopping, because negative feelings can also influence consumers' responses and behaviour, such as by increasing dissatisfaction, purchase abandonment and negative word-of-mouth (WOM) (Albrecht *et al.*, 2017; Lessassy, 2019; Lucia-Palacios *et al.*, 2020; Rosenbaum *et al.*, 2016; Uhrich and Tombs, 2014). Stress is one of the most common negative feelings experienced by shoppers. Stress occurs when a person is overwhelmed by a situation or event (Moschis, 2007), and it entails affective, physiological and behavioural responses. A review of retailing research on stress reveals that most articles have focused on examining its main causes. Crowding or parking difficulties are two of these causes (Demoulin and Willems, 2019; Lucia-Palacios *et al.*, 2018; Baker and Wakefield, 2012), but little is known about how the disconfirmation of expectations of these mall environmental characteristics may impact on stress or its consequences. Therefore, this research will examine the impact of disconfirmation of expectations of mall's crowding and accessibility on customer stress during the shopping experience.

Furthermore, stress in the shopping context has attracted much attention because of its impact on purchasing decisions, store abandonment or re-patronage intentions (Albrecht *et al.*, 2017; Baker and Wakefield, 2012; Grzeskowiak *et al.*, 2016; Lucia-Palacios *et al.*, 2020;

Maier and Wilken, 2014). However, to the best knowledge of the authors, there has been limited research on the consequences of stress on satisfaction or on any measure related to loyalty or recommendation (Rychalski and Hudson, 2017). The Net Promoter Score (NPS) proposed by Reichheld (2003) has become an increasingly popular method for firms to measure customer loyalty (Maddox, 2007; Raassens and Haans, 2017; Mecredy *et al.*, 2018), as it is based on a single question that measures the customer's intention to recommend the company to friends or colleagues. This divides the customers into promoters, satisfied customers or detractors. A promoter is a person that will speak positively about the product or brand in a proactive way. This will attract new customers and reaffirm the brand image, so researchers have paid attention to how to convert customers into promoters or advocates of a firm (Fierro *et al.*, 2014). Previous research about NPS has focused on its relationship with different firm performance metrics, such as profitability, sales or market share, and it has been compared to other loyalty measures (Bendle and Bagga, 2019; Van Dorn *et al.*, 2013; de Haan *et al.*, 2015). However, little attention has been paid to the antecedents of this performance metric. Research is, therefore, needed to examine the stress–satisfaction and stress–promoter scoring relationship.

The preceding discussion shows that it should be interesting, first, to examine whether the disconfirmation of expectations of crowding and accessibility influences stress; second, to analyse the relationship between stress, satisfaction and promoter scoring and third, to examine the possible mediation effect of stress between disconfirmation of expectations and the two outcomes of satisfaction and promoter scoring.

To meet these objectives, a two-part questionnaire about the shopping experience was carried out through a face-to-face mall intercept method. The first part was answered before shoppers entered the shopping centre, and the second part just after they had left it. In the first part, we asked about expectations; in the second part, we asked about perceptions. The same individuals responded to the two parts of the questionnaire, so the information can be used to calculate the disconfirmation of expectations.

Our research contributes to the marketing literature and retail research by providing evidence of the effect of stress on two customer outcomes: satisfaction and promoter scoring. The results suggest that not all customer emotional responses may affect customer behaviour in the same way. The paper also contributes by examining the effect of disconfirmation of expectations of a mall's crowding and accessibility as antecedents of stress and by investigating the mediating role that stress has on satisfaction and promoter scoring. The results suggest that stress acts as a mediator between disconfirmation of expectations and satisfaction, but that it is not a mediator between disconfirmation of expectations and promoter scoring. These results have implications for mall managers in relation to the reduction of customers' stress and the improvement of promoter scoring.

Section 2 presents the theoretical background of the study and the hypotheses. Section 3 explains the research methodology, and Section 4 presents the results. We conclude with a discussion of the main results, the managerial implications and suggestions for future research.

2. Conceptual model development and hypotheses
The inclusion of emotions in the study of customer satisfaction and loyalty is critical for experiential services and is a hot topic in marketing. Based on the cognitive theory of emotions (Bagozzi *et al.*, 1999; Das and Varshneva, 2017; Demoulin and Willems, 2019; Elmashhara and Soares, 2019), disconfirmation of expectations has a direct effect on emotions, while at the same time emotions act as mediators between the cognitive part of the customer experience and the final customer behaviour. This theory is used to propose the hypotheses of the current study and the model that is tested (Figure 1).
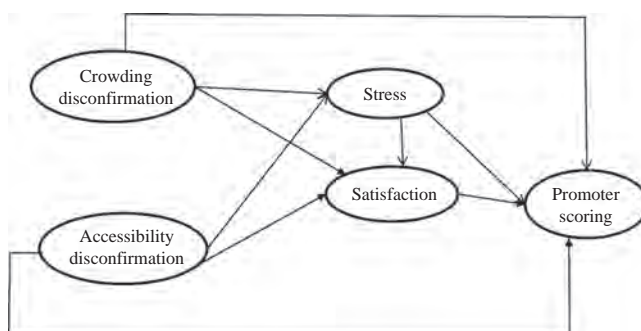
2.1 Disconfirmation of expectations and stress
Disconfirmation of expectations usually means that service performance falls short of (exceeds) what a consumer expected when making a purchase decision, with negative (positive) implications for the service experience. In a retail setting, a customer may have expectations about different aspects of the experience. In this research, we analyse expectations about mall accessibility and crowding. These retail elements influence the customer's experience, are sources of stress (Kim and Runyan, 2011; Santini *et al.*, 2020; Soars, 2009; Van Rompay *et al.*, 2012), and may differ from one visit to another to the same mall. Of these aspects, crowding is the most analysed element in retailing.

Crowding is a social factor that leads to feelings of discomfort and irritation during the shopping activity and reduces satisfaction, time spent in the store and repatronage intentions (Knoeferle *et al.*, 2017; Park and Zhang, 2019; Pons *et al.*, 2016; Santini *et al.*, 2020; Roozen, 2019; Van Rompay *et al.*, 2012). Hui and Bateson (1991) showed that perceived crowding in retailing affects consumers' emotional responses and their desire to stay in the facility and that it creates negative feelings. These negative consequences are because crowding increases shopping time, reduces the availability of products and shop assistants and increases time spent queuing (Sujan *et al.*, 1999; Van Rompay *et al.*, 2012). One of the main direct outcomes of crowding is stress (Lucia-Palacios *et al.*, 2018). Similar conclusions have been reached in retail research that has focused on perceived crowding and stress (Baker and Wakefield, 2012; Eroglu *et al.*, 2005).

Although previous research has analysed the effect of perceived crowding on stress, finding a positive relationship (Baker and Wakefield, 2012; Lucia-Palacios *et al.*, 2018), our study examines the effect of disconfirmation of crowding expectations on emotions. We propose that an unexpected level of crowding will influence customer emotional response. Therefore, we hypothesize:

H1. Positive disconfirmation of expectations about crowding (perceived crowding is higher than expected) will have a positive effect on stress.

Time is one of the most valuable assets for the contemporary consumer, so the link between time and shopping is of great interest in the study of consumer behaviour. Mall accessibility refers to the time and effort involved in getting to and leaving the mall by car, taxi or bus, as well as in moving inside the mall from one store to another (Hart *et al.*, 2007; Reimers and Chao, 2014). Thus, accessibility refers to the customers' perceptions of mall location, mall design, parking convenience and the mall's connections with main roads. Traffic congestion management is an important means of saving travel time and leads to customer satisfaction (Ibrahim and Ng, 2002; Park and Zhang, 2019). Furthermore, looking for a place to park involves a cost in terms of time, so a well-signposted car park is an important managerial cue

(Van Ommeren *et al.*, 2012). Negative disconfirmation of expectations about accessibility can trigger negative emotional responses (Smith, 2005; Sujan *et al.*, 1999), such as stress, due to an increase in travel time, traffic jams, difficulties in finding a parking space, difficulties in accessing the mall because it is located in a part of city that is difficult to reach by car or public transport or the complexity of moving from one part of the mall to another. So, we propose:

> *H2.* Positive disconfirmation of expectations about mall accessibility (perceived accessibility is better than expected) has a negative effect on stress.

2.2 Stress, satisfaction and promoter scoring

Satisfaction is a state of a consumer's mind that shows the consumer likes or dislikes the service after experiencing it (Mahmoud *et al.*, 2018). Although satisfaction is a prerequisite for loyalty, previous research has suggested that something else is required to lead to repeat purchases and to create loyalty (Kumar *et al.*, 2013). Although some discrepancies are found when this relationship is analysed, most previous research has found that higher overall satisfaction is related to a higher propensity to recommend (Bedi, 2010; Kaura, 2013; Sivadas and Baker-Prewitt, 2000; Wilson *et al.*, 2012). Since promoter scoring is a measure of loyalty that implies active recommendation, we propose:

> *H3.* Satisfaction will have a positive influence on promoter scoring.

Most previous research has found that emotions such as pleasure and arousal are related to satisfaction in different contexts (De Rojas and Camarero, 2008; Ladhari, 2009; Raassens and Haans, 2017; Walsh *et al.*, 2011). However, the stress–satisfaction link has attracted much less attention and little is known about it. Singh and Duque (2012) examined this relationship in a police context and found a negative relationship. Lucia-Palacios *et al.* (2020) found that stress worsens mall experience. Since stress is a negative emotional response, we expect that it will decrease customer satisfaction. The link between emotions and loyalty is robust in different contexts (Bigné *et al.*, 2008; Ou and Verhoef, 2017; Walsh *et al.*, 2011). Previous research has found that positive emotions influence loyalty (Bigné *et al.*, 2008) and positive WOM (Ladhari, 2007). Similarly, negative emotions (such as anger, frustration, distress, disgust, boredom or regret) reduce that behaviour (Chen *et al.*, 2015; Liu and Jang, 2009; Peng *et al.*, 2017; Saintives and Lunardo, 2016). Others have found a positive relationship between positive emotions and positive WOM (White and Yu, 2005). So, we propose:

> *H4.* Stress will have a negative influence on (a) satisfaction and (b) promoter scoring.

2.3 Mediation effect of stress

To consider a mediation effect of stress, first there should be a relationship between disconfirmation of expectations and the two outcomes of satisfaction and promoter scoring. Consistent with the expectancy disconfirmation paradigm (Dai *et al.*, 2020; Gillison and Reynolds, 2018; Qazi *et al.*, 2017; Oliver and Westbrook, 1993), when service perceptions exceed expectations, a positive disconfirmation is created that results in increasing satisfaction. So, a positive disconfirmation would lead to a positive consumer satisfaction and vice versa (Bigné *et al.*, 2008; Caro and García, 2007; Dai *et al.*, 2020; Liu *et al.*, 2020). Similarly, some studies have found a positive and direct effect of disconfirmation of expectations on loyalty or intentions to intensify the service usage (Caro and García, 2007). The literature indicates, therefore, that disconfirmation of expectations can have a direct influence on satisfaction and promoter scoring. Thus, we propose:

> *H5.* Positive disconfirmation of expectations about crowding will have a negative influence on (a) satisfaction and (b) promoter scoring.

H6. Positive disconfirmation of expectations about accessibility will have a positive
influence on (a) satisfaction and (b) promoter scoring

According to the cognitive-affective model, there is evidence of the mediation effect of
emotions between the stimuli the consumers receive in the retail environment and the
consumers' behaviour. Mehrabian and Russell's (1974) model suggests that emotions are
mediators between stimuli, the cognitive process and behaviour. The mediating role of
emotions between disconfirmation of expectations and satisfaction has been widely tested
and confirmed in the literature (Bigné *et al.*, 2008; Caro and García, 2007; Das and Varshneva,
2017; De Rojas and Camarero, 2008; Elmashhara and Soares, 2019; Lucia-Palacios *et al.*, 2016;
Morrison *et al.*, 2011; Qazi *et al.*, 2017). Similar results have been found when loyalty or
recommendations are examined as customer behaviour (Chen *et al.*, 2015; DeWitt *et al.*, 2008;
Jang and Namkung, 2009). Furthermore, stressful situations can create an emotional reaction
that can in turn affect behaviour (Baker and Wakefield, 2012; Hampson and McGoldrick,
2017; Harris and Fleming, 2017). Therefore, stress may mediate the effect of disconfirmation
of expectations on satisfaction and promoter scoring. Hence, we propose:

H7. Stress will mediate the relationship between satisfaction and disconfirmation of
expectations (a) about mall crowding and (b) about accessibility.

H8. Stress will mediate the relationship between promoter scoring and disconfirmation
of expectations (a) about mall crowding and (b) about accessibility.

3. Methodology
Data were obtained through a two-part face-to-face survey conducted over two weeks in
October and November 2014 in a shopping centre located in the north-east of Spain. This mall
is currently the largest shopping centre in Spain and received the MAPIC 2013 award for the
world's best shopping and leisure development.

The questionnaire was administered by two interviewers, at two different moments of the
shopping experience, and at the two entrances to the commercial gallery of the mall, which
allowed us to record the participants' perceptions and emotions while they were experiencing
them (Lemke *et al.*, 2011). First, the interviewers approached mall visitors just before they
entered the shopping centre; for the second part of the survey, the participants were
approached at the end of their shopping experience, just after they had left the shopping
centre. In this way, data were collected from the same customers at two different moments,
allowing us to avoid the common method bias (Polites and Karahanna, 2012). The
participants were informed about the anonymous character of the interviews when they
approached at the entrance to the mall in order to reduce the possibility of them answering
our questions dishonestly. Furthermore, they were offered two free drinks as a reward for
their participation. We intercepted 264 mall shoppers, 231 of whom answered the two parts of
the questionnaire and 230 questionnaires were valid. Table 1 presents the sample's
characteristics of age, gender and frequency of visits to shopping centres. As the table shows,

Age (%)		Gender (%)		Frequency of visit (%)	
18–25	35.5	Women	70.1	< once/month	6.93
26–45	52.4	Men	29.9	2–3 times/month	45.45
45–64	11.3			4–5 times/month	31.60
≥ 65	0.9			>5 times/month	16.02

Table 1.
Description of the
sample

the respondents were mainly women between 18 and 45, and they visit the shopping centre between one and four times a month.

3.1 Variables

Promoter scoring is a variable based on the NPS proposed by Reichheld (2003). It was determined by one question related to the likelihood of recommendation: "Can you indicate how likely it is that you would recommend 'this firm/brand' to a friend or colleague? (0 = not at all likely, 10 = extremely likely)". Satisfaction was measured with three items on a seven-point Likert scale based on previous research (Mattila and Wirtz, 2001; Westbrook and Oliver, 1981).

Stress is a construct that consists of five indicators measured on a seven-point Likert scale following previous research (Baker and Wakefield, 2012).

Disconfirmation of expectations was calculated as the difference between perceptions and expectations. Previous research has recommended implementing this subtractive approach to measure disconfirmation directly (Pitt et al., 1995; Swan and Trawick, 1980). Consumers were asked about their expectations at the time of entering the mall, then, before leaving, they were asked about their perceptions with respect to crowding, search cost, and mall accessibility. These aspects were measured using a seven-point Likert scale.

Crowding is a construct that consists of eight items based on previous research (Baker and Wakefield, 2012; Eroglu et al., 2005; Machleit et al., 2000). Similarly, mall accessibility consists of four items that are based mainly on the findings of Ibrahim and Ng (2002) and have been adapted from Hart et al. (2007) and Kim et al. (2014). Customers gave their opinions about these aspects both as expectations and as perceptions. The values of the disconfirmation of expectations variable were between −6 (completely negative disconfirmation of expectations) and 6 (complete positive disconfirmation of expectations). A value of 0 indicates an exact match between expectations and perceptions. Because of this range of values, these constructs have been re-scaled on a seven-point Likert scale (see Table 2).

The Appendix presents a summary of the constructs and measures used for this study. The questionnaire also included other control variables, such as the frequency of the customer's visits to the mall and the day of the week. Frequency was a categorical variable following the classification of Table 1. A variable called "weekend" was created and included as a dummy variable that takes a value of 1 for questionnaires obtained on Friday afternoons and Saturdays and 0 for questionnaires obtained from Monday to Friday morning.

3.2 Common method bias and unobserved heterogeneity

A common method bias may result in serious problems. Harman's one-factor test was conducted, and we found that a single factor explained 29.9% of the variance, whereas, when considering the five factors of the model, the variance explained increased to 75.97%. Thus, the data does not have a common method variance problem. This problem was minimized because the data were collected at two different moments.

Unobserved heterogeneity may create biased results if the data contains groups that are latent. Latent class techniques were applied to identify and treat unobserved heterogeneity (Rigdon et al., 2011; Ringle et al., 2010; Sarstedt and Ringle, 2010). FIMIX-PLS (Finite Mixture Partial Least Square), a method to test the homogeneity of the sample, was applied. Results

	New scale	1	2	3	4	5	6	7
Table 2. Rescaling of the measure perceptions–expectations	Perceptions minus expectations	−6, −5	−4, −3	−2, −1	0	1,2	3,4	5,6

suggest that there were no problems of unobserved heterogeneity because, when the software tried to create two groups, one of them became too small to have the entity of a group. We concluded, therefore, that the sample complies with the homogeneity assumption.

4. Results

4.1 Descriptive results

According to Reichheld (2003), customers can be divided into promoters of the firm, satisfied customers and detractors of the firm, depending on their scores in the NPS: 9–10 for promoters, 6–8 for satisfied customers and 5 or less for detractors. Our results show that 145 customers were promoters, 73 were satisfied customers and 9were detractors. In our sample, the greatest proportion of customers is found in the group of promoters, so the sample is biased towards this type of customer. Only five percent were detractors. This was an expected result, as the selected shopping mall won the award for the world's best shopping and leisure development.

4.2 Measurement of construct validation

An exploratory factor analysis using varimax rotation in Statistical Product and Service Solutions (SPSS) was carried out to check the unidimensionality of all the constructs. Scales were purified. Since loadings for four of the eight items of crowding disconfirmation were below 0.6, these items were eliminated together with one item of stress and another of accessibility disconfirmation. After eliminating these, the Cronbach's alpha and average variance extracted (AVE) values improved for these constructs. Table 3 shows that the rest of the factor loadings are above 0.6 (Carmines and Zeller, 1979), and that the AVE is above 0.5 (Hair *et al.*, 2015). The reliability of the indicators for the reflective constructs was assessed

Items	Factor loadings	Cronbach`s alpha	Rho_A	AVE	Composite reliability
Satisfaction		0.93	0.94	0.88	0.95
Sat_1	0.91				
Sat_2	0.95				
Sat_3	0.96				
Stress		0.92	0.95	0.80	0.94
Stress_1	Eliminated				
Stress_2	0.93				
Stress_3	0.94				
Stress_4	0.93				
Stress_5	0.77				
Crowding (dis)confirmation		0.91	0.92	0.78	0.93
CEC_1	Eliminated				
CEC_2	0.81				
CEC_3	Eliminated				
CEC_4	0.88				
CEC_5	Eliminated				
CEC_6	0.94				
CEC_7	Eliminated				
CEC_8	0.91				
Accessibility (dis)confirmation		0.74	0.78	0.65	0.83
CEA_1	Eliminated				
CEA_2	0.86				
CEA_3	0.72				
CEA_4	0.77				

Table 3.
Validation of
measurement
constructs

through Cronbach's alpha, whose values should exceed a minimum value of 0.7 (Hair *et al.*, 2015; Nunnally, 1978)

Table 4 compares the square roots of the AVE (diagonal values) with the correlations between the reflective constructs. The results suggest that the measurement model was adequate in terms of discriminant validity. Additionally, we have calculated the heterotrait–monotrait (HTMT) ratio as another measure of discriminant validity (Table 4). All the values are below the threshold of 0.85 (Henseler *et al.*, 2015).

4.3 Hypotheses testing

SmartPLS 3 software (Ringle *et al.*, 2015) was used to assess the structural model, and the partial least squares (PLS) consistency estimation was used. Figure 2 shows the results of the conceptual model with the significant path coefficients. In PLS estimation, there is no global criterion that allows us to evaluate the overall model. The communality value measures the capacity of the manifest variable to describe the related latent variable. In this research, this measure ranged from 0.2 to 0.6. To test predictive relevance, the software provides the Q^2 (Stone, 1974; Geisser, 1974). Models with positive Q^2 values have high predictive relevance. All the endogenous constructs show positive values for the Q^2 test (Table 5). Although the Q^2 test is adequate for testing the goodness-of-fit for reflective constructs, its value should be treated with caution for the promoter scoring variable because promoter scoring is a single-item construct. Other fit values of the estimated model are the value of standardized root mean square residual (SRMR) that is 0.051; chi square value is 304.491 and the NFI (normed fit index) is 0.948. These values indicate a good fit of the model.

Figure 2 shows the results of the structural model. According to the results, positive disconfirmation of expectations about crowding has a positive effect on stress, supporting H1. Positive disconfirmation of expectations about accessibility has a negative and significant effect on stress, supporting H2. Satisfaction has a positive and significant effect on promoter scoring, supporting H3. Stress has a negative and significant effect on satisfaction, but it has a non-significant effect on promoter scoring; so, H4a is supported but H4b is not. To understand the non-significant effect of stress on promoter scoring, a mediation effect was examined following the methodology of Preacher and Hayes (2008) (see Tables 6–8). Stress has no direct effect on promoter scoring, but this is due to the total mediating effect of satisfaction.

Hypotheses 5 and 6 are related to the effects of disconfirmation of expectations on satisfaction and promoter scoring. The results show that disconfirmation of expectations about crowding impacts negatively on promoter scoring but not on satisfaction, supporting H5b but not H5a. However, positive disconfirmation of expectations about accessibility has a positive effect on satisfaction and on promoter scoring, so H6a and H6b are supported. Finally, a mediation effect of stress between the cognitive stimuli and customer behaviour is proposed. According to the results (see Tables 7 and 8), stress totally mediates the

	disc_access	disc_crowd	Promoter	Satisfaction	Stress
Accessibility disconfirmation	*0.783*	0.253	0.113	0.468	0.186
Crowding disconfirmation	−0.198	*0.884*	0.158	0.133	0.233
Promoter scoring	0.120	−0.152	*1.000*	0.531	0.196
Satisfaction	0.404	−0.127	0.513	*0.939*	0.319
Stress	−0.161	0.266	−0.194	−0.302	*0.896*

Table 4.
Discriminant validity

Note(s): Diagonal and in italics: Squared roots of AVE, Below diagonal: Correlations between variables. Above diagonal: HTMT ratio values
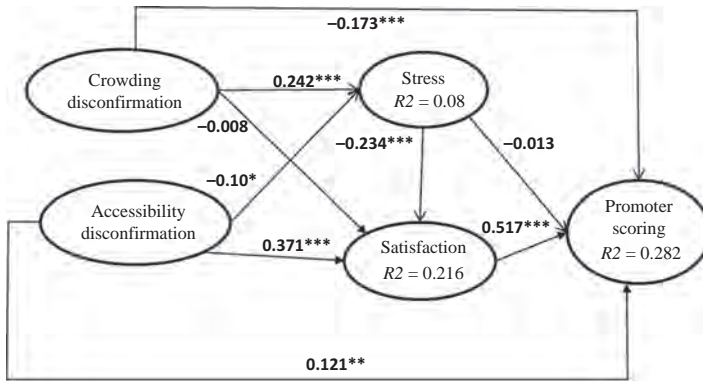
Note(s): ***significant at 0.001 level; **significant at 0.05 level and *significant
at 0.10 level

Figure 2.
Structural results

Dependent variables	Communality	Redundancy (Q^2)
Promoter scoring	1.0	0.253
Satisfaction	0.660	0.202
Stress	0.547	0.058

Table 5.
Goodness-of-fit
measures

Total effect		Direct effect of IVs		Indirect effect BC 95% confidence interval		
	Promoter scoring			Indirect effect	Low	Upper
Stress	−0.148**	−0.02	Total effect			
Satisfaction		0.554***	Satisfaction	−0.126	−0.211	−0.056

Note(s): ***significant at 0.001 level; **significant at 0.05 level; *significant at 0.10 level

Table 6.
Mediation effect of
satisfaction between
stress and promoter
scoring

Total effect		Direct effect of IVs		Indirect effect BC 95% confidence interval		
	Satisfaction			Indirect effect	Low	Upper
Crowding disconfirmation	−0.127*	−0.05	Total effect			
Stress		−0.288***	Stress	−0.076**	−0.167	−0.025
Access disconfirmation	0.405***	0.365***	Total effect			
Stress		−0.243***	Stress	0.039**	0.002	0.113

Note(s): ***significant at 0.001 level; **significant at 0.05 level; *significant at 0.10 level

Table 7.
Mediation effect of
emotions between
disconfirmation of
expectations and
satisfaction

relationship between satisfaction and disconfirmation of expectations about crowding, and it partially mediates the relationship between satisfaction and disconfirmation of expectations about accessibility, so H7a and H7b are supported. Related to the possible mediation effect of stress between disconfirmation of expectations and promoter scoring, the results show that stress does not exert any mediation effect, so hypotheses H8a and H8b are not supported. In the relationship between promoter scoring and disconfirmation of expectations, satisfaction is the aspect that exerts a mediating role. In this case, satisfaction exerts a partial mediation between disconfirmation of expectations about crowding and accessibility on promoter scoring. So, the final path seems to be the following: disconfirmation of expectations about crowding and accessibility directly influences promoter scoring and additionally generates stress that influences promoter scoring through satisfaction.

Of the control variables, frequency of mall visits has a positive and significant effect on NPS ($\beta = 0.093$ $t = 2.25$), but weekend has no significant effect ($\beta = 0.03$ $t = 0.560$).

5. Discussion
This article has the aim of examining the role of stress in retailing by analysing its consequences, its antecedents and its mediating role. Related to the consequences of stress on customer behaviour, two marketing outcomes have been examined: satisfaction and promoter scoring.

Stress is an emotional response that has rarely been included in previous research about customer emotions in the retailing context. The results suggest that stress has no direct effect on promoter scoring because its influence is wholly mediated by satisfaction. Stress decreases promoter scoring by decreasing satisfaction. This finding contradicts general results related to the emotions–loyalty link (Das and Varshneva, 2017; Pons et al., 2016) and the emotions–recommendations link (Jani and Han, 2015; Ladhari, 2007; White and Yu, 2005), although some research has found results that are in line with ours (Lee et al., 2008). Additionally, stress has a negative and direct effect on satisfaction. This result was expected, although it provides new evidence on the negative emotions–satisfaction link. Previous research has focused on the effect of positive emotions such as pleasure and arousal, finding controversial results. For example, Walsh et al. (2011) did not find evidence of the arousal–satisfaction link but they did for the pleasure–satisfaction link. On the other hand, Caro and García (2007) found an arousal–satisfaction link but not a pleasure–satisfaction link. Therefore, our findings provide new evidence on the emotions–satisfaction and emotions–loyalty (or positive recommendation) links by showing that negative emotions such as stress

Total effect	Promoter scoring	Direct effect of IVs		Indirect effect BC 95% confidence interval Indirect effect	Low	Upper
Crowding disconfirmation	−0.112*	−0.102*	Total effect	−0.08	−0.07	0.06
Stress		−0.02	Stress	−0.05	−0.04	0.02
Satisfaction		0.554**	Satisfaction	−0.03	−0.06	0.06
Access disconfirmation	0.296*	0.126*	Total effect	0.163	0.085	0.257
Stress		−0.02	Stress	0.020	−0.071	0.03
Satisfaction		0.55	Satisfaction	0.144	0.08	0.25

Note(s): ***significant at 0.001 level; **significant at 0.05 level; *significant at 0.10 level

Table 8.
Mediation effect of stress and satisfaction between disconfirmation of expectations and promoter scoring

may influence satisfaction in a different way to their influence on loyalty, corroborating previous research (Lee *et al.*, 2008; Das and Varshneva, 2017).

Additionally, this paper also investigated the effects of disconfirmation of expectations as antecedents of stress. According to our results, stress implies individual activation caused by higher crowding perceptions and worse mall accessibility than expected (Baker and Wakefield, 2012; Lucia-Palacios *et al.*, 2018; Machleit *et al.*, 2000). Results relating to disconfirmation of expectations about crowding are like those that consider crowding perceptions; in both cases, findings show a positive influence on stress (Baker and Wakefield, 2012; Eroglu *et al.*, 2005; Hui and Bateson, 1991). Disconfirmation of expectations about crowding has a negative and direct effect on promoter scoring. This aspect also influences customer satisfaction through the generation of stress. With respect to the disconfirmation of expectations about accessibility, our results are in line with those of Hart *et al.* (2007) who also found that good access to the mall, characterized by fluid traffic and easy navigation inside the mall, leads to a more enjoyable shopping experience. Our results show that good access leads to less stress and has a direct influence on promoter scoring and satisfaction. Mall accessibility seems to be a key aspect of the mall that may help mall managers increase the proportion of promoters among its visitors. This provides us with empirical evidence of the importance of mall accessibility (Hart *et al.*, 2007; Sujan *et al.*, 1999).

Regarding the third objective of this paper, we have found that stress also exerts a partially mediating effect between satisfaction and disconfirmation of expectations about (1) crowding and (2) mall accessibility. However, stress has no mediating effect on promoter scoring. This is because the effect of stress is wholly transmitted through a decrease in customer satisfaction that is a direct antecedent of promoter scoring. These results were partially unexpected as, according to the cognitive-affective model, emotions or customer emotional response should mediate between the stimuli and the customer response. Our findings corroborate those models when satisfaction is analysed as the customer response, which has also been found in previous research (Machleit *et al.*, 2000; Morrison *et al.*, 2011). However, when promoter scoring is the response analysed, the effect of the stimuli is mediated by customer satisfaction with no mediating effect of stress, which is contrary to previous research (Chen *et al.*, 2015; DeWitt *et al.*, 2008; Lucia-Palacios *et al.*, 2020; Jang and Namkung, 2009). Our result is not too controversial as there are previous findings that are in line with ours. For example, Lee *et al.* (2008) found no mediation effect of negative emotions between stimuli and loyalty, but they found that positive emotions do have a mediating effect.

The present article makes several contributions to research on marketing and retailing. It contributes to the marketing literature by providing more evidence of the role of stress in retailing: its behavioural consequences, some of its antecedents and its mediating role. As consequences of stress, satisfaction and promoter scoring are analysed. Although the outcome of satisfaction has been frequently analysed in marketing research, little is known about promoter scoring. Thus, this article contributes by providing more evidence about the stress–satisfaction and new evidence about the relationship between stress and promoter scoring. Although no emotional response (stress) directly influences promoter scoring, the findings suggest that its effect cannot be undervalued as it is an important cause of customer dissatisfaction.

Finally, while perceptions of the mall environment have attracted attention as antecedents of stress, little is known about the effect of disconfirmation of expectations about the mall environment. This paper provides new evidence about the importance of this aspect to the generation of negative emotions. Therefore, the article contributes by highlighting the role of expectancy-disconfirmations both on stress and on a less common marketing outcome: promoting scoring. The results also provide new evidence of the mediating effect of stress between disconfirmation of expectations and satisfaction. This mediation effect is not exerted on promoter scoring, a relationship not tested previously, so our finding adds to the debate

about whether there is any type of negative customer emotional response that can directly influence active recommendation or that can act as a mediator.

Thus, this study's results expand on previous research that has found a moderating role of positive emotions in retailing between cognitive stimuli and consumer responses and behaviours.

5.1 Implications for managers

Our findings have important implications that are likely to be of interest to mall managers. According to our results, managers should not ignore the stress suffered in relation to crowding and accessibility as this negative emotional response reduces customer satisfaction, and hence promoter scoring. Customers who provide high promoter scoring are characterized by a combination of high levels of satisfaction and their expectations having been exceeded. Therefore, we suggest that managers focus on exceeding customer expectations regarding mall accessibility and ensure that customers experience a lower level of crowding than they expected, as this has a direct impact on satisfaction and active recommendation. Organizing traffic in order to make getting to and leaving the mall easier is a valuable initiative that can improve customers' shopping experience. Therefore, managers should not only help customers access the mall but also inform them about peak hours, so that customers can avoid traffic jams and very crowded environments or at least be prepared for these situations. For that purpose, new technologies or artificial intelligence can be used. Mall managers could create an app to offer information about the level of crowding of the mall and the density of traffic in each access (Al-Sakran, 2015; Khan *et al.*, 2020) to diminish the negative confirmation of expectations about this aspect. Furthermore, mall managers could offer incentives or inform customers about the different ways in which to access the mall, such as by bus, bicycle or public transportation, so as to avoid the use of cars (Brown *et al.*, 2013; East *et al.*, 2017; Fotiadis, 2016). To reduce seasonal variations in the number of visitors, mall managers could organize events during off-peak times or long-term events (for example, events that last for a whole week) to ensure a more stable and equal distribution of visits throughout the week instead of a high proportion of visits on weekends only. Mall managers can reduce perceptions of crowding directly by building wide aisles, increasing lighting, adding vegetation and controlling temperature (Afaq *et al.*, 2020). Furthermore, they can provide customers with services and resting zones where they can relax and have fun, thereby counteracting the stressful effects of crowding (Mehta, 2013; Lucia-Palacios *et al.*, 2020). Mall managers could determine the more crowded areas by using new technologies such as Wifi or GPS tracking, and examining the trajectory and the customer circulation in the mall. They can also influence perceived crowding by changing the circulation layout as suggested by previous research (Park and Zang, 2019).

5.2 Limitations and further research

Although this research has several theoretical and empirical implications for mall managers, there are some limitations, as well as recommendations for further research. First, the results and conclusions are obtained from a limited number of observations. Enlarging the sample in future research would enable better generalization of the results. Second, the research has focused on only one customer emotional response. However, other customer emotional responses, both negative and positive, could be examined, such as pleasure, anger or frustration. Future research could also analyse the moderating effect of some situational aspects, such as the day of the mall visit, or of individual traits, such as customer's goals, because these aspects could modify the relationship between satisfaction or promoter scoring and cognitive and affective variables.

6. Conclusion

Stress is an emotional state that can be relevant during the shopping experience at malls. This article demonstrates the negative consequences of stress on customer satisfaction and the NPS measures that are useful for management decisions in shopping centres. Two of the main causes of stress are customers' perceptions of crowding and accessibility. The article investigated the effects of these aspects by considering the differences between shoppers' expectations about crowding and accessibility and their actual perceptions once they have experienced the visit to the mall. The findings show that greater disconfirmation leads to greater stress and diminishes the mall NPS. As a consequence, managers must take into consideration their customers' perceptions of these variables, for instance by providing wide aisles and regulating traffic; they should also manage customer expectations by keeping their customers informed about crowding levels and access possibilities.

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Appendix

Items	Description
Net Promoter Score (Reichheld, 2003) from 1 to 10	
Can you indicate how likely it is that you would recommend this mall to a friend or colleague?	
Satisfaction	
I have really enjoyed going to the mall	
I am satisfied with my shopping visit in the mall	
Coming to this mall has been a good decision	
Stress (Baker and Wakefield, 2012)	
	How often did you experience the following sensations in the mall?
ST1	Frenzy
ST2	Tension
ST3	Anxiety
ST4	Nervousness
ST5	Acceleration
Expectations: I expect that . . . / Perceptions: In the mall I perceived that. . .	
Crowding (Baker and Wakefield, 2012; Eroglu *et al.*, 2005; Machleit *et al.*, 2000)	
CEC_1	There were a lot of clients
CEC_2	I felt strained
CEC_3	There were not many people during my visit
CEC_4	It was crowded
CEC_5	I felt constrained
CEC_6	I felt saturated
CEC_7	It appeared to be an open and airy space
CEC_8	It seemed to me that it was a very spacious place
Accessibility (adapted from Hart *et al.*, 2007; Ibrahim and Ng, 2002; Kim *et al.*, 2014)	
CEA_1	I can move through the mall easily
CEA_2	I can get in/out of the mall quickly
CEA_3	I can get in/out of the mall easily
CEA_4	The mall accesses are not crowded /absence of congestion

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