The Moderating Influence of Motivational Orientation
On the Relationship
Between Shopping Environment Arousal and Behavior

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ABSTRACT

Prior empirical research has reported an inconsistent relationship between the level of arousal produced by a shopping environment and consumer feelings of pleasantness in the environment. A conceptual framework, addressing the inconsistent results, proposes that the arousal-pleasantness relationship is moderated by the consumer’s motivational orientation. When consumers have an intrinsic motivational orientation, arousal has a positive impact on pleasantness. However, when consumers have an extrinsic motivational orientation, arousal decreases pleasantness. The moderating role of motivational orientation is supported by three laboratory studies in which motivational orientation and arousal are manipulated.
The Moderating Influence of Motivational Orientation On the Relationship Between Shopping Environment Arousal and Behavior

Recognizing 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). Other retailers, such as The Sharper Image, Bass Pro Shop, and Barnes & Noble, attempt to create a distinctive image of their stores and encourage buying behavior by conceiving of them as theatrical scenes: the floor and walls constitute the stage and scenery; the lighting, fixtures, and displays – the props; and the merchandise – the performance. In contrast, other retail chains, such as Costco and Home Depot, are successful using minimalist warehouse-style shopping environments (Levy and Weitz 2001).

With respect to electronic retailing contexts, it has been suggested that the most effective and desirable web sites challenge, and thus increase the arousal level of, consumers (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).

Even though considerable research has examined the impact of store environment elements on shopping behavior, the extant research does not provide an explanation for the variety of effective store environments, or managerial guidance for selecting the appropriate store environment. The objective of this research is to present, and provide
empirical support for, a theory outlining the impact of arousal-inducing features in a store environment on consumer affective responses to the environment and subsequent shopping behaviors in this environment. This theory focuses on an important situational variable, the consumer’s motivational orientation during the shopping trip, that is posited as moderating the effect of arousal on pleasantness.

The next section briefly reviews the research examining the effects of store environment on shopping attitudes and behavior. This review highlights some inconsistent, and in some cases contradictory, findings suggesting the need to consider moderating constructs. Then we propose a theory, focusing on the moderating effect of motivational orientation, that resolves some of these inconsistent findings, followed by the results of three laboratory experiments supporting our theory. The paper concludes with a discussion of the limitations of our research, its managerial implications, and directions for future research.

**RESEARCH ON ENVIRONMENT AND SHOPPING BEHAVIOR**

The seminal conceptualization by Mehrabian and Russell (1974), discussed in the following section, is the basis of most marketing research studying the impact of environmental factors on shopping behavior.

**Mehrabian and Russell’s Conceptualization of Environmental Effects**

As shown in Figure 1, Mehrabian and Russell (1974) propose that the sensory variables in the environment, the information rate of the environment (a construct that reflects the level of overall uncertainty in the environment), and individual differences in emotional experience influence the affective responses to the environment, which, in turn, induces individuals to approach or avoid the environment.
Mehrabian and Russell (1974) identified and operationalized three critical dimensions of affective response: pleasantness, arousal, and dominance. They developed semantic-differential scales to assess the dimensions (Mehrabian and Russell 1974, Appendix B) and offered empirical support for the three-dimensional affective structure. However, subsequent research has consistently found that pleasantness and arousal explain most of the variance in approach-avoidance behaviors (Russell 1978; Russell and Pratt 1980). The subsequent review of marketing studies supports this conclusion.

Mehrabian and Russell’s framework contends that environments inducing pleasant, arousing, and dominant affective responses have a positive impact on the five approach-avoidance behaviors shown in Figure 1. However, their empirical studies provided mixed support for this contention. Pleasantness had a positive effect on staying in and exploring the environment, but arousal had an “inverted-U” relationship with exploration. In addition, there were interactions among the three affective dimensions. For example, exploratory behavior peaked at higher levels of arousal as pleasantness increased. Pleasant, low-arousal, and dominant situations and unpleasant, high-arousal, and submissive situations induced most affiliation (social interaction) (Mehrabian and Russell 1974).

**Empirical Studies of Environmental Effects on Shopping Behaviors**

Table 1 summarizes the empirical studies in marketing examining environmental influences on shopping behaviors. This summary indicates that pleasant shopping environments, in almost all cases, have been found to have a positive impact on all dependent variables. However, the effects of arousal are less consistent. Sherman, Mathur, and Smith (1997) reported that arousal increases purchasing intentions and
spending; Milliman (1982) observed the opposite effect; and Smith and Curnow (1966) found no effect. Baker, Levy, and Grewal (1992) found that arousal increases approaching orientation, but Sweeney and Wyber (2002) obtained no effect. Dube, Chebat, and Morin (1995) and Sweeney and Wyber (2002) reported that arousal increases affiliation. But Donovan and Rossiter (1982) were able to replicate the positive effect on the above two dependent variables (approaching orientation, affiliation) in pleasant retail settings only. Sherman et al. (1997) found that arousal increases the duration of the visit, but Smith and Curnow (1966) found the opposite. Donovan and Rossiter (1982) replicated Sherman et al.’s result in a pleasant setting only. In contrast to the positive effect of pleasantness on three dependent variables (unplanned spending, unplanned extension of the visit, and satisfaction/attitude), arousal was largely found to have no effect on any of these variables (Donovan and Rossiter 1982; Donovan et al. 1994; Sherman et al. 1997; Wirtz and Bateson 1999). Finally, Donovan and Rossiter (1982) examined a variety of retail environments and found that arousal had a positive effect on most dependent variables in pleasant settings, but another study conducted in discount stores (Donovan et al. 1994) failed to confirm these relationships.

The overall pattern of findings suggests that pleasantness has a consistent direct effect on subsequent shopping behaviors. But the impact of arousal varies across environments and thus its effects may be moderated by a previously unidentified construct. This conclusion is consistent with the previously reviewed empirical research undertaken by Mehrabian and Russell (1974). In the following section, we propose a theoretical framework that resolves a number of the inconsistencies reported in the
research on environmental effects and provides some managerial insights into the appropriate design of store environments and retail web sites.

THEORETICAL FRAMEWORK

Our theoretical framework is shown in Figure 2. The framework proposes that environmental factors affect consumer arousal, which subsequently affects pleasantness and consumer shopping behaviors. Consumer motivational orientation moderates the arousal-pleasantness relationship. When consumers have an intrinsic motivational orientation, arousal has a positive effect on pleasantness. On the other hand, when consumers have an extrinsic motivational orientation, arousal has a negative effect on pleasantness.

Our framework is consistent with a framework suggested by Bitner (1992) for examining the impact of service environments on customers and service providers. While Bitner (1992) suggests potential variables moderating the relationship between the perceived environment and customer responses, our framework proposes a relationship between a specific aspect of the perceived environment (environment-induced level of arousal), a specific customer response (pleasantness of the customer’s affective experience), and the customer’s motivational orientation.

The relationship between various environmental characteristics and arousal is well documented in the literature. For example, many studies have found that warm colors (Kueller and Mikellides 1993; Valdez and Mehrabian 1994), fast tempo music (Holbrook and Gardner 1993; Kellaris and Kent 1993), and complex environments (Berlyne 1971) increase arousal. In addition, the previously discussed research provides significant support for the proposed relationship between pleasantness and approach-
avoidance shopping behaviors. The novel element in our framework (shown in the shaded area) is the proposed relationship between arousal, pleasantness, and motivational orientation. Thus, the following discussion and empirical research focus on these elements of the proposed framework.

**Constructs**

In this section, we define the constructs. Then, in the next section, we develop a proposition concerning the relationships between the constructs.

*Motivational Orientation*. Motivation is defined as the intensity, persistence, and direction of effort allocation (Weiner 1980). We use the term *motivational orientation* to characterize two different *directions* towards which effort can be allocated - extrinsic and intrinsic (Deci and Ryan 1985). Consumers have an extrinsic motivational orientation when they are allocating effort to activities (engaging in behaviors) that are a means to achieve an end. Consumers have an intrinsic motivational orientation when they are allocating effort to activities for which simply undertaking the activity is rewarding in itself – the process rather than realizing the end state is the reward, (Deci 1975).

Deci and Ryan (1985) also emphasize that the perception of choice plays a role in determining the motivational orientation. Consumers have an extrinsic motivational orientation when they are engaging in behaviors that they are obligated to do (feel they have to do) and thus feel that their choice of behaviors is restricted. In contrast, an intrinsic motivational orientation arises when consumers feel free to engage in behaviors of their own choosing.

In his conceptualization of adult play, Alter (1982) identifies two similar motivational orientations that he refers to as *telic* (extrinsic) and *paratelic* (intrinsic).
Apter (1982) proposes that a reversal of means and ends occurs between the two orientations – behavior serves as a means for the achievement of an end in telic motivational states, but constitutes an end in itself in paratelic states. Thus, the person’s readiness to terminate a behavior and receive its outcome indicates whether the behavior is carried out with a telic or paratelic motivational orientation (p. 51). Apter also emphasizes that discretion distinguishes between the two orientations - paratelic behaviors are discretionary (free-chosen) and telic behaviors are non-discretionary.

Arousal. Mehrabian and Russell (1974) defined arousal as an affective property (dimension) ranging from sleep to frantic excitement (p. 18). Later Russell refined this conceptualization and defined the construct as the subjective experience of energy mobilization (Russell and Feldman Barrett 1999, p. 809).

Pleasantness. Pleasantness is defined as the hedonic valence (pleasant or unpleasant) of an affective response to a stimulus that is based on the extent to which the stimulus (the target of the affective response) enables individuals to achieve their salient goal(s). Stimuli that facilitate goal achievement are felt as pleasant, while stimuli that impede goal achievement are felt as unpleasant (Refer to Clore, Schwarz, and Conway 1994 for a review).¹

The Moderating Role of Motivational Orientation

Consumers have an extrinsic motivational orientation when their behaviors are directed towards activities that they perceive they have to do and are not intrinsically rewarding such as a business person buying a gift for her assistant’s son when she returns from her business trip to New York. Since activities undertaken with an extrinsic motivation (as a means to an end) typically are not personally-gratifying, the energy or
resources mobilized in pursuit of these activities has an opportunity cost. Thus consumers
with an extrinsic motivational orientation try to complete their task as efficiently as
possible, with the minimum expense of physical or mental energy. In this situation,
consumers view the decreased efficiency and the increased energy level created by high-
arousal environments as unpleasant. For example, the business person will find the high-
arousal environment (loud music, bright lights, action displays, etc) of the Toys R Us
Times Square store as unpleasant because it requires her to mobilizes more energy than
she would like to use to find the right gift for her assistant’s son.

In contrast, consumers who have an intrinsic motivational orientation are pursuing
an activity (e.g. browsing through the new merchandise at the Times Square Toys R Us)
that they do not “have to do” and find personally gratifying. These consumers desire to
derive richer and fuller experiences from the activity, that is realized when the consumer
allocates more energy to the activity. Thus, in these situations, consumers find the
opportunity to mobilize more energy offered by a high-arousal environment as pleasant,
and situations that call for mobilizing less energy as unpleasant. Based on the preceding
discussion, we propose:

Proposition: Motivational orientation moderates the effect of arousal on pleasantness:
arousal (a) decreases pleasantness for consumers with an extrinsic motivational
orientation and (b) increases pleasantness for consumers with an intrinsic motivational
orientation.

The proposed moderating effect of motivational orientation resolves some of the
inconsistent empirical results reviewed previously. Consider the results of Milliman
(1982), who found no effect of arousal on purchasing intentions and spending in a
supermarket and Sherman et al. (1997) who found a positive effect of arousal in a mall-
based specialty store. Shopping for groceries is commonly conceived of as an end to be
achieved in the most efficient manner. Few consumers find grocery shopping personally
gratifying (Levy and Weitz 2001). Thus consumers shopping for groceries typically will
have an extrinsic motivational orientation. On the other hand, consumers frequently stroll
around fashion stores on weekends or holidays as a form of recreation (intrinsic
orientation). Motivational orientation moderates the effect of arousal on shopping
behaviors: arousal increases purchasing intentions, spending, and other approaching
responses in the extrinsic orientation, but decreases these responses in the intrinsic
orientation.

EMPIRICAL RESEARCH

This section describes three experimental studies that test our theoretical
proposition. These studies demonstrate the robustness of the effect by using two different
manipulations of motivational orientation and three different manipulations of arousal.

Procedure

The identical procedure was used in all three studies. First the subjects,
undergraduate students from a large Southeastern university who voluntarily participated
in exchange for extra-credit in introductory marketing classes, were induced to adopt
either an extrinsic or an intrinsic motivational orientation. Then they were exposed to
either a low-arousal or a high-arousal shopping environment. Then the subjects were
asked to indicate the pleasantness of their affective experience in the environment. The
questionnaires concluded with manipulation checks.
Measures

All three studies used the same measures to assess the experimental manipulations and the dependent variable (pleasantness). The effectiveness of the motivational manipulations was measured by having subjects complete the sentence, “On the present shopping occasion, I want …,” in the first and third studies, and, “While examining the store, I wanted …,” in the second study, with eight seven-point (1 to 7) Likert-type items. Four of the items - “to be purposeful,” “to get things done,” “to be task-focused,” and “to be efficient” – indicated an extrinsic motivational orientation, while the other four – “to feel leisurely,” “to feel amused,” “to feel carefree,” and “to feel entertained” – denoted an intrinsic orientation.

Mehrabian and Russell’s scale (1974) has been widely used to measure arousal. However, several anchors of this scale suggest the specific motivational orientations we attempted to manipulate in these studies, thus confounding the manipulation-check measures. For example, annoyed, jittery, melancholic, relaxed, and calm imply an extrinsic state, while excited and bored imply an intrinsic state (Apter 1982). For this reason, we used four seven-point (–3 to +3) semantic-differential items (lifeless/ lively, inert/ energetic, dull/ vigorous, and inactive/ active), since they do not connote a specific motivational state. The subjects were instructed to complete, with respect to each item, the sentences: “The atmosphere of this store feels…,” in the first study; “The ambience felt…,” in the second study; and, “The musical selection makes me feel…,” in the third study.

The dependent variable (pleasantness) measure involved four seven-point (–3 to +3) semantic-differential scales: displeased/ pleased, dissatisfied/ satisfied, unpleasant/
pleasant, and unhappy/happy. With respect to each item, subjects completed the sentences: “Shopping in this store on the present occasion would make me feel…,” in the first and third studies, and, “The ambience made me feel…,” in the second study.

Appendix B contains the complete measures. Confirmatory factor analyses indicated a unidimensional solution for all scales in all studies. The final scales were obtained by averaging the items. The extrinsic items were reverse coded in the final motivational measure, so that a higher score on this measure indicates a stronger intrinsic orientation. Appendix C exhibits the means, standard deviations, and Cronbach’s alphas of all measures for each study.

**STUDY ONE**

**Procedure**

The first empirical test was a 2 x 2 x 2 x 3 mixed design with motivational orientation (extrinsic vs. intrinsic), arousal (high vs. low), and the presentation order of the shopping contexts, all manipulated between subjects, and three shopping-context replicates manipulated within subjects. Thirty-one subjects participated.

The shopping contexts were exhibited in two random presentation orders with approximately half of the subjects being exposed to each order. Since the shopping contexts were presented by means of color photographs (see Exhibit 1) on a large screen before all the subjects in a particular session, the different presentation orders were replicated in multiple sessions, so that their effects might be distinguishable from the effects of the sessions.
**Manipulation of Motivational Orientation.** The subjects were instructed to read a hypothetical scenario that described a fictional situation in which an individual, similar to themselves, went shopping either for a needed product (extrinsic motivation) or for diversion (intrinsic motivation). Approximately half of the subjects were randomly assigned to each condition. Appendix A contains the complete scenarios. Having familiarized themselves with the scenario, subjects were asked to recount, in five or more sentences, a personal experience of a similar nature. This exercise was included to facilitate the adoption of the respective motivational orientation.

**Manipulation of Arousal.** Arousal was manipulated by varying the complexity and colors of the stimulus shopping environments. Complexity is defined as the number of non-redundant components in a configuration (Berlyne 1971, p. 149), a structural quality consistently demonstrated to increase arousal (Berlyne 1960, p. 178; Mehrabian and Russell 1974, p. 84). Color warmth has likewise been found to increase arousal: warm colors induce more arousal, cool colors induce less arousal (Kueller and Mikellides 1993; Valdez and Mehrabian 1994). The continuum of coolness/warmth has been identified as green, blue, violet, yellow, orange, and red; green being the coolest color, and red - the warmest (Mehrabian and Russell 1974, p. 60). Finally, saturation (the subjective experience of a wavelength’s spectral purity) (Hogg 1969) has also been found to increase arousal (Valdez and Mehrabian 1994). Three complex ambiences in saturated warm colors were selected for the high-arousal treatment, and three simpler ambiences in unsaturated cool colors were used for the low-arousal treatment (see Exhibit 1). Ambiences (a), (b), and (c) constituted the high-arousal stimuli, the other three ambiences - the low-arousal stimuli. Ambiences (a) and (d) were randomly paired to
form the first replicate, ambiences (b) and (e) – the second replicate, and, finally, ambiences (c) and (f) – the third replicate.

**Manipulation Checks.** The subjects in the intrinsic motivation condition reported a greater inclination for diversion than the subjects in the extrinsic motivation condition (F=81.56, p<.01, df\text{error} = 29; 5.81 vs. 2.30). A repeated-measures analysis of variance examined the effectiveness of the arousal manipulation. The strong main effect of this factor (F=269.99, p<.01, df\text{error} = 29; 6.35 vs. 3.17) was qualified by a significant interaction with the replicates (F=16.46, p<.01, df\text{error} = 28). The third replicate resulted in the largest difference (F=233.28, p<.01, df\text{error} = 29; 6.46 vs. 2.17), the first replicate - in a smaller difference (F=164.61, p<.01, df\text{error} = 29; 6.65 vs. 3.60), and the second replicate - in the smallest effect (F=50.01, p<.01, df\text{error} = 29; 5.93 vs. 3.73). For all three replicates, however, the complex ambiences in saturated warm colors were evaluated as more arousing than the simpler ambiences in unsaturated cool colors. The presentation order did not have any main or interaction effects (F ≤ 1.00, p>.10).

**Results**

A repeated-measures analysis of variance revealed the hypothesized moderating effect of motivational orientation on the relationship between arousal and pleasantness (F=21.79, p<.01, df\text{error} = 27). Neither presentation order (F=.11, p>.10, df\text{error} = 27), nor the replicates (F=.14, p>.10, df\text{error} = 26), interacted with the moderating effect. While the intrinsic-oriented subjects experienced the high-arousal ambience as more pleasant (F=35.33, p<.01, df\text{error} = 14; M_H = 5.92 vs. M_L = 4.15), the extrinsic-oriented subjects experienced the low-arousal ambience as more appealing (F=4.79, p<.05, df\text{error} = 13; M_L = 5.41 vs. M_H = 4.05) (see Figure 3a).
Discussion

This experiment provided evidence that arousal relates positively to pleasantness in intrinsic motivational states, but is negatively related to pleasantness for subjects in extrinsic motivational states. However, due to the use of naturalistic settings as stimuli, factors other than context-induced arousal might have affected pleasantness. In addition, the simulated nature of the motivational manipulation raises a question about the validity of the findings: subjects’ conceptions of their affective experience in a shopping context on a hypothetical shopping occasion might not accurately represent their experience in the same situation in real life. These issues were addressed in the next studies.

STUDY TWO

Procedure

This experiment manipulated arousal with stimuli that differed on only one arousal-related component – color. In addition, the motivational manipulation placed subjects in a real extrinsic or intrinsic state. The experiment also involved two different shopping contexts to extend the generalizability of the results. The experimental design was a two (motivational orientation: extrinsic vs. intrinsic) by two (arousal: low vs. high) by two (shopping-context replicates) between-subjects design. Ninety-four subjects participated in the study.

The subjects were shown an interior view from an apparel store on individual computer screens. On-screen instructions informed them that they would be able to examine two different apparel articles in greater detail. The specific articles could be identified by scanning the merchandise with the mouse. The pointer converted from an arrow into a hand whenever it passed over an item about which additional information
was available. A click on the article opened a separate window that furnished a complete description and a picture of the item. Subjects could return to the shopping context by depressing a button in this information window.

**Manipulation of Motivational Orientation.** In the extrinsic orientation condition, subjects were required to uncover the names and prices of the two apparel articles in 20 seconds. Subjects were told that those who did not accomplish the task on their first attempt would have to return to it after completing the questionnaire. Subjects in the intrinsic orientation condition were encouraged to browse through the store for 20 seconds, as they would if they were browsing through a store for diversion.

Both motivational conditions were allowed to examine the shopping context for an equal amount of time (20 seconds). Then the retailing ambience and the information windows disappeared automatically from the screen. On-screen instructions invited the subjects to complete their questionnaire. The extrinsic instructions additionally reminded the subjects that those who had not accomplished the task (to uncover the names and prices of the two actionable articles) were to return to it at the end. After completing the questionnaire, the extrinsic-treatment subjects were advanced to another screen which presented a multiple-choice question about the prices of the two actionable articles. Those subjects who could not indicate the correct answer were automatically returned to the ambience screen, to examine the store again. The program allowed four attempts in total.

**Manipulation of Arousal.** In contrast to the previous study, every subject was exposed to only one treatment of arousal. Arousal was manipulated by varying color saturation and color warmth. The high-arousal shopping context was executed in
saturated and warm (red, orange, and yellow) shades, while the low-arousal context was executed in unsaturated and cool (green and blue) hues. The shopping contexts were identical with respect to all other environmental components. The merchandise in the shopping environment was shown using achromatic shades (white, gray, and black) in both conditions. The background of the information windows was colored in saturated red for the high-arousal treatment and in unsaturated greenish-blue for the low-arousal treatment. This manipulation was replicated for two different shopping contexts. Refer to Exhibit 2 for a reproduction of the experimental stimuli.

**Measures.** In addition to the dependent-variable measure and the manipulation-check measures, the questionnaire assessed two additional constructs – the attitude toward the ambience layout and individual differences with respect to the pleasantness of arousal - so that their influence might be partialed out in the subsequent statistical analysis. The first covariate, the attitude towards the ambience layout, was measured by having subjects report the degree to which they agree with the statement, “I like the arrangement of the ambience,” on a Likert-type scale. Mehrabian and Russell’s (1974) Arousal Seeking Tendency Scale was used to measure individual differences (pp. 218-219).

The measures of arousal, pleasantness, and the attitude towards the ambience layout were presented on the individual computer screens. Instead of indicating a number, as in the previous study, subjects could slide a needle along the entire range of the scale and stop this needle at any point. The measurement scales ranged from –30 to +30. Before the statistical analyses were conducted, subjects’ scores were divided by 10. In all other ways, the arousal measure and the pleasantness measure were identical to the ones
used in the previous study. The motivational measure was also the same as in the
previous study. The motivational measure and the individual-difference measure were
administered on paper.

**Manipulation Checks.** The subjects in the intrinsic condition had a significantly
greater mean on the motivational measure than the subjects in the extrinsic condition
\((F=22.14, p<.01, df_{error}=86; M_{\text{int.}} = 4.52 \text{ vs. } M_{\text{ext.}} = 3.45)\). The subjects who received the
high-arousal manipulation had a higher mean on the arousal measure, but the difference
between the treatment means only approached the conventional level of statistical
significance \((F=2.34, p=.13, df_{error}=86; M_{\text{H}} = 3.91 \text{ vs. } M_{\text{L}} = 3.47)\); the different shopping
contexts did not interact with this effect \((F=1.26, p>.10, df_{error}=86)\).

**Results**

Before an analysis of covariance could be conducted, the statistical assumptions
underlying this analysis were tested. For the first covariate (the attitude towards the
ambience layout) the experimental treatments had no main or interaction effect on the
covariate \((F \leq 1.56, p>.10, df_{error}=86)\), and no interaction effects with the covariate on the
dependent variable \((F \leq 2.40, p>.10, df_{error}=78)\); therefore, the layout-attitude variable
was included as covariate in the statistical analyses. The second covariate (the individual-
difference variable) did not meet the assumptions and therefore could not be used as a
covariate.

Motivational orientation moderated the effect of arousal on pleasantness \((F=4.43,
p<.05, df_{error}=85)\). An a priori contrast revealed a simple effect of arousal for the intrinsic
orientation condition \((F=6.15, p<.05, df_{error}=85)\): these subjects experienced the high-
arousal ambience as more pleasant than the low-arousal ambience \((M_{\text{H}} = 4.93 \text{ vs. } M_{\text{L}} = \)
4.28). Despite the treatment means being in the hypothesized direction, the simple effect was not significant in the extrinsic orientation condition \( (F=0.17, p>.10, df_{\text{error}}=85; M_L = 4.80 \text{ vs. } M_H = 4.70) \). The layout-attitude variable had a positive relationship with pleasantness \( (F=82.45, p<.01, df_{\text{error}}=85) \) (see Figure 3b).

**Discussion**

This experiment furnished convergent support for the proposition. Those subjects who were induced to adopt an intrinsic motivational orientation indicated experiencing greater pleasantness in response to the high-arousal stimulus than to the low-arousal stimulus. Conversely, those subjects who were induced to adopt an extrinsic orientation exhibited the opposite tendency.

The fact that only one arousal-related environment component was manipulated, while all other stimulus characteristics were held constant, strengthens the inference that the results are produced by context-induced arousal rather than by another variable. In addition, the motivational manipulation placed subjects in a more involving situation, that further enhances the validity of the results. The replication of the effect in two different shopping contexts provides evidence for its general nature.

The manipulation check of arousal approached, but failed to attain, the conventional level of statistical significance. This non-significant result does not necessarily indicate that the experimental manipulation of arousal did not produce an effect. Psychophysical studies that manipulate stimuli of similar intensity and duration but use more sensitive measures – an interval self-report scale with an unambiguous reference point (Hogg 1969), galvanic skin response (Jacobs and Hustmyer 1974; Wilson 1966), or finger tremor (James and Domingos 1953) - have consistently demonstrated the
arousing effect of color saturation and color warmth. The insufficient sensitivity of the manipulation-check measure might plausibly account for the failure to obtain a significant difference.

This experiment varied a single psychophysical variable: color. This empirical limitation leaves open the possibility that the effect might result from differences with respect to this particular variable only. The next study addresses this issue.

**STUDY THREE**

An alternative operationalization of arousal - musical tempo - was used in this study to extend the generalizability of the findings of the previous studies. Musical tempo has been consistently found to increase arousal (Holbrook and Anand 1990; Holbrook and Gardner 1993; Kellaris and Kent 1991, 1993).

This third study was a two (motivational orientation: extrinsic vs. intrinsic) by two (arousal: low vs. high) by two (musical selection) between-subjects design. One-hundred and thirty-one subjects participated in this study.

**Procedure**

The same manipulation of motivational orientation was used in this study as in the first study: subjects were asked to imagine themselves shopping in a given context either for an extrinsic or for an intrinsic reason. Arousal was manipulated through background music - a fast or a slow musical selection. The table presents the composer, title, and CD label of the four musical pieces. Selections 1 and 2 are considered to have a fast tempo, selections 3 and 4 – a slow tempo.
The musical presentation continued for one minute and 50 seconds. Since an entire session was exposed to the same musical selection, every piece was replicated in two sessions at least, so that the effects of arousal might be estimated separately from those of the testing occasions.

Motivational orientation, arousal, and pleasantness were measured with the same multi-item, self-report scales that were used in the first two studies. All measures were administered in a paper questionnaire. The intrinsic treatment resulted in a higher mean on the motivational scale than the extrinsic treatment ($F=455.25$, $p<.01$, $df_{error}=123$; 5.61 vs. 2.31). The faster musical selections were experienced as significantly more arousing than the slower selections ($F=139.60$, $p<.01$, $df_{error}=123$; 5.30 vs. 2.74); the different musical selections did not interact with this effect ($F=3.46$, $p>.05$, $df_{error}=123$).

Results

Motivational orientation moderated the effect of arousal on pleasantness ($F=3.06$, $p=.08$, $df_{error}=123$). The low-arousal musical selections were experienced as more pleasant than the high–arousal selections under the extrinsic orientation ($F=5.15$, $p=.02$, $df_{error}=123$).
df_{error}=63; M_{L}=4.49 \text{ vs. } M_{H}=3.55). While the pleasantness means for the subjects in the intrinsic motivation condition were in the hypothesized direction, their difference was not statistically significant (F=.04, p>.10, df_{error}=64; M_{H}=4.31 \text{ vs. } M_{L}=4.23). The independent variables did not interact with the different musical selections (F≤.45, p>.10, df_{error}=123) (see Figure 3c).

**GENERAL DISCUSSION**

The series of three empirical studies provides consistent support for the proposition that motivational orientation moderates the effect of arousal on pleasantness. All three studies found a significant interactive effect between motivational orientation and arousal on pleasantness. These results were found for six different experimental manipulations of arousal – three pairs of naturalistic shopping contexts, one pair of color schemes, and two pairs of musical selections. The use of two different motivational manipulations additionally supports the validity of the results. This variety of operational definitions strengthens the conclusion that the effects of arousal on pleasantness are moderated by motivational orientation.

**Limitations**

In all three studies, the differences between treatment means were in the hypothesized direction, but some tests of the hypothesized cross-over interaction were not statistically significant. Subjects with an extrinsic motivational orientation found a low-arousal environment to be significantly more pleasant in two of the three studies (studies 1 and 3), subjects with an intrinsic motivational orientation found the high-arousal environment more pleasant also in two of the three studies (studies 1 and 2). In addition,
the manipulation check for arousal failed to achieve statistical significance in the second study.

Even though the results did not completely support the hypothesized cross-over interaction in all studies, the pattern of results is compelling when one considers the nature of the manipulations. In the second study, the arousal manipulation simply changed the color of a portion of a photograph depicting a store environment. In light of the variety of manipulations, and the fact that all the means in each study were consistent with the predictions of our theory, it is difficult to provide an alternative explanation for the pattern of results other than the proposed explanation.

In two of the studies, the motivational manipulation utilized a mental simulation: subjects imagined that they were shopping for a particular reason and in a particular context, and reported how pleasant this hypothetical experience would make them feel. Since subjects’ conceptions of their subjective experiences might differ from their real-life responses, this empirical approach might raise some question about the validity of the results. However, the convergent evidence from the second study, in which subjects were placed in an extrinsic or intrinsic motivational state, suggests that this limitation may not constitute a serious problem.

In all three studies, the entire sessions received the same level of a variable: the presentation order of the shopping contexts in the first study, motivational orientation in the second study, and arousal in the third study. In consequence, the experimenter was inevitably knowledgeable of the treatment that the subjects in the session were to receive, and might have inadvertently influenced their responses with subtle behavioral cues.
However, it is doubtful that the experimenter could have influenced the results related to the hypothesis of interest – the interaction between motivational orientation and arousal.

**Implications**

Our conceptual framework enhances our understanding of consumers’ subjective experiences in store environments. Retailers can infer the motivational orientation of their current and potential customers. For example, the predominant motivational orientation of consumers can be inferred from the retail offering they are considering (e.g., groceries vs. books, dry cleaning vs. tour-guiding), the day of the week and the time of day they are shopping in (e.g., a weekday morning vs. a Saturday afternoon), the time of the year (a non-holiday vs. a holiday season), or the location of the retailer (e.g., a business district vs. an amusement park). After the prevailing motivational orientation is determined, our framework suggests that the retailer should provide a level of arousal in the environment consistent with the motivational orientation – high-arousal environment for intrinsic-oriented shoppers and low-arousal environment for extrinsic-oriented shoppers.

For example, a retailer might find that shoppers are more intrinsically motivated on weekends and more extrinsically motivated on weekdays. With this information, the retailer might use a softer lighting and play soothing music on weekdays, and use more intense lighting and music on weekends.

In addition, the ambiance of areas in the store might be designed to complement the dominant motivational orientation of customers shopping in those areas. For example, a consumer electronics retailer might create a low-arousal environment in the accessories area to accommodate customers, who typically have an extrinsic motivational orientation.
when shopping for these products, but create a high-arousal environment in the home-entertainment centers, that are typically visited by intrinsically-oriented customers.

While our literature review and research has focused on environmental effects in retail stores, the framework can be applied to consumer experiences with other marketing stimuli (packages and labels, advertising messages, web sites, etc.). For example, based on our framework, Amazon should serve complex, high-arousal web pages to customers who indicate they are browsing, but simpler, low-arousal pages to customers looking for a specific book.

**Directions for Future Research**

Clearly, marketers can manipulate the level of arousal in a store environment or web page. An interesting area for future research is the degree to which marketers can influence consumer motivational orientation. Can consumers be induced to adopt an intrinsic motivational orientation? Since the intrinsic orientation arises when consumers do not perceive constraints on their behavior, it follows that contexts that decrease the probability consumers will formulate or recall “ends” to be achieved are more likely to induce them to adopt an intrinsic orientation.

The nature of the context has been found to affect the self-related cognitive material (self-conceptions, self-evaluations, aspirations, duties, etc.) that becomes salient in the consumer’s mind (Markus and Kunda 1986; Markus and Nurius 1986). It follows that everyday (typical) contexts make salient typical (chronic) self-related material. Therefore, any tasks that consumers formulate or recall in everyday contexts are more likely to be associated with *chronic* self-related material, and, therefore, more likely to be viewed as important goals to be achieved, placing more restrictions on behavior.
In contrast, extraordinary (atypical) contexts make salient self-related material that arose in earlier encounters with the same or similar contexts. Since these contexts are encountered on few occasions and for a short time, the self-related material is atypical (transient, “short-lived”) in nature. Therefore, tasks formulated or recalled in extraordinary contexts are more likely to be associated with short-lived self-related material, and, therefore, less likely to be viewed as important goals to be achieved, placing fewer restrictions on behavior.²

In conclusion, marketing management may facilitate consumers in the adoption of an intrinsic motivational orientation by creating and maintaining extraordinary (atypical) contexts. This conceptual proposition provides grounds for the enhancement of various shopping and consumption experiences (shopping in an enclosed mall, vacationing in a cruise ship, etc.), and, consequently, indicates a potentially promising avenue for further study.

CONCLUSION

Our theoretical model identifies and examines a situational variable – motivational orientation - that moderates the relationship between arousal and pleasantness. In this manner, the present research effort advances our conceptual understanding of the association between these constructs. By identifying the antecedents which determine the pleasantness of people’s subjective experiences in the course of shopping and consumption, the model offers an explanation for important aspects of consumer behavior, and furnishes definite guidelines for effective marketing management.
REFERENCES


ENDNOTES

1 Mehrabian and Russell (1974) defined pleasantness as an affective feature that they operationalized using semantic-differential scales or behavioral indicators (p. 18).

2 It should be noted that only safe extraordinary contexts make salient atypical self-related material. Unsafe extraordinary contexts (which threaten the consumer’s survival, self-esteem, etc.) make salient everyday self-related material (Brown 1991; Celsi, Rose, and Leigh 1993).
TABLE I
Summary of Research Examining Effects of Affective Responses to the Shopping Environment on Shopping Behaviors

<table>
<thead>
<tr>
<th>SHOPPING BEHAVIORS</th>
<th>PLEASANTNESS</th>
<th>AROUSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>AROUSAL</strong></td>
<td><strong>PLEASANT SETTING</strong></td>
</tr>
</tbody>
</table>
TABLE 1 - Continued

<table>
<thead>
<tr>
<th>SHOPPING BEHAVIORS</th>
<th>PLEASANTNESS</th>
<th>AROUSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pleasant Setting</td>
<td>Unpleasant Setting</td>
</tr>
<tr>
<td></td>
<td>P Donovan et al. (1994)</td>
<td>O Donovan et al. (1994)</td>
</tr>
<tr>
<td>Unplanned Extension of the Visit</td>
<td>P Donovan et al. (1994)</td>
<td>O Donovan et al. (1994)</td>
</tr>
<tr>
<td></td>
<td>O Donovan et al. (1994)</td>
<td>O Donovan et al. (1994)</td>
</tr>
<tr>
<td>Satisfaction/Attitude</td>
<td>P Sherman et al. (1997)</td>
<td>O Sherman et al. (1997) *</td>
</tr>
<tr>
<td></td>
<td>P Spies et al. (1997)</td>
<td>O Wirtz and Bateson (1999) *</td>
</tr>
<tr>
<td></td>
<td>P Yalch and Spangenberg (2000)</td>
<td></td>
</tr>
<tr>
<td>P ⇒ positive relationship</td>
<td>O ⇒ no relationship</td>
<td></td>
</tr>
<tr>
<td>O ⇒ no relationship</td>
<td>N ⇒ negative relationship</td>
<td></td>
</tr>
<tr>
<td>⇒ The effect of arousal is not controlled for the level of pleasantness.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FIGURE 1

Environmental Model of Mehrabian and Russell (1974)

Environmental Characteristics
- Sensory variables (visual, aural, social, etc.)
- Information rate of the environment

Affective Responses to the Environment
- Pleasantness
- Arousal
- Dominance

Approach to/Avoidance of the Environment
- Physical movement towards/staying
- Attention to and exploration
- Favorable attitude
- Successful execution of a task
- Affiliation (social interaction)

Individual differences with respect to emotional experience
FIGURE 2
Theoretical Framework

Environmental Characteristics \(\rightarrow\) Arousal \(\rightarrow\) Pleasantness \(\rightarrow\) Approach/Avoidance Shopping Behaviors

Motivational Orientation
FIGURE 3

Pleasantness as a Function of Motivational Orientation and Arousal
Extrinsic Motivational Orientation

It is Thursday afternoon and you are leaving for a three-day trip on the next day. You have already started packing and you find out that you need one more T-shirt. There are so many things you have to take care of personally that you do not have much time, but you know that you will not be able to do without the additional T-shirt. So you think of a store where you can obtain what you need.

You drive to the mall and enter the Store. You pass by a couple of sections and head straight for where the T-shirts are. You start looking through the available stock and examine a T-shirt.

Intrinsic Motivational Orientation

It is shortly after noon on a Saturday and none of your friends are around, but you do not feel like staying at home the whole day. It is raining, so you do not want to do anything outdoors either.

So you decide to go to a store to spend a couple of enjoyable hours and have a nice time. You drive to the mall and visit various shops.

You enter a Store and slowly start browsing through the sections. You find some T-shirts and begin considering one of them.
APPENDIX B
SCALES OF THE CONSTRUCTS

I. Motivational Orientation

1. On the present shopping occasion, I want to be purposeful (reversed).
2. On the present shopping occasion, I want to get things done (reversed).
3. On the present shopping occasion, I want to be task-focused (reversed).
4. On the present shopping occasion, I want to be efficient (reversed).
5. On the present shopping occasion, I want to feel leisurely.
6. On the present shopping occasion, I want to feel amused.
7. On the present shopping occasion, I want to feel carefree.
8. On the present shopping occasion, I want to feel entertained.

II. Arousal

1. Lifeless vs. Lively
2. Inert vs. Energetic
3. Dull vs. Vigorous
4. Inactive vs. Active

III. Pleasantness

1. Displeased vs. Pleased
2. Dissatisfied vs. Satisfied
3. Unpleasant vs. Pleasant
4. Unhappy vs. Happy
# APPENDIX C
MEANS, STANDARD DEVIATIONS, AND CRONBACH’S ALPHAS OF THE MEASUREMENT SCALES

<table>
<thead>
<tr>
<th></th>
<th>STUDY 1</th>
<th>STUDY 2</th>
<th>STUDY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Motivational orientation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.11</td>
<td>3.95</td>
<td>3.98</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.08</td>
<td>1.22</td>
<td>1.87</td>
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<tr>
<td>Cronbach’s alpha</td>
<td>.966</td>
<td>.821</td>
<td>.949</td>
</tr>
<tr>
<td><strong>II. Arousal</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.17-6.65</td>
<td>3.67</td>
<td>3.98</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.51-1.41</td>
<td>1.40</td>
<td>1.79</td>
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<tr>
<td>Cronbach’s alpha</td>
<td>.784-.932</td>
<td>.967</td>
<td>.953</td>
</tr>
<tr>
<td><strong>III. Pleasantness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.58-5.57</td>
<td>4.66</td>
<td>4.16</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.47-2.00</td>
<td>1.20</td>
<td>1.66</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>.947 - .980</td>
<td>.958</td>
<td>.931</td>
</tr>
<tr>
<td><strong>IV. Attitude towards the arrangement of the ambience</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-</td>
<td>4.82</td>
<td>-</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>-</td>
<td>1.40</td>
<td>-</td>
</tr>
<tr>
<td><strong>V. Individual differences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-</td>
<td>5.75</td>
<td>-</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>-</td>
<td>0.84</td>
<td>-</td>
</tr>
<tr>
<td>Cronbach’s alpha</td>
<td>-</td>
<td>.874</td>
<td>-</td>
</tr>
</tbody>
</table>
EXHIBIT 1

STUDY ONE: EXPERIMENTAL STIMULI

(a) The Limited, Columbus, Ohio
(b) Discovery Channel Destination, Washington, D.C.
(c) The Disney Store, Orlando, Florida
(d) Birkenstock Flagship Store, San Francisco, California
(e) N. Peal, New York City
(f) Takashimaya, New York City

(a) (b) (c) (d) (e) (f)
EXHIBIT 2

STUDY TWO: EXPERIMENTAL STIMULI

(a1) Low-arousal shopping context: replicate 1
(a2) High-arousal shopping context: replicate 1
(b1) Low-arousal shopping context: replicate 2
(b2) High-arousal shopping context: replicate 2