

# When Should a Retailer Create an Exciting Store Environment?

Addressing inconsistent results in the literature, the conceptual framework that the authors develop proposes that the consumer's motivational orientation moderates the effect of the arousal produced by a store environment on the pleasantness of the environment. Two experiments support the framework. When consumers have a recreational motivational orientation, high arousal has a positive effect on pleasantness, but when consumers have a task-oriented motivational orientation, high arousal decreases pleasantness. In addition, high arousal increases consumer intentions to visit and make purchases in the store for recreationally oriented consumers, but it has a negative impact on shopping behavior for task-oriented consumers. Pleasantness mediates the effect of arousal on shopping behavior.

**R**ecognizing the significant impact of store environment on consumer behavior, retailers devote considerable resources to store design and merchandise presentation activities. For example, Toys “R” Us spent \$35 million to make its Times Square New York store “the ultimate toy store that is the personification of every kid’s dream” (Prior 2001, p. 46). Some retailers (e.g., The Sharper Image, Bass Pro Shops, Barnes & Noble) attempt to create engaging environments in their stores that encourage shopping. In contrast, other retail chains (e.g., Costco, Home Depot) are successful with their minimalist warehouse-style shopping environments (Levy and Weitz 2004). With respect to electronic retailing contexts, it has been suggested that the most effective and desirable Web sites are those that are challenging to consumers and heighten their arousal level (Novak, Hoffman, and Yung 2000; Tedesco 2000). However, research has actually found no relationship, and even a negative relationship, between the use of arousal-inducing Web design elements and the pleasantness of the Internet experience (Da Cunha, Chakravarti, and Weitz 2003).

Although considerable research has examined the impact of various store environment elements on shopping behavior, the existing research does not provide an explanation for the differential effectiveness of arousal levels in store environments or managerially relevant guidelines for selecting the appropriate arousal level for a specific store environment. The objective of this article is to present and provide empirical support for a theoretical framework that outlines the impact of arousal-inducing features in a store environment on consumer affective responses to the environment and subsequent shopping behaviors in the environment. This theoretical framework proposes that an impor-

tant situational variable—namely, the consumer’s motivational orientation in the store—moderates the effect of arousal on pleasantness.

The next section briefly reviews research that investigates the impact of store environment on shopping behavior. This review highlights some inconsistent and, in some cases, contradictory findings, suggesting the need to consider moderator variables. Then, we propose a theoretical framework that focuses on the moderating effect of motivational orientation and resolves some of the inconsistent findings. We describe two laboratory experiments that test the theoretical framework. The article concludes with a discussion of the limitations of our research and its managerial implications.

## Research on Environment and Shopping Behavior

### *Mehrabian and Russell’s Conceptualization of the Environmental Impact on Behavior*

Mehrabian and Russell’s (1974) seminal conceptualization is the basis of most research on the impact of environmental factors on shopping behavior. Mehrabian and Russell propose that environment sensory variables, the environment’s information rate (the amount of information in the environment), and individual differences in affective response influence people’s affective responses to the environment, which in turn induce people to approach or avoid the environment. Mehrabian and Russell identify three dimensions of affective response: pleasantness, arousal, and dominance. However, subsequent research has found that pleasantness and arousal explain most of the variance in affect and behavior, and thus research attention has been focused on these two variables (Russell 1978; Russell and Pratt 1980).

### *Empirical Research on the Environmental Impact on Shopping Behavior*

Table 1 summarizes the research investigating environmental effects on shopping behavior. The table shows that in almost all cases, pleasant shopping environments positively affect “approach” shopping-behavior variables, such as

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**TABLE 1**  
**Empirical Research on the Impact of Pleasantness and Arousal on Shopping Behavior**

<b>Shopping Behaviors</b>	<b>Pleasantness</b>	<b>Arousal</b>
Approach shopping behavior	P: Baker, Levy, and Grewal (1992) P: Donovan and Rossiter (1982) P: Hui and Bateson (1991) O: Spies, Hesse, and Loesch (1997) P: Sweeney and Wyber (2002)	P: Baker, Levy, and Grewal (1992) <sup>c</sup> P: Donovan and Rossiter (1982) <sup>a</sup> O: Donovan and Rossiter (1982) <sup>b</sup> O: Sweeney and Wyber (2002) <sup>c</sup>
Purchasing intentions/spending	P: Sherman, Mathur, and Smith (1997) O: Spies, Hesse, and Loesch (1997)	N: Milliman (1982) <sup>c</sup> P: Sherman, Mathur, and Smith (1997) <sup>c</sup> O: Smith and Curnow (1966) <sup>c</sup>
Store visit duration	P: Donovan and Rossiter (1982) O: Sherman, Mathur, and Smith (1997) P: Spies, Hesse, and Loesch (1997)	P: Donovan and Rossiter (1982) <sup>a</sup> O: Donovan and Rossiter (1982) <sup>b</sup> P: Sherman, Mathur, and Smith (1997) <sup>c</sup> N: Smith and Curnow (1966) <sup>c</sup>
Affiliation (social interaction)	P: Donovan and Rossiter (1982) P: Dubé, Chebat, and Morin (1995) P: Sweeney and Wyber (2002)	P: Donovan and Rossiter (1982) <sup>a</sup> O: Donovan and Rossiter (1982) <sup>b</sup> P: Dubé, Chebat, and Morin (1995) <sup>c</sup> P: Sweeney and Wyber (2002) <sup>c</sup>
Unplanned spending	P: Donovan and Rossiter (1982) P: Donovan et al. (1994) P: Spies, Hesse, and Loesch (1997)	O: Donovan and Rossiter (1982) <sup>a, b</sup> O: Donovan et al. (1994) <sup>a</sup> N: Donovan et al. (1994) <sup>b</sup>
Unplanned extension of the store visit	P: Donovan et al. (1994)	O: Donovan et al. (1994) <sup>a, b</sup>
Satisfaction/attitude	P: Sherman, Mathur, and Smith (1997) P: Spies, Hesse, and Loesch (1997) P: Wirtz and Bateson (1999) P: Yalch and Spangenberg (2000) P: Yoo, Park, and MacInnis (1998)	O: Sherman, Mathur, and Smith (1997) <sup>c</sup> O: Wirtz and Bateson (1999) <sup>c</sup> P: Yalch and Spangenberg (2000) <sup>c</sup>

<sup>a</sup>Pleasant environments only.

<sup>b</sup>Unpleasant environments only.

<sup>c</sup>The level of pleasantness in the environment is not controlled for.

Notes: Approach shopping behavior includes the other six variables, which are forms of approach. P = positive relationship, O = no relationship, and N = negative relationship.

unplanned spending, duration of the store visit, and social interaction. However, arousal effects are less consistent. For example, Sherman, Mathur, and Smith (1997) report that arousal increases purchasing intentions and spending, Milliman (1982) finds the opposite effect, and Smith and Curnow (1966) find no effect. Sherman, Mathur, and Smith find that arousal increases store visit duration, but Smith and Curnow find the opposite. Donovan and Rossiter (1982) replicate Sherman, Mathur, and Smith's results in pleasant retail environments only. Finally, in a study that involved different types of retail stores, Donovan and Rossiter find that arousal has a positive effect on most dependent variables in pleasant retail environments. However, Donovan and colleagues (1994) fail to confirm this relationship in a study conducted only in discount stores.

The overall pattern of results suggests that pleasantness has a consistently positive effect on shopping behavior, but the impact of arousal varies across studies. Thus, arousal effects may be moderated by a previously unidentified construct. In the next section, we propose a theoretical framework that resolves a number of inconsistencies in the

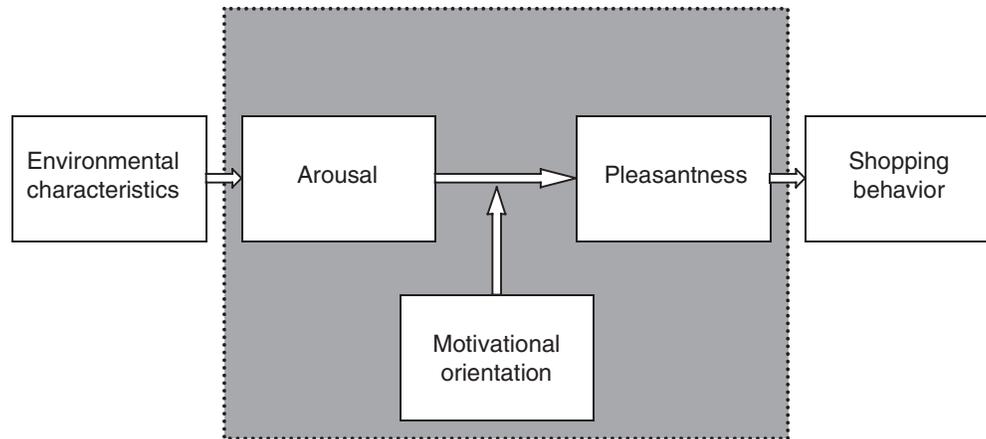
research on arousal effects on shopping behavior, providing some managerially relevant insights into the appropriate design of store environments and retail Web sites.

## Theoretical Framework

Our theoretical framework appears in Figure 1. The framework proposes that environmental characteristics affect consumer arousal, which in turn affects pleasantness and (through pleasantness) consumer shopping behaviors. Consumer motivational orientation moderates the relationship between arousal and pleasantness. When consumers have a recreational motivational orientation, arousal has a positive effect on pleasantness. Conversely, when consumers have a task-oriented motivational orientation, arousal has a negative effect on pleasantness.

The relationship between various environmental characteristics and arousal is well documented in the literature. For example, there is evidence that warm colors (Kueller and Mikellides 1993; Valdez and Mehrabian 1994), fast music tempo (Holbrook and Gardner 1993; Kellaris and

**FIGURE 1**  
**Theoretical Framework**



Kent 1993), and complex environments (Berlyne 1960; Mehrabian and Russell 1974) increase arousal. The previously discussed studies in the marketing literature provide significant support for the proposed relationship between pleasantness and shopping behavior. Although we examine the relationship between pleasantness and shopping behavior in this research, the novel element in our framework (shown in the shaded area of Figure 1) is the proposed relationship among motivational orientation, arousal, and pleasantness. Thus, the theoretical discussion and the two experiments we describe subsequently focus on this element of the framework.

### **Constructs**

In this section, we define the three constructs of primary interest: motivational orientation, arousal, and pleasantness. Then, in the next section, we develop a proposition about the relationship among these three constructs.

*Motivational orientation.* Various shopping motives were identified in the early literature (Stone 1954; Tauber 1972; for a review, see Westbrook and Black 1985). However, subsequent research found that two fundamental motivational orientations underlie the different shopping motives. A summary of the empirical studies over the past 20 years that investigate the two underlying shopping motivational orientations appears in Table 2.

The first motivational orientation (e.g., economic, utilitarian) involves consumers engaging in shopping out of necessity to obtain needed products, services, or information with little or no inherent satisfaction derived from the shopping activity itself. We refer to this motivational orientation as the “task-oriented motivational orientation.” The other motivational orientation (e.g., recreational, hedonic) describes consumers engaging in shopping to derive inherent satisfaction from the shopping activity itself. In this case, the shopping activity is freely chosen, and there is no need to engage in it. We refer to this motivational orientation as the “recreational motivational orientation.” The two fundamental motivational orientations identified in the shopping-behavior literature are consistent with the funda-

mental motivational orientations identified in psychology (Apter 1982; Deci and Ryan 1985).

*Arousal.* The arousal construct is used to designate two somewhat distinct phenomena in psychology. “Objective arousal” is defined as the release of energy collected in the tissues (Duffy 1962), a variable representing the level of nonspecific physiological response (Cacioppo, Berntson, and Crites 1996). “Subjective arousal” is defined as the subjective experience of energy mobilization (Russell and Feldman Barrett 1999). Objective and subjective arousal are moderately correlated (Thayer 1970). Mehrabian and Russell’s (1974) framework involves subjective arousal. Mehrabian and Russell define arousal as an affective dimension ranging from sleep to frantic excitement and use a self-report scale to measure it. Our framework also involves subjective arousal because it is the subjective state that consumers can experience as pleasant or unpleasant.

*Pleasantness.* “Pleasantness” is defined as the hedonic valence (pleasant or unpleasant) of the affective response to a stimulus; it is based on the extent to which the stimulus (the object of the affective response) enables people to achieve their salient goals. Stimuli that facilitate goal achievement are experienced as pleasant, whereas stimuli that impede goal achievement are experienced as unpleasant (for a review, see Clore, Schwarz, and Conway 1994).

### **Motivational Orientation as Moderator**

Because task-oriented consumers derive satisfaction from the outcome of the shopping activity (the acquisition of the needed product, service, or information) rather than from the activity itself, their focus is on efficiently completing the shopping activity and obtaining its outcome with minimum expense of energy. Such consumers would find that the high energy demands in high-arousal environments require more effort to complete the shopping activity and therefore would find such environments to be unpleasant. In contrast, the recreational motivational orientation involves pursuing shopping to derive intrinsic rewards from the shopping activity itself. Such consumers desire rich experi-

**TABLE 2**  
**Task-Oriented and Recreational Shopping Motivational Orientations: Conceptualizations in the Shopping-Behavior Literature**

Article	Motivational Orientation Labels	Definitions	
		Task Oriented	Recreational
Bellenger and Korgaonkar (1980)	Economic shoppers Recreational shoppers	Economic shoppers: Consumers who have a high opportunity cost for shopping activities. Economic shoppers feel that shopping is not an enjoyable use of their time (p. 79).	Recreational shoppers: Consumers who have a low opportunity cost for shopping activities. Recreational shoppers feel that shopping is an enjoyable use of their time (p. 79).
Westbrook and Black (1985)	Economic shoppers Social shoppers	Economic shoppers: Consumers who engage in shopping primarily to acquire (a) needed product(s) (p. 85).	Social shoppers: Consumers who engage in shopping primarily to satisfy needs unrelated to the acquisition of needed products (p. 85).
Dawson, Bloch, and Ridgway (1990)	Product-oriented motives Experiential motives	Product-oriented shopping motives: Consumers visit stores to make needed purchases or acquire needed product information (p. 409).	Experiential shopping motives: Consumers visit stores to derive pleasure from the visit itself (p. 410).
Babin, Darden, and Griffin (1994)	Utilitarian shopping value Hedonic shopping value	Utilitarian shopping value: Derived from task completion, the achievement of an intended outcome that the consumer is pursuing out of necessity (pp. 645–46).	Hedonic shopping value: Derived from the spontaneous hedonic responses elicited in the course of shopping activities (pp. 645–46).
Reynolds and Beatty (1999)	Shopping reluctance/apathy Shopping enjoyment	Shopping reluctance/apathy: Satisfaction is not derived from the shopping activity itself (p. 511).	Shopping enjoyment: Satisfaction is derived from the shopping activity itself (p. 511).

ences from shopping and therefore would find the high energy demands in high-arousal environments to be pleasant; conversely, they would view environments that call for less energy mobilization as unpleasant.

The following scenario illustrates this phenomenon: A businesswoman is likely to have a task-oriented motivational orientation when she feels that, while on a business trip to New York, she must find a gift to take to her assistant's son. Because the gift-buying activity is not inherently satisfying, she will try to complete the task as efficiently as possible. She will find the high-arousal environment (e.g., loud music, bright lights, action displays) in the Times Square Toys "R" Us store to be unpleasant because it will require her to mobilize more energy to complete her shopping task. In contrast, if the businesswoman were interested in some recreational shopping before departing from New York City, she would seek to derive some intrinsic satisfaction from the shopping activity itself. As a result, she would find the high-arousal environment at the Times Square Toys "R" Us to be pleasant because it would enhance her shopping experience. On the basis of the preceding discussion, we propose the following:

P<sub>1</sub>: Motivational orientation moderates the effect of arousal on pleasantness: Arousal (a) decreases pleasantness for consumers with a task-oriented motivational orientation and (b) increases pleasantness for consumers with a recreational motivational orientation.

The proposed moderating effect of motivational orientation resolves some of the inconsistent findings in the shopping-behavior literature we reviewed previously. For example, Milliman (1982) finds that arousal decreases purchasing intentions and spending in supermarkets. In contrast, Sherman, Mathur, and Smith (1997) find that arousal has a positive effect on purchasing intentions and spending in mall-based fashion stores. Few consumers find grocery shopping intrinsically satisfying (Levy and Weitz 2004). Thus, we can assume that consumers shopping for groceries are likely to have a task-oriented motivational orientation, which explains Milliman's results. Conversely, consumers often visit mall-based fashion stores as a form of recreation. The assumption that the consumers in Sherman, Mathur, and Smith's study were predominantly recreationally oriented would explain their results.

# Empirical Research

## Procedure

We used the same procedure in both Study 1 and Study 2. The participants were undergraduate students from a state university in the southeastern United States who volunteered to participate in the studies in return for extra credit in introductory marketing classes. Participants were first induced to adopt either a recreational motivational orientation or a task-oriented motivational orientation. Then, participants visited a high-arousal or a low-arousal shopping environment that was similar to shopping over the Internet. Next, participants indicated the pleasantness of their experience in the environment and their shopping-behavior intentions in relation to the environment. The studies concluded with manipulation checks.

## Measures

All studies used the same measures to assess the dependent variables (pleasantness and shopping-behavior intentions) and the effectiveness of the arousal and motivation manipulations. (The complete scales, with descriptive statistics, appear in the Appendix.) We assessed pleasantness with four items based on Mehrabian and Russell's (1974) pleasantness scale. We could not use the entire scale, because three of the anchor adjectives (hopeful, despairing, and melancholic) signify intense emotions that are not typically felt in retail contexts, and one of the items (relaxed versus bored) implies recreational motivation. Mehrabian and Russell's arousal scale was used for the arousal manipulation check. We developed a four-item scale for the motivation manipulation check. A six-item scale based on the work of Donovan and Rossiter (1982) was used to assess participants' shopping-behavior intentions.

We assessed the psychometric properties of the measures with confirmatory factor analysis. To ensure an adequate sample size for the confirmatory factor analysis, all observations from Studies 1 and 2 were combined into a single sample, and the confirmatory factor analysis was conducted on the combined sample. The error variances of the three negatively worded behavioral intention items were allowed to correlate because of shared method. Although the chi-square test was statistically significant ( $\chi^2(164) = 495.28, p < .01$ ), the comparative fit index (.95), the Tucker-Lewis index (.94), and the root mean square error of approximation (.08) indicated an acceptable fit (Bagozzi and Baumgartner 1994; Bagozzi and Yi 1988; Browne and Cudeck 1993). The scale reliabilities had acceptable psychometric properties: The coefficient alpha values were between .81 and .90, and the composite reliabilities were between .50 and .66 (Bagozzi and Baumgartner 1994).

We used two different methods to assess discriminant validity (Anderson and Gerbing 1988; Fornell and Larcker 1981). According to Fornell and Larcker (1981), discriminant validity between two factors is established when the squared correlation between them is less than the mean item communality for each one. All six squared interfactor correlations were less than the mean item communality of either factor, demonstrating that the four measures have discrimi-

nant validity. Anderson and Gerbing's (1988) method involves chi-square difference tests. Two models are estimated for each pair of two factors. One of the models is a one-factor model; all items are set to load on a single factor. In the other model, each item is set to load on its respective factor. A chi-square difference test is then performed to determine whether the two-factor model explains significantly more variance than the one-factor model. Discriminant validity between the two factors is established if the two-factor model explains significantly more variance than the one-factor model. We performed six chi-square difference tests. All six tests resulted in significant chi-square differences, in support of the discriminant validity of the measures.

## Study 1

We conducted Study 1 as a 2 (motivational orientation: task oriented versus recreational)  $\times$  2 (arousal: high versus low)  $\times$  2 (replicates) between-subjects experiment. The 166 participants in the study were asked to view a picture of a retail store ambience on individual computer screens and to imagine visiting the store with a task-oriented or recreational motivation.

### Manipulation of Motivational Orientation

Participants were randomly assigned to read one of the following two scenarios about a hypothetical shopping experience:

You are going on a camping trip this weekend, and you realize that you don't have enough suitable T-shirts for the trip. As a result, you decide to purchase at least one more T-shirt. You drive to a store that sells T-shirts. All you want to do in the store is find one or more suitable T-shirts for your trip and leave. (*Task-oriented motivation treatment*)

It's just past noon on a Saturday, and none of your friends are around. It's pouring rain, so you can't do anything outdoors. You find what's on TV too dull to watch. You feel very, very bored. You decide to visit some stores to relieve the sense of boredom. (*Recreational motivation treatment*)

To increase the salience of the respective motivational orientation, participants were asked to write a story five or more sentences long about themselves in a similar situation.

### Manipulation of Arousal

The arousal manipulation involved varying three visual elements of the stimulus shopping environment: (1) complexity (the number of nonredundant elements in an environment; Berlyne 1971), (2) color warmth (the warmth-coolness color continuum has been identified as red, yellow, green, and blue; Erwin et al. 1961; Jacobs and Hustmyer 1974), and (3) color saturation (the subjective experience of a wavelength's spectral purity; Hogg 1969). Higher complexity (Berlyne 1960; Mehrabian and Russell 1974), warmer colors (Kueller and Mikellides 1993; Valdez and Mehrabian 1994), and higher color saturation (Valdez and Mehrabian 1994) all increase arousal. There were two replicates of the arousal manipulation: two high-arousal environ-

ments and two low-arousal environments. Participants were randomly assigned to view one of the four environments. All participants were exposed to the treatment environment for the same amount of time (i.e., 20 seconds).

### Manipulation Checks

We conducted a 2 (motivational orientation)  $\times$  2 (arousal)  $\times$  2 (replicates) analysis of variance (ANOVA) to test the effectiveness of the two manipulations. Motivational orientation, arousal, and the replicates, as well as all interactions among these three variables, were the independent variables. The motivation and arousal manipulation check measures were the dependent variables. The participants in the recreational motivation condition rated their motivational orientation as significantly more recreational than the participants in the task-oriented motivation condition ( $F(1, 158) = 70.56, p < .01; M_{RC} = 5.92$  versus  $M_{TO} = 3.82$ ). There were no other significant main or interaction effects on the motivation manipulation check ( $F(1, 158) \leq 2.83, p > .09$ ). The arousal manipulation had a significant main effect on the arousal manipulation check ( $F(1, 158) = 30.86, p < .01; M_H = 5.58$  versus  $M_L = 4.59$ ). There were no other significant effects on the arousal manipulation check ( $F(1, 158) \leq 2.02, p > .15$ ).

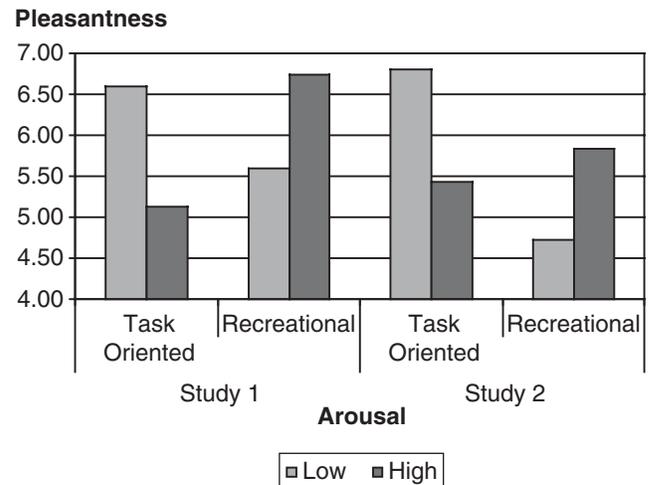
### Results

**Pleasantness.** We conducted a 2 (motivational orientation)  $\times$  2 (arousal)  $\times$  2 (replicates) ANOVA to test the hypothesized interaction effect between arousal and motivation on pleasantness. We found that motivational orientation moderates the effect of arousal on pleasantness, producing a significant interaction between arousal and motivation ( $F(1, 158) = 28.08, p < .01$ ). Neither motivational orientation ( $F(1, 158) = 1.64, p > .20; M_{RC} = 6.17$  versus  $M_{TO} = 5.86$ ) nor arousal ( $F(1, 158) = .40, p > .20; M_L = 6.09$  versus  $M_H = 5.94$ ) had a significant main effect on pleasantness. There were no other significant effects ( $F(1, 158) \leq 1.07, p > .20$ ).

We conducted a 2 (arousal)  $\times$  2 (replicates) ANOVA separately in each motivation condition to test whether the significant interaction between arousal and motivation was a significant crossover effect. The participants in the task-oriented motivation condition found the low-arousal environment to be significantly more pleasant than the high-arousal environment ( $F(1, 80) = 21.47, p < .01; M_L = 6.59$  versus  $M_H = 5.13$ ). The participants in the recreational motivation condition found the high-arousal environment to be significantly more pleasant than the low-arousal environment ( $F(1, 78) = 9.12, p < .01; M_H = 6.75$  versus  $M_L = 5.60$ ) (see Figure 2). There were no other significant effects in these analyses ( $F \leq 1.22, p > .20$ ).

**Shopping behavior.** We estimated the same ANOVA models to test whether arousal and motivation have an interactive effect on shopping-behavior intentions. We found a significant interaction between arousal and motivation ( $F(1, 158) = 14.80, p < .01$ ). Neither motivational orientation ( $F(1, 158) = .18, p > .20; M_{RC} = 5.94$  versus  $M_{TO} = 5.84$ ) nor arousal ( $F(1, 158) = .28, p > .20; M_L = 5.95$  versus  $M_H = 5.83$ ) had a significant main effect on behavioral

**FIGURE 2**  
Pleasantness as a Function of Motivational Orientation and Arousal



intentions. Arousal had a significant, negative effect on behavioral intentions in the task-oriented motivation condition ( $F(1, 80) = 16.25, p < .01; M_L = 6.36$  versus  $M_H = 5.32$ ) and a significant, positive effect on behavioral intentions in the recreational motivation condition ( $F(1, 78) = 3.81, p = .05; M_H = 6.34$  versus  $M_L = 5.55$ ). There were no other significant effects in these analyses ( $F \leq 1.34, p > .20$ ).

To test whether pleasantness mediates the interactive effect between arousal and motivation on shopping-behavior intentions, we conducted the mediation analysis recommended by Baron and Kenny (1986). We coded the two levels of each independent variable (motivational orientation, arousal, and the replicates) as 1 or -1. The behavioral intentions variable was the dependent variable. We estimated two regression models:

- (1) Behavioral intentions =  $\beta_0 + \beta_1 \times$  motivational orientation  
 $+ \beta_2 \times$  arousal +  $\beta_3 \times$  replicates  
 $+ \beta_4 \times$  motivational orientation  
 $\times$  arousal +  $\beta_5$   
 $\times$  motivational orientation  
 $\times$  replicates +  $\beta_6 \times$  arousal  
 $\times$  replicates +  $\beta_7$   
 $\times$  motivational orientation  $\times$  arousal  
 $\times$  replicates.
- (2) Behavioral intentions =  $\beta_0 + \beta_1 \times$  motivational orientation  
 $+ \beta_2 \times$  arousal +  $\beta_3 \times$  replicates  
 $+ \beta_4 \times$  motivational orientation  
 $\times$  arousal +  $\beta_5$   
 $\times$  motivational orientation

- × replicates +  $\beta_6$  × arousal
- × replicates +  $\beta_7$
- × motivational orientation × arousal
- × replicates +  $\beta_8$  × pleasantness.

Evidence in support of mediation arises if  $\beta_4$  is statistically significant in Model 1 but not statistically significant in Model 2. The results support the hypothesized mediating effect of pleasantness. The interaction between arousal and motivation was significant in Model 1 ( $\beta_4 = .29$ ,  $t(158) = 3.85$ ,  $p < .01$ ) but was not significant in Model 2 ( $\beta_4 = .05$ ,  $t(157) = .74$ ,  $p > .40$ ). Pleasantness had a significant, positive effect on behavioral intentions in Model 2 ( $\beta_8 = .62$ ,  $t(157) = 9.51$ ,  $p < .01$ ).

## Study 2

The objectives of Study 2 were (1) to replicate the results we obtained in Study 1 with different and more realistic manipulations of arousal and motivational orientation and (2) to provide further insight into the processes underlying the relationship between arousal and pleasantness by collecting free-response data from participants. The study was a 2 (motivational orientation: task oriented versus recreational) × 2 (arousal: high versus low) between-subjects experiment.

### Subjects and Procedure

The 161 participants were told that a music retailer was planning to open a music store in town. Participants were asked to look at and evaluate a store concept as prospective customers. On individual computer screens, participants were shown an interior view of a music store that sells CDs. Before the music store was displayed on the screen, on-screen instructions informed participants that more detailed information could be obtained about the CDs shown in the store by positioning the mouse over the merchandise. A mouse click on a CD revealed a CD information window that displayed the composer's portrait, a brief description of the CD, and the CD's price. Participants could return to the store view window by pressing a button in the CD information window. While shopping in the store, participants heard music through earphones. So that participants would become familiar with the setting, they were asked to complete a trial task—namely, to open a product's information window in a trial store and find out the product's price. The trial store was different from the treatment store and was the same for all participants.

*Manipulation of motivational orientation.* In the task-oriented motivation condition, participants were asked to imagine themselves in the situation described in the following scenario:

You are planning to meet some friends at a movie theater. Your mother asks you to stop at a certain nearby music store (before going to the movie theater) and check the prices of two classical music CDs. Your mother intends to purchase one of those two CDs as a gift for an elderly couple, but she hasn't made up her mind which CD to choose. Your mother gives you the composers' names and

album titles: Beethoven's *9 Symphonien* and Chopin's *The Piano Works*. Your task is to go to the store, find the CDs, and remember their prices.

Then participants were specifically instructed to locate the two CDs indicated in the scenario and uncover their prices. There was no time limit on the visit to the store; participants could leave the store at any time by pressing an "exit" button in the store view window. Participants were also informed that at the end of the session, they would be asked to identify the two CD prices in a multiple-choice question. This element in the instructions was necessary so that participants would view identifying the CD prices as a task rather than as a recreational activity that may or may not be completed. However, participants were informed that there would be no penalty or other adverse consequences for those who failed to identify the two prices correctly.

The participants in the recreational motivation condition were asked to imagine themselves in the situation described in the following scenario:

It is spring break. You have to stay in town while all your friends have left town. It is a weekend. You are at home, and you feel very, very bored. It's pouring rain, so you can't do anything outdoors. You find what's on TV too dull to watch. So you decide to visit some stores to relieve the sense of boredom.

Participants were specifically instructed to visit the music store "to relieve boredom (as when you feel very, very bored and look for diversion)." They were also informed that more detailed information could be obtained about the CDs shown in the store and that they could (but did not have to) access that information. Participants were also informed that there was no time limit on their visit to the store; they could leave the store at any time by pressing an "exit" button in the store view window. Notepaper was available to each participant in both motivation conditions.

*Manipulation of arousal.* We used music tempo and volume to manipulate arousal. The high-arousal treatment involved faster and louder music (the first 60 seconds of Tchaikovsky's "Capriccio Italien in A"), and the low-arousal treatment involved slower and softer music (the first 60 seconds of Camille Saint-Saens' "The Carnival of the Animals: The Swan"). Participants who remained in the store for more than a minute heard the same musical selection from the beginning.

*Manipulation checks.* We conducted a 2 (motivational orientation) × 2 (arousal) ANOVA to test the effectiveness of the two manipulations. Motivational orientation, arousal, and their interaction were the independent variables. The motivation and arousal manipulation check measures were the dependent variables. The participants in the recreational motivation condition rated their motivational orientation as significantly more recreational than the participants in the task-oriented motivation condition ( $F(1, 157) = 123.47$ ,  $p < .01$ ;  $M_{RC} = 5.84$  versus  $M_{TO} = 3.58$ ). There were no other significant main or interaction effects on the motivation manipulation check ( $F(1, 157) = .77$ ,  $p > .20$ ). The arousal manipulation had a main effect on the arousal manipulation check ( $F(1, 157) = 129.39$ ,  $p < .01$ ;  $M_H = 6.02$  versus  $M_L = 3.80$ ). There were no other significant main or interaction

effects on the arousal manipulation check ( $F(1, 157) = 1.55$ ,  $p > .20$ ).

## Results

**Pleasantness.** We conducted the same 2 (motivational orientation)  $\times$  2 (arousal) ANOVA to test the hypothesized moderating effect of motivational orientation on the relationship between arousal and pleasantness. We found that motivational orientation significantly moderated the effect of arousal on pleasantness ( $F(1, 157) = 20.25$ ,  $p < .01$ ). Motivational orientation also had a main effect on pleasantness: The participants in the task-oriented motivation condition indicated more pleasant affect than the participants in the recreational motivation condition ( $F(1, 157) = 9.44$ ,  $p < .01$ ;  $M_{TO} = 6.13$  versus  $M_{RC} = 5.28$ ). Arousal had no significant main effect on pleasantness ( $F(1, 157) = .20$ ,  $p > .20$ ;  $M_L = 5.77$  versus  $M_H = 5.64$ ).

We examined the effect of arousal on pleasantness separately in each motivation condition to test for a significant crossover interaction. The participants in the task-oriented motivation condition found the low-arousal environment to be significantly more pleasant than the high-arousal environment ( $F(1, 79) = 13.53$ ,  $p < .01$ ;  $M_L = 6.81$  versus  $M_H = 5.44$ ). The participants in the recreational motivation condition found the high-arousal environment to be significantly more pleasant than the low-arousal environment ( $F(1, 78) = 7.47$ ,  $p < .01$ ;  $M_H = 5.84$  versus  $M_L = 4.73$ ) (see Figure 2).

**Free-response process measures.** Participants were asked a free-response question about the store environment

to examine their thought processes in the different conditions and to test our theoretical rationale. After experiencing the treatment store environment (the arousal manipulation), in their own words, participants answered the question, "Why did (didn't) you like the store environment?" Two coders independently coded participants' responses into categories. Each coder independently coded a subset of responses to establish a set of relevant categories. Then, the two coders met and, through discussion, determined the set of categories to be used for classifying participants' responses. Next, the coders used the developed categorization scheme and independently coded all participant responses. Coder agreement was calculated as the percentage of responses that both coders independently classified into the same category. The agreement rate was 92%. Disagreements were resolved through discussion. On average, participants listed 1.81 reasons for their store experience. We used one reason per participant in the analysis—the reason indicated as the most important. If a participant listed more than one reason and did not explicitly indicate which reason was the most important one, we used the reason listed first. Table 3 shows the reasons listed in each arousal  $\times$  motivation condition and the frequency with which each reason occurs in the condition.

The free-response data are consistent with our explanation for the interactive effect between arousal and motivation. Task-oriented participants liked the low-arousal store environment because it allowed them to complete their shopping efficiently, but they did not like the high-arousal environment because it created inefficiencies. Recreational

**TABLE 3**  
**Reasons for Participants' Store Environment Experience**

Experience Reason	Frequency	
	n	%
<b>Task-Oriented Low-Arousal Condition (n = 39) (found to be pleasant in general)</b>		
1. Efficiency (effortlessness, expediency)	31	79.5
2. Boredom (limited opportunity to engage in activities)	3	7.7
3. Demotivation (no motivation to engage in any activity)	2	5.1
<b>Task-Oriented High-Arousal Condition (n = 41) (found to be unpleasant in general)</b>		
1. Inefficiency (effortfulness, extra time needed)	26	63.4
2. Individual difference (dispositional) reasons	4	9.8
3. Rich experience (ample opportunity to engage in activities)	3	7.3
4. Pleasantness (nonspecific reasons, such as "because it's pleasant")	3	7.3
5. Efficiency (effortlessness, expediency)	3	7.3
<b>Recreational Low-Arousal Condition (n = 40) (found to be unpleasant in general)</b>		
1. Boredom (limited opportunity to engage in activities)	30	75.0
2. Efficiency (effortlessness, expediency)	3	7.5
3. Individual difference (dispositional) reasons	2	5.0
4. Pleasantness (nonspecific reasons, such as "because it's pleasant")	2	5.0
<b>Recreational High-Arousal Condition (n = 40) (found to be pleasant in general)</b>		
1. Rich experience (ample opportunity to engage in activities)	19	47.5
2. Pleasantness (nonspecific reasons, such as "because it's pleasant")	7	17.5
3. Individual difference (dispositional) reasons	6	15.0
4. Unpleasantness (nonspecific reasons, such as "because it's unpleasant")	4	10.0
5. Inefficiency (effortfulness, extra time needed)	3	7.5

Notes: Reasons listed only once in a condition are not shown.

participants liked the high-arousal store environment because it created rich experiences, but they disliked the low-arousal environment because it involved limited opportunities to engage in activities.

*Shopping behavior.* A 2 (motivational orientation)  $\times$  2 (arousal) ANOVA was estimated to test whether arousal and motivational orientation affect shopping-behavior intentions. A significant interaction between arousal and motivation was obtained ( $F(1, 157) = 6.10, p < .05$ ). Neither motivational orientation ( $F(1, 157) = 1.03, p > .20$ ;  $M_{TO} = 5.42$  versus  $M_{RC} = 5.13$ ) nor arousal ( $F(1, 157) = 1.17, p > .20$ ;  $M_H = 5.43$  versus  $M_L = 5.11$ ) had a significant main effect on behavioral intentions. We also examined the effect of arousal on behavioral intentions separately in each motivation condition. Arousal had a significant, positive effect on behavioral intentions in the recreational motivation condition ( $F(1, 78) = 6.20, p < .05$ ;  $M_H = 5.65$  versus  $M_L = 4.61$ ) but did not have a significant effect in the task-oriented motivation condition ( $F(1, 79) = .98, p > .20$ ;  $M_L = 5.63$  versus  $M_H = 5.22$ ).

To test for the hypothesized mediating effect of pleasantness, we conducted the same type of mediation analysis as that in Study 1. The results were consistent with expectations. The interaction between arousal and motivation was significant in the model that did not include pleasantness ( $\beta_4 = .33, t(157) = 2.47, p < .05$ ), but it was not significant in the model that included pleasantness ( $\beta_4 = -.09, t(156) = -.83, p > .40$ ). Pleasantness had a significant, positive effect on behavioral intentions in Model 2 ( $\beta_8 = .73, t(156) = 11.94, p < .01$ ). Because arousal had no effect on behavioral intentions in the task-oriented motivation condition, we also conducted a mediation analysis only for the recreational motivation condition. Arousal had a significant, positive effect on behavioral intentions in the model that did not include pleasantness ( $\beta_4 = .27, t(78) = 2.49, p < .05$ ), but it had no effect in the model that included pleasantness ( $\beta_4 = .07, t(77) = .85, p > .30$ ). Pleasantness had a significant, positive effect on behavioral intentions in the latter model ( $\beta_8 = .67, t(77) = 7.87, p < .01$ ).

## General Discussion

The two studies provide consistent support for the proposition that motivational orientation moderates the effect of arousal on pleasantness. In both studies, there is a significant crossover interaction, in which both simple effects are significant. The generalizability of the results is strengthened by the use of different manipulations of arousal and motivational orientation in the two studies. As we proposed, task-oriented consumers view shopping primarily as a means for obtaining a needed outcome (product, service, or information) and wish to complete their shopping as efficiently as possible; therefore, task-oriented consumers find high-arousal retail environments to be unpleasant. Conversely, recreational consumers derive inherent satisfaction from the shopping activity itself and therefore like high-arousal retail environments that create rich shopping experiences. The free-response data we collected in Study 2 supports our explanation for the interactive effect between arousal and motivational orientation.

In addition, the two studies provide evidence that is consistent with the results pertaining to shopping behavior obtained in the marketing literature (Table 1). Arousal and motivational orientation have an interactive effect on shopping behavior, and this interactive effect is mediated by pleasantness. Note, however, that the interactive effect between arousal and motivation was not a crossover effect in Study 2; arousal had no significant effect on shopping-behavior intentions in the task-oriented condition in that study.

## Limitations

The two studies involve participants engaging in a simulated shopping experience. Although Study 2 creates an experience similar to the experience that consumers would have when shopping on the Internet, the studies do not capture many elements of the experience that consumers have when shopping in stores. Thus, there is a need to provide more information about the generalizability of the results by carrying out either controlled experiments or correlational studies in stores.

## Managerial Implications

This research indicates that the level of excitement retailers should create in their stores depends on the shopping motivation of their customers. Retailers can infer the motivational orientation of their current and prospective customers from the retail offering (e.g., school supplies versus books, dental care versus cruises), the day of the week and the time of day (e.g., a Monday morning versus a Saturday afternoon), the time of the year (a nonholiday versus a holiday season), and the retailer's location (e.g., a business district versus a theme park). After a retailer determines the dominant motivational orientation of its customers, our framework suggests that the retailer should create a high-arousal environment for recreational consumers and a low-arousal environment for task-oriented consumers.

Retailers can use different elements of the store environment to influence customer arousal levels (e.g., music, color, complexity of the store layout and the merchandise presentation). For example, if a grocery store chain finds out that its customers are predominantly task oriented, it should use store designs with less-saturated cooler colors (e.g., light blues) and even associate such colors with its brand name. It should not use intense orange or red colors. The stores should have a simple layout and merchandise presentation. In contrast, the customers of a sporting-goods retailer may be predominantly recreationally oriented. This retailer should design its stores with a more complex layout and merchandise presentation and regularly reorganize the store and the merchandise presentation. The retailer should also use warm and highly saturated colors throughout its stores and in its brand name.

When customers' dominant motivational orientation varies in time, the retailer faces a more challenging task in designing the store environment. The elements of the store environment that are more difficult to modify frequently (e.g., the store's layout and wall color) should be designed to induce moderate arousal (i.e., intermediate levels of complexity, color warmth, and color saturation). More variable

elements, such as the background music, can be used to increase arousal at the times when customers are predominantly recreationally oriented and to decrease arousal when customers are predominantly task oriented.

Sometimes customers' dominant motivational orientation varies across the different store departments. In such cases, retailers are advised to design each department in such a way as to complement the dominant motivational orientation of the customers shopping there. For example, a consumer electronics retailer may create a low-arousal environment in the accessories area to accommodate customers (who typically have a task-oriented motivational orientation when shopping for accessories) but create a high-arousal environment in the home-entertainment centers, which are typically visited by recreationally oriented consumers.

Although our research and review of the literature focus on environmental effects in retail stores, the framework can be applied to consumer experiences with other marketing stimuli (e.g., packages and labels, advertising messages, Web sites). For example, according to our framework, Amazon.com should serve more complex, high-arousal Web sites to customers who indicate that they have come to the Web site to browse, but it should offer simpler, low-arousal Web sites to customers trying to find a specific book.

## Conclusion

Our theoretical framework identifies and examines a situational variable, motivational orientation, that moderates the relationship between arousal and pleasantness. By identifying the antecedents that determine the pleasantness of people's experiences while engaging in shopping and consumption, the framework offers an explanation for important aspects of consumer behavior and furnishes guidelines for effectively managing retail and consumption environments.

## Appendix Measurement Scales

### Dependent Variables

*Pleasantness* (scored on a nine-point semantic differential scale)

(Study 1) In this store, I would feel:

(Study 2) Throughout my visit to the concept music store, I felt:

•Displeased versus pleased; satisfied versus dissatisfied (reversed); pleasant versus unpleasant (reversed); unhappy versus happy.

(Study 1:  $M = 6.05$ ,  $SD = 1.70$ ,  $\alpha = .856$ ; Study 2:  $M = 5.70$ ,  $SD = 1.88$ ,  $\alpha = .912$ ; Studies 1 and 2:  $M = 5.88$ ,  $SD = 1.80$ ,  $\alpha = .887$ )

*Behavioral Intentions* (scored on a nine-point Likert scale, anchored by "strongly disagree" and "strongly agree")

What would you generally do if this store opens in this town or your hometown?

- I would enjoy shopping in this store.
- I would avoid ever having to return to this store. (reversed)
- I would want to avoid looking around or exploring this environment. (reversed)
- This is a place where I might try to avoid other people, and avoid having to talk to them. (reversed)
- I would be willing to buy things at this store.
- I would be willing to recommend this store to my friends.

(Study 1:  $M = 5.94$ ,  $SD = 1.60$ ,  $\alpha = .884$ ; Study 2:  $M = 5.27$ ,  $SD = 1.89$ ,  $\alpha = .907$ ; Studies 1 and 2:  $M = 5.61$ ,  $SD = 1.77$ ,  $\alpha = .900$ )

### Manipulation Checks

*Arousal* (scored on a nine-point semantic differential scale)

(Study 1) In this store, I would feel:

(Study 2) Throughout my visit to the concept music store, I felt:

- Relaxed versus stimulated; excited versus calm (reversed); frenzied versus sluggish (reversed); dull versus jittery; wide awake versus sleepy (reversed); unaroused versus aroused.

(Study 1:  $M = 5.11$ ,  $SD = 1.23$ ,  $\alpha = .784$ ; Study 2:  $M = 4.92$ ,  $SD = 1.66$ ,  $\alpha = .886$ ; Studies 1 and 2:  $M = 5.02$ ,  $SD = 1.46$ ,  $\alpha = .848$ )

*Motivational Orientation* (scored on a nine-point Likert scale, anchored by "strongly disagree" and "strongly agree")

(Study 1) On this shopping occasion, I would primarily want:

(Study 2) In the store, I primarily wanted:

- To have fun; to get things done (reversed); to be task focused (reversed); to relieve boredom.

(Study 1:  $M = 4.87$ ,  $SD = 1.91$ ,  $\alpha = .850$ ; Study 2:  $M = 4.70$ ,  $SD = 1.72$ ,  $\alpha = .771$ ; Studies 1 and 2:  $M = 4.79$ ,  $SD = 1.82$ ,  $\alpha = .808$ )

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