

Linking Atmospheric to Shopping Outcomes: The Role of the Desire to Stay

Abstract

This study relies on the Stimulus-Organism-Response (S-O-R) paradigm to explore the mediating role of the desire to stay at the shopping mall in the relationship between shopper positive attitudes towards three atmospheric cues (color schemes, lighting, and music) and the shopping outcomes of shopper satisfaction, positive Word-of-Mouth (WOM) and patronage intentions. Moreover, the study elaborates on the path from the desire to stay to positive WOM and patronage intentions by considering the mediating role of shopper satisfaction. A survey-based study comprising a sample size of 451 mall shoppers has been developed to test the proposed research model. The results indicate that the desire to stay mediates the relationship between shoppers' positive attitudes towards color schemes and music, on one hand, and shopper satisfaction and positive WOM, on the other hand. Although the desire to stay has a direct effect on positive WOM, it does not directly impact patronage intention. However, the latter path becomes significant when considering the mediating role of shopper satisfaction, **indicating that satisfying mall stays** enhance desirable outcomes. Based on these findings, implications for theory and retailers are discussed.

Keywords: Atmospheric; Desire to stay; Shopper satisfaction; Word-of-Mouth; Patronage intentions; Shopping Malls.

Introduction

Despite the decline of shopping malls (Lee et al., 2018), these retail venues remain top destinations for in-store shopping in many regions across the globe (Calvo-Porrall and Lévy-Mangín, 2018; Rahman et al., 2016). However, the retail landscape is rapidly evolving (Grewal et al., 2017), and both the stiff competition among different market formats and the growth of online shopping are shaping a complex and critical situation for shopping malls (Chotipanich and Issarasak, 2017). Retailers try to differentiate from

competitors by providing a pleasant shopping experience (El Hedhli et al., 2016; Terblanche, 2018). Enhancing mall trip value leads to more satisfied shoppers, with higher levels of approach behaviors (Haytko and Baker, 2004; Paul et al., 2016), and helps mall managers maintain a satisfactory performance. Store atmospherics are key background conditions that shape store ambiance and impact consumers' sensory experience and in-store shopping behavior (Elmashhara and Elbishbishy, 2020; Roggeveen et al., 2020).

Atmospherics research has looked at different positive responses to store environment such as customer satisfaction, positive Word-of-Mouth (WOM), and patronage intentions (Burlison and Oe, 2018; Davis, 2013; Elmashhara and Soares, 2020a; Moye and Kincade, 2003; Roschk et al., 2017). In addition, several variables have been researched as mediators in the path from shopper positive attitudes towards atmospheric cues to these outcomes, such as shopper emotional states (Das and Varshneya, 2017; Sachdeva and Goel, 2015), store and merchandise evaluations (Mehta et al., 2013), shopping values (Vukadin et al., 2018), and customer satisfaction (Lloyd et al., 2014).

The desire to stay at the shopping area is one of the most relevant approach behaviors (Bitner, 1992; Turley and Chebat, 2002) that can lead to critical indicators such as patronage intention (De Nisco and Warnaby, 2013). Previous research has shown that satisfaction predicts shoppers' desire to stay in shopping malls (Lloyd et al., 2014; Siu et al., 2012). Research on shopping motivations has shown that the desire to stay in shopping areas is also linked to other antecedents, such as service quality (De Nisco and Warnaby, 2013), service convenience (Lloyd et al., 2014), social (Martin and Turley, 2004), emotional (Elmashhara and Soares, 2020a; Sherman et al., 1997), aesthetic, environmental (Sherman et al., 1997; Vukadin et al., 2018), demographic background and visit-related factors (Santoso et al., 2018). However, scarce attention has been given to the potential effect of atmospherics on the desire to stay at the shopping mall (Sherman et al., 1997; Siu et al., 2012), and, more importantly, to the potential mediating role of this factor in shaping the relationship between atmospheric cues and shopping outcomes.

Specifically regarding the link between satisfaction and the desire to stay, previous research findings suggest two different perspectives on this relationship. The first is that higher levels of satisfaction lead to several behavioral responses, including the desire to stay in

the shopping area. This link has been investigated (Lloyd et al., 2014; Siu et al., 2012). However, an alternative view is that the desire to stay at the mall is explained by factors other than satisfaction, including the surrounding environment, for example. This being the case, the desire to stay will not impact other approach behaviors unless it is enhanced by higher satisfaction levels, which in turn lead to other desired outcomes. Based on the above discussion, it is crucial to examine the effect of the desire to stay on critical shopping outcomes such as positive WOM and patronage intentions, and investigate the mediating role of shopper satisfaction in the relationship between the desire to stay and these outcomes.

Thus, the purpose of this paper is twofold: we explore the mediating role of the desire to stay at the shopping mall in the relationship between shopper positive attitudes towards atmospheric cues of color schemes, lighting, and music, on the one hand, and the behavioral responses of shopper satisfaction, positive WOM and patronage intention, on the other hand. Furthermore, we examine how the desire to stay directly and indirectly contributes to other shopping outcomes, considering the mediating role of shopper satisfaction. Testing these effects can contribute to clarify how atmospherics can be used to increase the desire to stay at shopping outlets, and how to build on this desire to improve referral behaviors and mall patronage. Clarifying these relations can help mall managers and retailers design better strategies to increase patronage intentions and other outcomes, such as positive WOM. WOM, in particular, is one of the most relevant forms of promotion and communication, since consumers see it as a source of independent and reliable information (Iyer et al., 2017; Laroche et al., 2005; Saleem et al., 2018).

We start by addressing the role of three atmospheric cues (color schemes, lighting, and music) in increasing shoppers' desire to stay at the mall. We then examine the mediating effect of the desire to stay between attitudes towards these atmospherics and shopper satisfaction, positive WOM, and patronage intentions. Finally, we suggest that the paths from the desire to stay to positive WOM and patronage intentions are mediated by shopper satisfaction. This discussion and the relationships studied in this paper rely on the Stimulus-Organism-Response (S-O-R) paradigm (Mehrabian and Russell, 1974), which explains that stimulation and human behavior (reaction, action) are linked by an organismic

component that can be learning, perception, emotion, motivation and thinking (Buxbaum, 2016).

The remainder of this paper is structured as follows. To provide the theoretical background for our study, we start by reviewing the literature leading to the proposed conceptual model. This is followed by an explanation of the methodological approach. Then, the results of the study are presented. Finally, we conclude with the discussion of our main findings, highlighting the implications of our study, and suggesting directions for further research.

Theoretical background

Color schemes, lighting, and music as part of mall atmosphere

Prior research has shown that retailers modify the shopping atmosphere to enhance in-store behavior and promote desired outcomes (Babin and Darden, 1995; Francioni et al., 2018). Our study is grounded in the S-O-R paradigm (Mehrabian and Russell, 1974), according to which behavior responses (R) are the result of influences that stimulate (S) the individual (O). This approach was proposed by environmental psychologists and is useful to understand how a recipient behaves according to a set of stimuli. Prior research on retailing has supported the role of atmospherics as a stimulus on a set of consumer behavioral outcomes (Alavi et al., 2016; Atulkar and Kesari, 2017; Bassi, 2018; Biswas et al., 2014; Lee et al., 2018).

Color schemes, lighting, and music are atmospheric cues used by retailers and are well recognized in marketing research (Ainsworth and Foster, 2017; Babin and Attaway, 2000; Biswas et al., 2017; Petruzzellis et al., 2014). Color has been used to produce an image or an ambiance and is a powerful design area tool that can be used to draw customers in (Chebat and Morrin, 2007; Krishna et al., 2017). Previous research also emphasizes the central role played by lighting in creating atmosphere (e.g., Custers et al., 2010; Quartier et al., 2014). Several studies investigate the common influence of both variables – color and lighting – in enhancing the shopping experience (Babin et al., 2003; Tantanatewin and Inkarojrit, 2016).

With respect to music, this has been deemed one of the least expensive tool to enhance shoppers' perceptions (Grewal et al., 2003). Previous research supports the effect of music on shoppers' emotions and cognitions (Petruzzellis et al., 2018), mood and experience evaluation (Cameron et al., 2003; Roschk et al., 2017), intention to return (Harrington et al., 2015), impulse buying (Morrin and Chebat, 2005), and other outcomes (for a review, see Michel et al., 2017). The common effect of music and other atmospherics, such as lighting (Baker et al., 1992) and scent (Morrison et al., 2011), have been also investigated. In general, these studies show that positive attitudes towards these variables are linked to the willingness to buy and overall satisfaction.

Desire to stay at the mall

The desire to stay is a focal variable impacting shopping outcomes, both directly and indirectly (De Nisco and Warnaby, 2013; Martin and Turley, 2004; Wakefield and Baker, 1998). Previous research has looked at the role of the desire to stay as an approach behavior (Mehrabian and Russell, 1974). The desire to stay can occur due to higher levels of satisfaction. In this context, Siu et al. (2012) discussed how various servicescape elements increase shopper satisfaction levels, which can lead to a higher desire to stay in convention and exhibition centers. Similarly, Lloyd et al. (2014) discussed the mediating role of shopper satisfaction between mall service convenience and the desire to stay. Other studies found other antecedents of the desire to stay in the shopping area. Martin and Turley (2004) found that social motivations increase shopper desire to stay within mall environs, and lead to higher repatronage intentions. Moreover, Wakefield and Baker (1998) found that tenant variety, physical environment, involvement with shopping, and excitement influence the desire to stay at the mall, which in turn increases mall repatronage intention. Similarly, De Nisco and Warnaby (2013) discussed how positive consequences of service quality influence the desire to stay in town centers, which in turn impacts repatronage intentions. Furthermore, all mall general interior variables, permanent entertainment, temporary and special event entertainment, and shoppers' positive emotions increase the desire to stay at the shopping mall — hence making shopping a relaxing and emotional activity (Elmashhara and Soares, 2020b, 2020a). However, scarce attention has been given to the effect of visual and sound cues on the desire to stay in the shopping area. Shopper's positive

attitudes towards several environmental factors, such as social interaction (Martin and Turley, 2004), involvement, and variety (Wakefield and Baker, 1998) positively influence the desire to stay. Accordingly, we expect that positive attitudes towards atmospheric cues, such as color schemes, lighting, and music, also have a positive effect on this factor. Particularly, the desire to stay is expected to mediate the relationship between attitudes towards these atmospheric cues and other behavioral outcomes that concern retailers, in particular shopper satisfaction, positive WOM, and patronage intentions.

Shopper satisfaction

Customer satisfaction is a well-recognized outcome in retail studies (Dawson et al., 1990; Kwon et al., 2016; Spreng and Mackoy, 1996) which has been found to influence other behaviors, such as loyalty (Platanina et al., 2016), purchase intention (Liao et al., 2017), positive WOM (Carpenter, 2008), and patronage intentions (Nair, 2018). Shopper satisfaction is not necessarily a result of acquiring products (Yüksel, 2007). Environmental and emotional factors can also lead to satisfaction (Alnawas and Hemsley-Brown, 2018; Jang and Namkung, 2009; Patel and Sharma, 2009). Ladhari et al. (2017) divided satisfaction into emotional and product perceptions. In the non-product context, several social (Pan and Zinkhan, 2006) and recreational (Elmashhara and Soares, 2020b) factors have been suggested to influence customer satisfaction in shopping areas. However, the retail atmosphere was also found to predict satisfaction levels. In this vein, Aina et al. (2016) noted the effect of atmospherics on satisfaction, and Garaus (2017) found store satisfaction to be higher with more atmospheric harmony. Teller (2008) acknowledged that both mall atmosphere and tenant mix influence shopper satisfaction. In what concerns the studied atmospheric cues, Roschk et al. (2017) reported that visual effects such as cool colors positively influence satisfaction. Mattila and Wirtz (2001) suggested that music matching the arousing dimensions of store scent leads to enhanced satisfaction levels.

Several studies show that the path from atmospherics to shopper satisfaction is explained by the presence of several mediators such as hedonic and utilitarian values (Garaus, 2017), mall value (El-Adly and Eid, 2016), and shopper emotions (Mattila and Wirtz, 2001; Morrison et al., 2011). The mediating role of the desire to stay between shopper positive

attitudes towards atmospherics cues and satisfaction has not been discussed before. We argue that the desire to stay at the mall can be instrumental in allowing atmospherics such as color schemes, lighting, and music to increase shopper satisfaction levels. Thus, and using guidance on hypotheses formulation from Singleton and Straits (2017) and Hayes (2013), the following is proposed:

H1a: The desire to stay mediates the relationship between positive attitudes towards color schemes and shopper satisfaction.

H1b: The desire to stay mediates the relationship between positive attitudes towards lighting and shopper satisfaction.

H1c: The desire to stay mediates the relationship between positive attitudes towards music and shopper satisfaction.

Positive WOM

Westbrook (1987, p. 261) defined WOM as “informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers”. WOM can be positive, neutral, or negative (Amezcuca and Quintanilla, 2016; Lloyd et al., 2014; Mukerjee, 2020). Our study focuses on positive WOM. Prior retailing research uncovered several antecedents of WOM. In this regard, Saleem et al. (2018) found that relationship quality, service quality, brand image, and perceived service value impact WOM. El Hedhli et al. (2013) documented the effect of shopping well-being on both mall loyalty and positive WOM. Furthermore, Das and Varshneya (2017) found consumer emotions to be also a predictor of positive WOM. Although we could not find any research directly looking at whether the desire to stay at the shopping area influences positive WOM, previous research indicates that positive outcomes such as customer satisfaction and patronage behavior increase positive WOM (Blut et al., 2018). Based on that, the desire to stay at the mall, as a positive shopping outcome, is also expected to lead shoppers to refer positively to their shopping experience and the visited shopping area. Moreover, although some research has documented the effect of store environment on WOM, this path is not direct, for it is mediated by several variables, including satisfaction, hedonic values (Laroche et al., 2005), shopping well-being (El Hedhli et al., 2013), mall

image (Chebat et al., 2010), or perceived service quality, approach and avoidance intentions (Brocato et al., 2012). In this paper, we argue that the desire to stay could also play a mediating role between shopper positive attitudes towards the three studied atmospheric cues and positive WOM. Hence:

H2a: The desire to stay mediates the relationship between positive attitudes towards color schemes and positive WOM.

H2b: The desire to stay mediates the relationship between positive attitudes towards lighting and positive WOM.

H2c: The desire to stay mediates the relationship between positive attitudes towards music and positive WOM.

Patronage intentions

Patronage intentions are considered as one of the most critical outcomes in retail context (Babin et al., 2004; Babin and Darden, 1996; Elmashhara and Soares, 2019; Watson et al., 2020). Marketing research has revealed a large number of antecedents that influence patronage intentions: store attachment (Badrinarayanan and Becerra, 2019; Nair, 2018), perceived crowding, emotions, store evaluation (Mehta et al., 2013), atmospheric harmony (Garaus, 2017), emotional satisfaction, product perceptions (Ladhari et al., 2017), image (Kan et al., 2014), and trust (Silva et al., 2019). Moreover, Wakefield and Baker (1998) indicated that the desire to stay at the mall influences repatronage intention. However, a weak relationship between these two constructs was found in De Nisco and Warnaby's (2013) study, thus stressing the need for further research on this relationship. Previous research has also discussed the path from different store environmental cues to patronage intentions (Burlison and Oe, 2018; Moye and Kincade, 2003). This path was indirect and found to be mediated by several factors, such as customer satisfaction (Blut et al., 2018), store satisfaction, shopping value (Garaus, 2017), store choice criteria (Baker et al., 2002), and emotional states (Kim et al., 2020; Petruzzellis et al., 2014). Since the desire to stay is found to influence patronage intentions (Martin and Turley, 2004; Wakefield and Baker, 1998), this factor is also qualified to explain the path from positive attitudes towards the

studied atmospheric cues and patronage intentions. Based on that, the following hypotheses are proposed:

H3a: The desire to stay mediates the relationship between positive attitudes towards color schemes and patronage intentions.

H3b: The desire to stay mediates the relationship between positive attitudes towards lighting and patronage intentions.

H3c: The desire to stay mediates the relationship between positive attitudes towards music and patronage intentions.

The potential mediating role of satisfaction

Satisfaction influences both outcomes of positive WOM and patronage intentions. Lloyd et al. (2014) found that customer satisfaction influences WOM for both low and high economic time value shoppers. Similarly, Vega-Vázquez et al. (2015) found that tourist shopping satisfaction positively influences WOM. Shaikh et al. (2018) supported the same relationship at the discount retailer level, and Carpenter (2008) found that satisfaction enhances WOM of Wal-Mart shoppers.

Regarding patronage intentions, prior research shows that this outcome is influenced by store satisfaction (Garaus, 2017), and emotional satisfaction (Ladhari et al., 2017). Moreover, Alavi et al. (2016) found that the level of satisfaction influences patronage intention at shopping mall level. The same relationship has been observed at the hypermarket level (Atulkar and Kesari, 2017). Several studies conducted in different retail contexts provide evidence of the significant effect of satisfaction on patronage intentions (Ali, 2016; Chan et al., 2017; Tsiotsou, 2006). As mentioned previously, (1) the desire to stay as a positive shopping outcome is expected to enhance other positive outcomes such as positive WOM; however, there is a lack of research on assessing this relationship. Moreover, (2) previous research remains inconclusive on the positive path from the desire to stay to other shopping outcomes, such as the case of patronage intentions in De Nisco and Warnaby's (2013) study. Considering shopper satisfaction as a mediator between the desire to stay and other shopping outcomes may further illustrate the nature of this

relationship. The mediating role of customer satisfaction has already been an indicator of several paths (Chebat et al., 2014b; Cronin et al., 2000; Hutchinson et al., 2009; Kim et al., 2015; Vega-Vázquez et al., 2015). Based on that, we expect that relationship to hold in assessing the mediation of satisfaction in the relationship between the desire to stay and other outcomes, namely positive WOM and patronage intentions. Building on this, the following hypotheses are proposed:

H4. Satisfaction mediates the relationship between the desire to stay at the mall and positive WOM.

H5. Satisfaction mediates the relationship between the desire to stay at the mall and patronage intentions.

The research model (Figure 1) sums up the proposed hypotheses. This model builds on the S-O-R theory and, in essence, postulates that positive attitudes towards mall color schemes, lighting, and music influence consumer behavioral responses through the desire to stay at the mall. Moreover, it assumes that the relationship between the desire to stay and other outcomes is mediated by shopper satisfaction.

Insert Figure 1 here

Method

Data collection

In order to test the proposed model, an online survey was developed. The questionnaire was applied to a sample of regular shoppers of four shopping malls with a comparable offer of shops, tenant mix, and facilities in the north of Portugal. In particular, the chosen malls provide a similar range of entertainment venues and public spaces for non-purchasing visitors. A list of contacts provided by these malls and a snowball sampling have been used to target respondents who regularly shop in the studied malls. In line with previous research in this area, the respondents were asked to answer the questionnaire based on their shopping experience in the mall that they visited the most (Duarte et al., 2018; El-Adly, 2007; Elmashhara and Soares, 2020a; Foster and McLelland, 2015; Ozer and Gultekin, 2015). First, respondents were given a brief introduction to the aim of the study. Then, two filter

questions were used both (1) to ensure that the respondents consider their chosen mall as one of their most frequent shopping destinations, (2) and to make sure that they had a recent shopping journey in the selected mall by asking if they shopped there in the previous week. Respondents who answered negatively to any of these two questions were excluded from our sample. Finally, after answering the questionnaire, respondents were asked to provide another contact person if possible.

Scales and pre-test

Our research model includes seven main factors: level of shopper positive attitudes towards (1) color schemes, (2) lighting, and (3) music. These factors are measured by adapting the existing scales of Ainsworth and Foster (2017), Vukadin et al. (2018), and Wakefield and Baker (1998), and asking respondents to rate their attitude towards mall colors, lighting, and music using a 5-point Likert scale (examples: I like the color in this mall / The colors in this mall make me feel good / I really like this mall's use of color). (4) The desire to stay at the mall refers to whether shoppers like to stay as long as possible, and if they enjoy spending time at the mall. Two items adapted from Wakefield and Baker (1998) were used to measure this factor. (5) Shopper satisfaction measures if shoppers are satisfied with their decision to visit the shopping mall, if their decision was wise, if the mall meets their expectations, and if it was the right thing to visit the mall. Four items from Kwon et al. (2016), and Teller (2008) were used to measure shopper satisfaction. (6) Positive WOM captures shopper intention to recommend the shopping mall, and if they do not hesitate to speak favorably about it. To measure this factor, two items from El Hedhli et al. (2013) were adapted. Finally, (7) patronage intentions indicate the intention to revisit the mall, to buy products at this mall in the future, and to recommend the mall to friends. Three items from Grewal et al. (2003) were adapted to measure this factor. Table 1 provides in detail the items used to measure each factor.

The questionnaire was reviewed by two consumer behavior researchers. Subsequently, a pre-test was conducted with 11 volunteers with previous shopping experience in the studied shopping malls to check the survey instrument, and to rule out potential comprehension issues, sensitive questions, etc.

Data analysis procedures

To test the proposed model, the data obtained were analyzed using the statistical software AMOS 23.0. We started by checking the model fit using Confirmatory Factor Analysis (CFA). Next, Structural Equation Modeling (SEM) was used to test the proposed hypotheses.

Results

The study's initial sample consisted of 451 respondents. However, only 429 questionnaires were analyzed, since 22 of them were considered outliers by the Mahalanobis *d*-squared test. Sample demographics of the final analyzed sample show that 59.2 percent are female, 43.8 percent are married or in a domestic partnership, and 35 percent are above 40 years of age. Education-wise, 76 percent of the participants attended some college, graduated from college, or had post-graduate education.

Assessment of the measurement model

CFA of the original items did not indicate an acceptable model fit. To correspond to the thresholds recommended by Schreiber et al. (2006), a series of purification processes, including the exclusion of outliers based on the Mahalanobis *d*-squared test, were conducted. This process led to an acceptable model fit: $\chi^2=375.822$, $df=149$, $\chi^2/df=2.522$, CFI=0.970, TLI=0.962, IFI=0.971, RMR=0.024, SRMR=0.0351, RMSEA=0.060 [90% CI=0.052; 0.067]. Additionally, a reliability analysis was carried out on the 20 indicators. Cronbach's alpha values exceeded the recommended threshold of 0.70 (Netemeyer et al., 2003), and composite reliability scores surpassed 0.90 for all the constructs, providing additional evidence for reliability. Furthermore, Average Variance Extracted (AVE) varies from 0.80 to 0.93, exceeding the minimum cut-off of 0.5 (Fornell and Larcker, 1981), thus confirming the convergent validity of each latent construct (Table 1). Multicollinearity has been examined by computing tolerances and Variance Inflation Factor (VIF) values. The calculated tolerances values were above the recommended threshold of 0.1, and VIFs were less than the cut-off of 5 (Hair et al., 2011), indicating that there are no multicollinearity issues in the data. In the end, discriminant validity was assessed based on the criterion of

Fornell and Larcker (1981). The results demonstrate that the square root of each AVE is greater than its corresponding correlations, thus evidencing discriminant validity (Table 2).

Insert Table 1 here

Insert Table 2 here

Assessment of the structural model

To test the proposed hypotheses, SEM was estimated. Firstly, and in accordance with Schreiber et al. (2006) cut-off values, our results indicate a good fit between the model and the observed data: $\chi^2=409.722$, $df=153$, $\chi^2/df=2.678$, CFI=0.966, TLI=0.958, IFI=0.967, RMR=0.027, SRMR=0.0398, RMSEA=0.063 [90% CI=0.055; 0.070].

Regarding the proposed hypotheses, the mediation effect model (Table 3) shows that the desire to stay at the mall mediates the impact of positive attitudes towards color schemes and music on shopper satisfaction — thus, H1a and H1c are supported, while H1b is not, since this mediation role was insignificant in the case of positive attitudes towards lighting. Similarly, the relationships between positive attitudes towards color schemes and music and positive WOM are mediated by the desire to stay; however, the desire to stay does not mediate the path from positive attitudes towards lighting to positive WOM — hence, H2a and H2c are supported, while H2b is not. In what concerns the path from positive attitudes towards all the studied atmospherics and patronage intention, the results indicate no significant mediating effect of the desire to stay — thus, H3a, H3b, and H3c are not supported. Finally, regarding the mediating role of shopper satisfaction, our results indicate that this factor mediates the relationship between the desire to stay at the mall, on the one hand, and both positive WOM and patronage intentions, on the other hand — based on that, H4 and H5 are thus supported. It is worth mentioning that while the direct effect of the desire to stay on positive WOM is significant, it does not influence patronage intentions unless shopper satisfaction is considered as a mediator (Table 4 summarizes the results about direct and indirect relationships).

Insert Table 3 here

To better illustrate the nature of the relationship between desire and the outcomes of positive WOM and patronage intentions, the bootstrapping method is used to examine the direct, indirect, and total effect. Table 4 sums up the results of the decomposition analysis for the impact of the desire to stay on positive WOM and patronage intentions. These results indicate that both the direct and indirect paths are significant, providing additional support to H4. However, the results indicate that the direct effect (0.232) is slightly stronger compared to the indirect effect (0.188). Moreover, Table 4 supports H5 by also demonstrating the significant effect of shopper satisfaction as a mediator between the desire to stay and patronage intentions. However, the direct path between these two factors is not significant, indicating that a satisfactory stay may lead to higher levels of patronage intentions.

Insert Table 4 here

Discussion and conclusion

Marketing research has identified different types of antecedents of the desire to stay in shopping venues (e.g., Chebat et al., 2014; De Nisco and Warnaby, 2013; Santoso et al., 2018). In this paper, we start by addressing how some visual and sound atmospheric cues contribute to the desire to stay. Then, we discuss how the desire to stay mediates the relationship between these atmospheric cues and the shopping outcomes of shopper satisfaction, positive WOM, and patronage intentions. Moreover, we discuss the nature of the relationship between the desire to stay, on the one hand, and positive WOM and patronage intentions, on the other hand, considering the mediating role of shopper satisfaction. These findings reinforce the idea that the desire to stay at the mall does not necessarily lead to other positive behavioral responses without the mediation of satisfaction in the path from the desire to stay to these responses. In short, getting customers to revisit and speak favorably about the shopping venue is not merely a function of the desire to stay, but more a matter of the degree of satisfaction regarding this stay.

Concerning the mediating role of the desire to stay (H1-H3), the results indicate that this desire can be added to the mediators that shape the relationship between shopper positive attitudes towards atmospheric cues of color schemes and music, on the one hand, and

shopper satisfaction and positive WOM, on the other hand. Similar results were found by Vukadin et al. (2018), whose study supported the effect of pleasant music and comfortable ambient temperature on shopper response, including the desire to stay. In a similar vein, Roschk et al. (2017) found cool colors to increase satisfaction levels, and Tantanatewin and Inkarojrit (2016) examined the use of a mix of lighting and colors as an important technique in retail design. However, to the best of the authors' knowledge, the role of the desire to stay in linking the effect of these atmospherics with satisfaction and positive WOM was not examined before.

None of the studied atmospherics demonstrated a significant direct effect on patronage intentions. Our findings differ from Babin et al. (2003), who reported that shopper attitudes towards different types of color and lighting affect evaluations, store patronage intentions, and purchase intentions. These authors found, for example, that blue interior colors produce higher patronage intentions compared to orange interiors. Our findings also differ from Petruzzellis et al. (2018), who found that famous music positively influences buying intention in retail venues. Moreover, when it comes specifically to the mediating role of the desire to stay between environmental variables and other shopping outcomes, Wakefield and Baker (1998) found that mall tenant variety, mall physical environment, and involvement with shopping affect mall patronage intention through the desire to stay at the mall. Our findings may be due to the fact that the atmospherics' impact is indirect, i.e., it impacts outcomes through different paths and mediators (Das and Varshneya, 2017; Koo and Kim, 2013).

In terms of the effect of the desire to stay at the mall on other outcomes (H4 and H5), the results indicate that the desire to stay at the mall is positively related to positive WOM, while there is no support for a significant direct relationship between the desire to stay and patronage intentions (Table 4). The second result differs from Wakefield and Baker's (1998) study, in which the desire to stay was found to directly affect patronage intentions. Although De Nisco and Warnaby (2013) found a relationship between these two constructs, they reported that it was a weak causal relationship. However, the direct effect is not relevant when conducting a mediation analysis (Zhao et al., 2010). Based on that, one of our study's contributions is to provide additional evidence to clarify prior inconsistent results regarding the consequences of the desire to stay. Specifically, our results suggest

that the desire to stay at shopping malls can lead to higher patronage intentions if satisfaction mediates this path. Staying longer time is a necessary but not sufficient condition to enhance other outcomes. This means that retailers also need to ensure a pleasing stay for shoppers, as the desire to stay at the mall does not necessarily lead to positive shopping outcomes. Results for H4 and H5 add further support to this explanation, as satisfaction mediates the relationship between the desire to stay and both outcomes, positive WOM and patronage intentions. Our findings indeed show a stronger direct relationship between the desire to stay and positive WOM. A satisfying stay could lead to more referrals in general due to the fact that individuals are more prone to talk about their pleasant daily experiences (Nyilasy, 2006). However, this result may not hold in other geographical areas due to cultural differences.

Theoretical contributions

This paper contributes to the literature in several ways. Firstly, this study adds to the S-O-R paradigm by adding support to the role of mall atmospheric cues in contributing to favorable shopping outcomes (shopper satisfaction, positive WOM, and patronage intentions) through the desire to stay at the mall.

Secondly, our study adds to the body of knowledge on the antecedents of the desire to stay at the mall, specifically the environmental cues of color and music. Although Vukadin et al. (2018) reported similar results in terms of the relationship between music and the desire to stay, their study examined music as one of the items of the mall atmospheric factor and operationalized the desire to stay as a component of shopper response and not as an individual outcome. Moreover, although previous research indicates how the desire to stay at the mall could influence patronage intentions (e.g., De Nisco and Warnaby, 2013; Wakefield and Baker, 1998), to the authors' best knowledge, there is no prior research addressing the impact of the desire to stay on positive WOM.

Moreover, we focus on whether the desire to stay at the mall impacts shopper satisfaction, which is a novel perspective in studying this topic. Previous research analyzes the scenario of shopper satisfaction leading to the desire to stay at the mall (Lloyd et al., 2014; Siu et al., 2012). We study the opposite causal relationship, as the desire to stay in shopping areas

can stem from different reasons other than satisfaction, and we look at how satisfaction mediates the impact of the desire to stay on driving shoppers to spend more money and engage in positive WOM about the shopping mall.

Managerial implications

Shoppers may desire to stay and spend time in a specific shopping venue for several reasons other than shopping, including a combination of shopper free time and the shopping area's suitable location and facilities (Santoso et al., 2018). Social motivations (Maggioni et al., 2019; Martin and Turley, 2004), convenience (Lloyd et al., 2014), comfortable ambient temperature (Vukadin et al., 2018), and other environmental cues provide other possible explanations. We also think that weather conditions, the absence of competitors, and the use of malls for other purposes than shopping, including browsing, working, studying, or spending time, could also be potential reasons. However, this study found that (1) the desire to stay at the mall mediates the relationship between shopper positive attitudes towards the atmospheric cues of color schemes and music, and the outcomes of shopper satisfaction and positive WOM. (2) Shopper satisfaction mediates the relationships between the desire to stay, on the one hand, and positive WOM, and patronage intentions, on the other hand. These two main findings shape our managerial implications.

Retailers are concerned about providing a great shopping experience that makes shoppers satisfied and likely to recommend their shops, and buy products from them. In this study, the authors found that the desire to stay at the mall positively influences other desired outcomes; moreover, this desire is found to be enhanced by mall color schemes and music. Based on that, boosting the desire to stay can be achieved by enhancing shopper positive attitudes towards these atmospheric cues. These positive attitudes can be triggered by using more favorable colors and visual effects. Color schemes should be used in a way that makes customers feel good. The use of color can vary, depending on the shopping mall section. Sophisticated colors with subdued lighting to produce an upscale environment can be used around classy stores, while, for example, energetic colors can be used around stores and areas that offer cooler brands or target younger customers. Furthermore, based on this study, music is another tool that can be used to increase shoppers' desire to stay longer at

the mall. In this vein, music is suggested to be played at an appropriate volume and make shoppers feel good. As with color schemes, background music can vary among mall sections. In classy stores, soft classical music can produce a neat and chic environment, while in young customers' areas and pop-up stores, modern and trendy music is advisable. Based on our study's findings, applying the abovementioned improvements can lead to more satisfied customers who would talk positively about their mall experience. However, when it comes to patronage intentions, the study demonstrates that, along with the desire to stay, satisfaction is a key variable to enhance this outcome. In other words, satisfying stays produce intentions to revisit and buy from the mall. Hence, mall managers should always look for more factors to increase the desire to stay, but also to raise shopper satisfaction levels. Shoppers have to feel satisfied with their mall visits, and feel that these visits were a wise decision and the right thing to do. Atmospherics, as previously mentioned, can be central for increasing satisfaction levels through the desire to stay. More antecedents that influence both outcomes can be found in the literature. The advantage of using such factors that influence both satisfaction and the desire to stay is that they have a positive effect on other more critical shopping outcomes, such as patronage intention and positive WOM.

Limitations and future research

This study is not without limitations, some of which point to future research opportunities. Despite our sample being large and diversified, it is regional in nature. This study was conducted in the northern Portuguese context. Generally speaking, northern Portuguese people may be more outgoing, or entertainment-looking shoppers, compared to other Portuguese regions or even shoppers in other countries. Hence, the proposed model could be tested in other regional contexts or by doing cross-cultural studies to compare results from different cultures. Moreover, the studied malls have their unique characteristics, and therefore the results cannot be generalized to other shopping areas such as town centers, shopping streets, or factory-outlet malls. The use and the level of control of color schemes, lighting, and music differ among these retail venues. For example, music can be used and controlled throughout all mall sections, volume levels can be uniform throughout the mall

and music can even be used in corridors, while in shopping streets this atmospheric tool is monitored differently in each store, and in general cannot be easily used uniformly within the street. Moreover, the desire to stay at the mall is different compared to other retail venues. In malls, it is subject to the artificial environment, while in shopping streets, for example, other uncontrollable variables such as weather and unavailability of facilities like toilets, kids zones, and sitting areas need to be taken into account. Based on that, future research might reexamine the model in additional shopping contexts.

In this study, we shed light on shoppers' positive attitudes towards color schemes, lighting, and music as drivers of the desire to stay at the mall. However, further research is required to discover other antecedents of this factor. In this vein, we think it may be worthwhile to check the effect of other environmental cues, such as mall location, weather conditions, and social factors on the desire to stay in shopping areas. Moreover, additional research could explore the potential effect of the desire to stay on other shopping outcomes, such as mall image. Finally, the desire to stay in shopping areas may differ based on age, gender, or other demographics. Hence, understanding the role played by these variables is central to provide the best recommendations to retailers. Concerning these variables, the desire to stay may vary among different types of shoppers, hence it is also recommended to test the proposed research model considering different types of shoppers.

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Figure

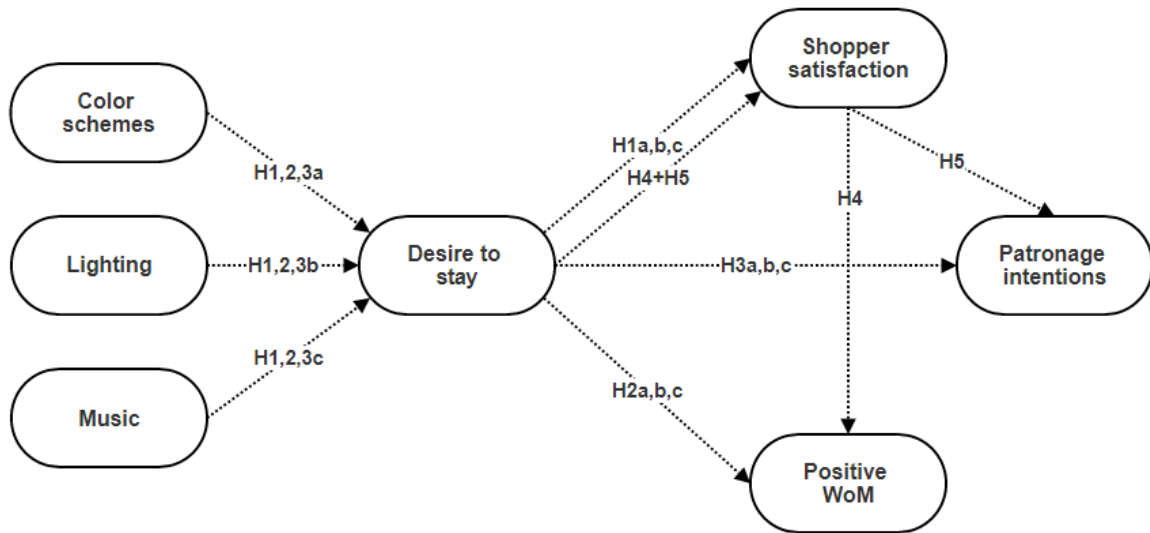


Figure 1. Research model

Tables

Table 1. Item loading, Cronbach's α values, AVE, composite reliability, and scale sources

Factor	Item Loading	Cronbach's α	AVE	Composite Reliability	Source
Color schemes		0.873	0.80	0.922	Ainsworth and Foster (2017), Vukadin <i>et al.</i> (2018), Wakefield and Baker (1998)
CLR1: I like the colors in this mall	0.88				
CLR2: The colors in this mall make me feel good	0.90				
CLR3: I really like this mall's use of color	0.90				
Lighting		0.901	0.84	0.939	Ainsworth and Foster (2017), Vukadin <i>et al.</i> (2018), Wakefield and Baker (1998)
LGT1: The mall lighting is appropriate	0.92				
LGT2: I like the lighting in this mall	0.94				
LGT3: The lighting in this mall makes me feel good	0.89				
Music		0.914	0.86	0.947	Ainsworth and Foster (2017), Vukadin <i>et al.</i> (2018), Wakefield and Baker (1998)
MUS1: I like the music played in this mall	0.94				
MUS2: The played music in this mall makes me feel good	0.94				
MUS3: This mall music is played at an appropriate volume	0.90				
The desire to stay at the mall		0.909	0.92	0.957	Wakefield and Baker (1998)
DSR1: I like to stay at this mall as long as possible	0.96				
DSR2: I enjoy spending time at this mall	0.96				
Shopper satisfaction		0.937	0.84	0.955	Kwon <i>et al.</i> (2016), Teller (2008)
STF1: I am satisfied with my decision to visit this sh. mall	0.92				
STF2: My choice to visit this shopping mall is a wise one	0.93				
STF3: This shopping mall meets my expectations	0.90				
STF4: I am sure it is the right thing to visit this shopping mall	0.93				

Positive word-of-mouth		0.926	0.93	0.965	El Hedhli <i>et al.</i> (2013)
PWM1: I strongly recommend going to this mall	0.97				
PWM2: I don't hesitate to say good things about this mall	0.97				
Patronage intentions		0.898	0.83	0.938	Grewal <i>et al.</i> (2003)
PTR1: I intend to revisit this mall	0.91				
PTR2: In the future, it is likely that I will buy products at this mall	0.93				
PTR3: I am willing to recommend this mall to my friends	0.89				

Table 2. Collinearity diagnostics and discriminant validity analysis

	Collinearity Statistics		1	2	3	4	5	6	7
	Tolerance	VIF							
1. Color schemes	0.510	1.961	0.89						
2. Lighting	0.583	1.714	0.66**	0.92					
3. Music	0.737	1.356	0.47**	0.40**	0.93				
4. Desire to stay	0.704	1.421	0.50**	0.38**	0.40**	0.96			
5. Shopper satisfaction	0.607	1.648	0.60**	0.52**	0.32**	0.52**	0.92		
6. Positive WOM	---	---	0.65**	0.52**	0.37**	0.85**	0.85**	0.96	
7. Patronage intentions	---	---	0.54**	0.41**	0.28**	0.86**	0.86**	0.77**	0.91

Notes: ** $p < 0.01$ (two-tailed) tests. The bold elements are the square root of each AVE. The non-bold elements are the correlations between constructs.

Table 3. Mediation effects model

Path	Estimate	95% bias-corrected bootstrap confidence interval	SE	Bias	P- Value	Result
Color schemes → Desire to stay → Shopper satisfaction	0.106	0.047 – 0.192	0.035	0.000	0.001	S
Lighting → Desire to stay → Shopper satisfaction	0.020	-0.011 – 0.067	0.019	-0.001	0.182	NS
Music → Desire to stay → Shopper satisfaction	0.038	0.012 – 0.081	0.017	0.000	0.002	S
Color schemes → Desire to stay → Positive WOM	0.117	0.064 – 0.188	0.032	0.000	0.001	S
Lighting → Desire to stay → Positive WOM	0.022	-0.014 – 0.069	0.021	0.000	0.218	NS
Music → Desire to stay → Positive WOM	0.043	0.015 – 0.080	0.016	0.000	0.003	S
Color schemes → Desire to stay → Patronage intentions	-0.026	-0.067 – 0.004	0.018	-0.001	0.087	NS
Lighting → Desire to stay → Patronage intentions	-0.005	-0.025 – 0.002	0.006	0.000	0.160	NS
Music → Desire to stay → Patronage intentions	-0.009	-0.028 – 0.001	0.007	0.000	0.064	NS
Desire to stay → Shopper satisfaction → Positive WOM	0.146	0.075 – 0.222	0.036	-0.002	0.001	S
Desire to stay → Shopper satisfaction → Patronage intentions	0.139	0.071 – 0.214	0.036	-0.002	0.001	S

S = Supported, NS = Not supported.

Table 4. Direct, indirect, and total effects of the desire to stay on positive WOM and patronage intentions

Predictor variables	Desire to stay		
	Indirect Effect (Via satisfaction)	Direct Effect	Total Effect
Positive WOM	0.188**	0.232**	0.420**
Patronage intentions	0.231**	-0.066	0.165**

Notes: Standardized path estimates are reported. ** P-Value < 0.01.

