# Colors and cultures: Exploring the effects of mall décor on consumer perceptions ☆

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## Abstract

A field study ($n = 587$) explores the effects of warm versus cool color mall décors on shopper perceptions by subculture. French-Canadians had higher perceptions of product quality when the mall exhibited a warm color décor. In contrast, Anglo-Canadians had higher perceptions of product quality when the mall exhibited a cool color décor. The analysis indicates that the perceptual enhancements were mediated largely by cognitive rather than affective mechanisms.
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Atmospherics, which involves the conscious design of an environment's space to influence shoppers (Kotler, 1973-74; Bitner, 1992), is typically conceptualized as a way to enhance shoppers' emotional responses, which are then expected to positively impact their attitudes, perceptions, and shopping behaviors (Bellizi and Hite, 1992). This affect-mediated conceptualization of atmospherics is congruent with the framework of Mehrabian and Russell (1974), who propose that emotional states, such as the moods of pleasure and arousal, mediate the effects of environment on behavior (see also Donovan and Rossiter, 1982). Indeed, several studies have found support for this framework, namely, that mood changes are responsible for many of the observed effects of atmospherics on consumer response (Babin and Darden, 1996). Extensive research suggests that music, in particular, can impact consumers' moods, perceptions, and expenditure patterns (Bruner, 1990).

Yet the evidence is mixed regarding whether or not mood states mediate the effects of all the various types of atmospherics on consumer behavior. Indeed, a growing stream of research on the topic of ambient scent, for example, suggests that mood likely does not explain most of the impact of scent on consumer response. Chebat and Michon (2003) found that ambient scent effects are better explained by cognitive-based theory rather than affective-based theory. Similarly, Morrin and Ratneshwar (2003) found that pleasant ambient odors enhanced memory retrieval processes due to attentional mechanisms rather than due to mood. Spangenberg et al. (1996) also found no evidence of mood effects in their study of the impact of ambient odors in a simulated retail environment.

Thus, emerging evidence suggests that atmospherics may sometimes operate primarily via cognitive rather than affective routes. Some of the atmospheric elements of a shopping environment may be cognitively processed as nonverbal cues from retailers, which in turn, may impact product evaluations, etc., without the direct involvement of affective processes such as mood. Part of the thrust of the present research is to better understand the psychological mechanisms underlying the effects of atmospheric décor on consumer response in a shopping mall environment, and to investigate whether these processes are different for subculture segments of the population. Do mall color décor schemes affect consumer response, and if so, is it primarily because the décor schemes alter consumers' moods, or primarily because the décor schemes are used as cognitive cues that consumers use to infer product quality levels? Moreover, are such effects uniform across subculture consumer segments or do they differ?

As Gorn et al. (1997, p. 1387) note, marketers' decisions regarding the use of colors are often based on intuition and anecdotal evidence, rather than on solid theoretical bases. Much of the research on color that has been conducted by marketing researchers, moreover, has been devoted to examining its persuasive effects in advertisements (e.g., Gorn et al., 1997; Myers-Levy and Peracchio, 1995) or on packaging, rather than on its impact via store or mall atmospherics (cf. Bellizi et al., 1983). Color research in retail settings has been rather sparse (Turley and Milliman, 2000), probably due in part to the logistical hurdles involved in conducting such research. For the purposes of the present study, we were able to secure the cooperation of a large, international mall owner/developer headquartered in Canada. Mall management permitted us to systematically manipulate the interior décor schemes of a large, urban shopping mall over the course of several weeks, to create an appropriate field setting for testing the effects of different mall décors on shoppers' perceptions of product quality. The shopping mall was located in the province of Quebec, which allowed us to assess the impact of décor on both French- and Anglo-Canadian subculture segments. However the relation between culture and color is still largely under-researched. To date, theory development has been limited in terms of understanding the interactive effects of culture and atmospherics on consumer behavior and the psychological processes underlying such effects (Mattila and Wirtz, 2001).

A number of international companies use commercial communication strategies in which color plays a major role (Kirmani, 1997; Schmitt and Simonson, 1997; Schmitt and Pan, 1994). Colors often play such a key role because they are associated with consumer cultures or subcultures. The notion of an association between colors and cultures dates back at least to Luckiesh (1927; see also Adams and Osgood, 1973; Philbrick, 1976; Trueman, 1979; Gunnerod, 1991; Wiegersma and Van der Elst, 1988) who proposed that race, customs, and type of civilization impact color preferences. More recent research suggests racial differences in color preferences in the U.S. between Caucasians and African Americans (Lee and Barnes, 1989/1990; Silver, 1988).

While color can be described along a number of dimensions (e.g., hue, chroma and value, Gorn et al., 1997), we manipulate the hue aspect of mall décor schemes in the present study. Research in the field of psychophysiology suggests that warm or high wavelength colors such as reds, oranges, and yellows, may have physiological effects opposite those of low wavelength or cool colors, such as blues, greens and whites (Bellizi et al., 1983; Bellizi and Hite, 1992). For example, compared to the presence of a blue light, a red light increased blood pressure, respiratory rate, and eye-blink frequency in one study (Gerard, 1957). Compared to green slides, red slides increased skin conductance, and the color red had a greater impact on electrical responses in the brain compared to other colors in another study (Clynes and Kohn, 1968). However, more recent research has been mixed in terms of the physiological effects of color hues (e.g., Valdez and Mehrabian, 1995).

It may be that, rather than the colors themselves having an impact on individuals, the symbolic meanings cultures imbue colors with, are responsible for observed effects. Jacobs et al. (1991) examine the associations between colors and meanings in four countries (China, Japan, South Korea, United States) and found that blue was generally associated with high quality and red with love. Some interesting intercultural contrasts were found as well: While purple was associated with expensive products in the three Asian countries, it connoted inexpensive products in the U.S.

The origins of the conceptual framework that categorizes colors along a cool–warm continuum are found in the color preference test developed in the 1940's by Max Luscher, a Swiss psychologist (Gage, 1999). In this test, still in use today by ethnographers, blue is believed to be expressive of tranquility and tenderness, whereas orange/red is believed to be expressive of desire and sexuality (Gage, 1999, p. 103). The cool–warm interpretation of colors seems to have largely permeated Western cultures, so that most people "think of yellows, oranges and reds as at the 'warm' end of the spectrum and blues and greens as at the 'cool' "(Gage, 1999, p. 22).

Cool and warm colors relates almost universally with different meanings by consumers, according to recent consumer research. Madden et al. (2000) provide a large scale, eight-country study into the meanings of different colors and found a robust demarcation between cool colors (green, blue, white) and warm colors (yellow, gold, orange, red and purple). Typically, blue, green and white clustered close together were associated with peaceful, gentle, and calming meanings, and yellow, gold, orange, red and purple clustered together were associated with emotional, vibrant, hot, active and sharp meanings.

A few studies in the marketing literature examine the differential effects of warm versus cool colors. Bellizi and Hite (1992) find higher purchase intentions in a simulated shopping environment when the background color of a retail display was blue rather than red. Bellizi et al. (1983) examine the warm (red and yellow) versus cool (blue, green and white) colors in a furniture store. They find that consumers sat closer to warm color walls, but judged warm color interiors as being more tense and more negative overall, whereas cool color interiors were viewed as more attractive and more pleasant. Therefore, it appears that cool and warm colors may have differential effects on consumer response. The present study extends this line of research by examining the processes underlying the effects of cool versus warm color décors on different consumer subculture segments of the population.

Thus, this paper explores: (1) whether warm and cool atmospheric color décor schemes impact consumer perceptions in a real-world shopping mall environment, (2) whether the observed effects occur due to primarily cognitive or affective mechanisms, and (3) whether warm and cool colors have differential effects on different consumer subculture segments (i.e., French- versus Anglo-Canadians).

Of theoretical interest was whether any observed effects of warm versus cool color mall décors would be driven by affective mechanisms such as mood, or by cognitive inferential mechanisms such as consumer evaluations of the quality of the mall environment. Consumers' perceptions of product quality could be affected by the décor employed if that décor made

them feel more physiologically aroused or put them in a more pleasant mood. Alternatively, if consumers perceive that a mall's environment is of high quality due to their perceptions regarding the décor scheme employed, consumers could use that perceptual cue as a cognitive input when evaluating the overall quality of the products sold in the mall.

Another key interest of concern is the differences in effects by consumer subculture. Prior research suggests that preferences for and responses to colors can differ on the basis of age (Yalch and Spangenberg, 1988), gender (Hattwick et al., 1950; Yalch and Spangenberg, 1993), race (Lee and Barnes, 1989/1990) and personality (e.g., Anderson et al., 1994; Gelineau, 1981; Bjerstedt, 1960; Choungourian, 1967). Moreover, considerable research suggests that Anglo-Canadians and French-Canadians differ along a number of consumption dimensions, including shopping patterns (Schaninger et al., 1985), lifestyles (Hui et al., 1993), ecological attitudes (Laroche et al., 2002), deal-proneness (Laroche et al., 1997), and credit card usage (Chebat et al., 1988). Thus, it seemed reasonable to expect that warm and cool color décor schemes might differentially affect French- versus Anglo-Canadian consumer subculture segments. Given that this research was exploratory in nature, and due to the paucity of prior relevant research, we do not provide explicit hypotheses regarding the expected direction of such effects.

## 1. Method

### 1.1. Pretest

A pretest was conducted among 160 students, staff and faculty at a major university in Montreal to assess whether or not subculture differences in response to mall décor schemes would be likely to emerge. Eighty responses from French-Canadian and 80 responses from Anglo-Canadian passersby were obtained (who were categorized by subculture based on their response to a question at the end of the survey that asked: "If forced to choose, I would consider myself:"). The respondents were approached in the lobby of a university building and were asked to complete a short survey regarding shopping malls.

Respondents evaluated a total of three malls represented by photographs, however we report the analysis of only the first mall evaluated, to avoid the possibility that the remaining pictures may have been contaminated by the earlier responses. On the first page of the survey, respondents were asked to evaluate a full color picture of a shopping mall (to which either a warm or cool color hue was applied using Photoshop® software). Respondents were asked to evaluate the products in the shopping center on the basis of quality, style and selection on seven-point items ranging from low to high. These three items were combined for an overall mall evaluation measure (coefficient alpha = .81). A 2 (décor: warm, cool) by 2 (culture: French, Anglo) ANOVA was conducted on their responses to this scale. The French-Canadian respondents evaluated the warm (versus cool) colored mall more favorably ($M_{Warm} = 5.19$ versus $M_{Cool} = 4.35$, $p = .025$). There were no differences in evaluation among the Anglo-Canadians.

Respondents also reported how they would probably feel in the shopping center using four items that measured pleasure (unhappy/happy, annoyed/pleased, unsatisfied/satisfied, melancholic/contented; coefficient alpha = .91) and four items that measured arousal (relaxed/stimulated, calm/excited, sleepy/wide-awake, unaroused/aroused; coefficient alpha = .86). A similar 2 by 2 ANOVA conducted on feelings of happiness demonstrated that the French-Canadian respondents thought they would be happier in the warm versus cool colored mall ($M_{Warm} = 4.53$ versus $M_{Cool} = 3.70$, $p = .028$). There were no significant differences for the Anglo-Canadian respondents. The results of this pretest suggest that there may indeed exist differences in responses to mall color décor by subculture segment. The preliminary results here suggest that French-Canadian shoppers may prefer warm colored hues to cool colored hues in a mall environment. The pretest results are limited, however, in the simulated nature of the stimuli. The field study is discussed next.

### 1.2. Questionnaire development and interviewer training

The questionnaire for the main study was first constructed in both French and English by a bilingual Canadian linguist. The questions were then back-translated by another bilingual linguist to ensure the questionnaire's linguistic validity. The questionnaire was then pre-tested with business students to assess whether the questions were understood as intended.

The questionnaire consists of several sections that asked about the shopper's experience in the mall that day. The questionnaire included previously published scales and adaptations of previously published scales. Perceived quality of products was measured with a scale developed by Bellizi et al. (1983). Mood was measured with the first two dimensions of Mehrabian and Russell's (1974) PAD scale (Pleasure-Arousal-Dominance). The environmental quality of the mall was assessed using Fisher' (1974) scale. The Results section provides more details on these scales.

Ten Master of Science in Marketing students were trained in how to intercept and interview shoppers within the mall. The interviewers were located in the main lobby of a large, urban shopping center in Montreal. A poster was displayed in the mall lobby, which invited all shoppers to participate in a study in order to help the students advance their research efforts. Shoppers were also intercepted by the interviewers and invited to sit down and complete the questionnaire. Respondents filled out the self-administered questionnaire in the language of their choice: French or English. Respondents were not made aware of the research objectives (i.e., to test the effects of mall décor). Participants were then served a cup of coffee and brownies as a token of appreciation.

### 1.3. Respondent sample

A total sample of 587 adult shoppers was obtained via the mall intercept procedure ($n = 217$ control group, $n = 153$ cool color condition, $n = 217$ warm color condition). The demographic characteristics of the sample respondents are summarized in Table 1.

Table 1
Demographic characteristics of the respondent sample (N=587)

| Characteristic | | Percent of sample |
|---|---|---|
| Language | French | 79.7 |
| | English | 20.3 |
| Gender | Female | 64.6 |
| | Male | 35.4 |
| Age | 18–24 | 13.1 |
| | 25–34 | 18.1 |
| | 35–44 | 25.8 |
| | 45–54 | 20.0 |
| | 55–65 | 13.2 |
| | Over 65 | 9.8 |
| Marital status | Married | 53.9 |
| | Single | 23.7 |
| | Other/refused | 22.3 |
| Children in the home | No | 54.6 |
| | Yes | 45.4 |
| Education | Grade school | 2.6 |
| | High school | 34.0 |
| | Junior college | 34.6 |
| | University | 27.7 |
| | Don't know/refused | 1.1 |
| Household income | Under $15,000 | 8.7 |
| | $15,000–$29,999 | 18.7 |
| | $30,000–$39,999 | 14.8 |
| | $40,000–$49,999 | 15.2 |
| | $50,000–$59,999 | 10.9 |
| | $60,000–$79,999 | 13.7 |
| | $80,000–$99,999 | 6.1 |
| | $100,000 and above | 4.6 |
| | Don't know/refused | 7.1 |

Shoppers were approached during the months of March, May and October, in three consecutive weekly waves corresponding to each of the three experimental conditions (i.e., control, cool colors and warm colors). These weekly periods were known by the shopping mall owners to be similar in terms of sales volume and shopper traffic. Special care was taken by the mall director to avoid any special promotions by the mall retailer tenants during the data collection periods. Data collection took place on all days of the week and during all day parts, from 10 a.m. to 8 p.m. for adequate representation.

### 1.4. Décor manipulations

As it was not feasible to alter the structural aspects of décor color in the mall, for example, by painting the walls or replacing the floor tiles, it was decided to alter the décor hues primarily using plants and flowers that were easily placed and removed in the mall setting. These décor color manipulations accounted for approximately 10% to 15% of the overall visual context of the mall (i.e., relative to the other elements in the shopper's visual field). The control condition consisted of the ordinary mall décor as it existed before the experiment took place. For the cool color décor condition, a large number of green trees and plants were brought into the communal areas of the mall. They were chosen for their cool color (i.e., green) and for being scentless in order not to interfere with the manipulation of colors. For the warm color décor condition, the plants and trees were removed

and replaced with scentless yellow and red flowers and drapes. The effects of these décor manipulations are reported below.

## 2. Results

### 2.1. Mood

The study adapts the Mehrabian and Russell (1974) mood scale to measure shoppers' self-reported levels of pleasure and arousal. Richins (1997) notes that the Mehrabian and Russell (1974) scale, one of the most commonly used scales to measure mood valence and arousal levels in consumer research, is particularly well suited to measuring the impact of environmental stimuli on responses. Pleasure was measured with four nine-point semantic differential items (happy/unhappy, pleased/annoyed, satisfied/unsatisfied, and contented/melancholic), and the scale had a coefficient alpha of .96. Arousal was measured with four nine-point semantic differential items (stimulated/relaxed, excited/calm, wide-awake/sleepy, and aroused/unaroused), and the scale had a coefficient alpha of .81. We conducted 2 (culture: French, Anglo) × 3 (décor: control, cool, warm) ANOVAs on pleasure ($F$ (5, 563)=0.384, $p$=.860) and arousal ($F$ (5, 545)=1.285, $p$=.269), neither of which were statistically significant. Thus, the mall décors had no discernable impact on shoppers' self-reported moods.

### 2.2. Environmental quality

Fisher (1974) creates a scale to measure individuals' perceptions of the quality of their environment, which has successfully been used in prior consumer atmospheric research on color (e.g., Bellizi et al., 1983). We adapted this scale to measure shoppers' perceptions of the quality of the mall's environment. Shoppers rated each of eight semantic differential items on the degree to which they were appropriate for what they "perceived today in the environment of this shopping center" (e.g., depressing/cheerful, boring/stimulating; please see Table 2). A factor analysis of these eight items resulted in a single factor with an eigenvalue greater than one, and which accounted for 68% of the variance in response. The scale exhibits a coefficient alpha of .94.

We then conducted a 2 (culture: French, Anglo) × 3 (décor: control, cool, warm) ANOVA on shoppers' perceptions of the mall's environmental quality using the mean of the eight-item scale just described, with frequency of shopping at the mall as a covariate ($F$ (6, 539)=6.65, $p$<.0001). The culture by décor interaction emerged significant ($F$ (2, 539)=4.03, $p$<.02).

Table 2
Environmental quality scale loadings

| Item | Factor loading |
|---|---|
| Tense/relaxed | .68 |
| Uncomfortable/comfortable | .77 |
| Depressing/cheerful | .86 |
| Drab/colorful | .85 |
| Boring/stimulating | .87 |
| Unlively/lively | .83 |
| Dull/bright | .87 |
| Uninteresting/interesting | .87 |

Individual comparisons showed that only the warm color décor scheme enhanced the environmental quality of the mall for the French-Canadians ($M_{Control}$=5.17 versus $M_{Warm}$=5.49, $p$=.012), whereas only the cool color décor scheme enhanced the environmental quality of the mall for the Anglo-Canadians ($M_{Control}$=4.81 versus $M_{Cool}$=5.39, $p$=.044).

## 2.3. Product quality

During the course of the questionnaire, shoppers were asked to evaluate product quality on a seven-point semantic differential scale anchored with "Low" and "High." We conducted a 2 (culture: French, Anglo)×3 (décor: control, cool, warm) ANOVA on shoppers' perceptions of the quality of the products in the shopping center, controlling for their perceptions of product style, product selection and whether they had browsed in a store without planning to buy ($F$ (8, 550)=112.04, $p$=.0001). The mall décor ($F$ (2, 550)=3.17, $p$=.043) and culture ($F$ (1, 550)=86.29, $p$=.0001) factors were significant, as was their interaction ($F$ (2, 550)=3.20, $p$=.041). Compared to the control décor condition ($M$=5.13), both the cool ($M$=5.36, $p$=.026 versus control) and warm ($M$=5.36, $p$=.027 versus control) color décor schemes resulted in higher perceptions of product quality. In addition, the French-Canadians ($M$=5.67) evaluated the products as being higher in quality than did the Anglo-Canadians ($M$=4.90, $p$=.0001), overall. However, these main effects are qualified by the higher-level interaction between décor and culture. The results of this interaction showed that, for the French-Canadians, only the warm color décor scheme improved product quality evaluations compared to the control décor condition ($M_{Control}$=5.60 versus $M_{Warm}$=5.81, $p$=.012); whereas for the Anglo-Canadians, only the cool color décor scheme improved product quality evaluations compared to the control décor condition ($M_{Control}$=4.66 versus $M_{Cool}$=5.12, $p$=.013; Fig. 1).

## 2.4. Mediation analysis

Thus, we found that perceptions of product quality and perceptions of environmental quality of the mall were signifi-
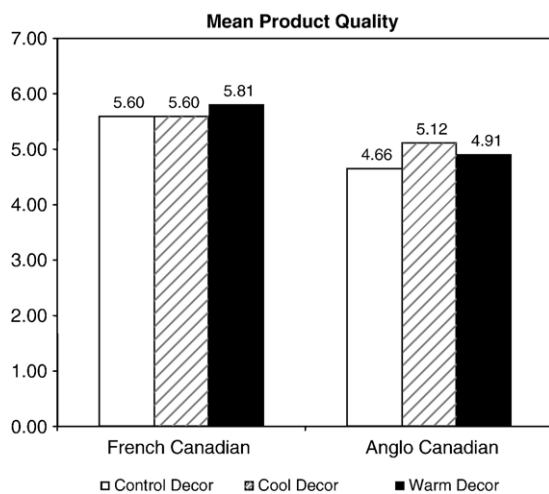


Fig. 1. Mean product quality perceptions by condition.

Table 3
Mean results by condition

| | Control décor | Cool décor | Warm décor |
| --- | --- | --- | --- |
| **Pleasure** | | | |
| French-Canadian | 4.78 | 4.73 | 4.65 |
| Anglo-Canadian | 4.55 | 4.37 | 4.82 |
| **Arousal** | | | |
| French-Canadian | 3.90 | 4.10 | 3.92 |
| Anglo-Canadian | 3.51[a] | 3.43 | 4.28[b] |
| **Environmental quality** | | | |
| French-Canadian | 5.17[a] | 5.00 | 5.49 [b] |
| Anglo-Canadian | 4.81[a] | 5.39[b] | 5.11 |
| **Product quality** | | | |
| French-Canadian | 5.60[a] | 5.60 | 5.81[b] |
| Anglo-Canadian | 4.66[a] | 5.12[b] | 4.91 |
| **Hedonic shopping value** | | | |
| French-Canadian | 3.42 | 3.28 | 3.55 |
| Anglo-Canadian | 2.93 | 2.93 | 2.89 |
| **Utilitarian shopping value** | | | |
| French-Canadian | 3.67 | 3.73 | 3.74 |
| Anglo-Canadian | 3.97 | 3.90 | 3.85 |

Superscripts within a row that are different indicate mean significantly different from control at $p$<.05.

cantly affected by mall décor schemes, and that the French- and Anglo-Canadians were differentially affected by the color hues employed in the mall. Specifically, the French-Canadians were positively impacted by the warm color décor scheme, whereas the Anglo-Canadians were positively impacted by the cool color décor scheme. We did not find any significant effects for mood, either pleasure or arousal, as a function of décor (Table 3).

As a test of whether the different décors' effects on perceptions of product quality were driven by the shoppers' perceptions of the environmental quality of the mall (Baron and Kenny, 1986), we entered the latter variable into the ANOVA for product quality perceptions described previously ($F$ (9, 545)=103.04, $p$=.0001). The environmental quality of the mall factor emerged significant ($F$ (1, 545)=16.35, $p$=.0001), and its entry into the model eliminated the effects of décor ($F$ (2, 545)=2.04, $p$=.131) and the décor by culture interaction ($F$ (2, 545)=1.79, $p$=.167). Thus, the differential effects of mall décor color on product quality perceptions appear to be driven, at least in part, by their effects on consumers' perceptions of the environmental quality of the mall. Consumers' overall evaluations of the quality of the mall's environment, in terms of whether the environment was perceived as comfortable, cheerful, and stimulating, etc. appear to have impacted their perceptions of product quality among the stores selling products within that environment. Thus, the mall's perceived environmental quality seems to have been used by shoppers as a cognitive cue from which they inferred the quality of the products sold in such an environment. We attempted similar mediation analyses using the mood measures for pleasure and arousal, but neither of these factors emerged statistically significant when entered into the ANOVA for product quality perceptions.

### 2.4.1. Hedonic and utilitarian shopping values

An eight-item scale has been developed and successfully used in prior services research to measure shoppers' hedonic and

Table 4
Item measurement properties: hedonic and utilitarian shopping values

| Scale | Item | Factor loading | Coefficient alpha |
|-------|------|---------------|-------------------|
| Hedonic | This shopping trip was truly a joy. | .67 | .77 |
| | This shopping trip felt like an escape. | .77 | |
| | Compared with other things I could have done, the time spent shopping was truly enjoyable. | .79 | |
| | I enjoyed being immersed in exciting new products. | .63 | |
| | While shopping, I felt a sense of adventure. | .68 | |
| Utilitarian | I accomplished just what I wanted to on this shopping trip. | .75 | .57 |
| | I couldn't buy what I really needed. (reverse scored) | .66 | |
| | While shopping, I found just the item(s) I was looking for. | .72 | |

utilitarian responses to shopping (Babin et al., 1994). The measure consists of eight five-point semantic differential items that tap into the hedonic or pleasurable an entertaining aspects of shopping (e.g., "This shopping trip was truly a joy.") as well as the functional and objective aspects of shopping (e.g., "I accomplished just what I wanted to on this shopping trip."). We utilized this measure and conducted a factor analysis (with varimax rotation) measuring shoppers' level of agreement with the statements regarding their shopping experience that day in the mall. Two factors emerged with eigenvalues greater than one, which together accounted for 55% of the variance in response. The two factors were hedonic shopping value (coefficient alpha = .77) and utilitarian shopping experience (coefficient alpha = .57), respectively. The items and their factor scores are in Table 4.

We then conducted a 2 (culture: French, Anglo) × 3 (décor: control, cool, warm) ANOVA on shoppers' hedonic shopping value. The only statistically significant effect that emerged was culture ($F$ (1, 578) = 33.55, $p < .0001$, eta-squared = .06), with hedonic shopping value higher for French- than Anglo-Canadians ($M_F = 3.42$ versus $M_A = 2.92$). This result suggests that French-Canadians enjoyed their shopping experience more than did the Anglo-Canadians, regardless of mall décor, in accord with prior research (Michon and Chebat, 2004). We also conducted a 2 (culture: French, Anglo) × 3 (décor: control, cool, warm) ANOVA on utilitarian shopping value. Again, the only significant effect was culture ($F$ (1, 577) = 3.94, $p = .048$), however, the utilitarian shopping value was higher for Anglo- rather than French-Canadians ($M_A = 3.91$ versus $M_F = 3.71$). This result suggests that Anglo-Canadians were more likely to have achieved their shopping goals, such as finding the products they wanted.

## 3. Discussion

The results of the present research indicate that mall décor schemes can have significant effects on shoppers' perceptions not only of their environment but also of the quality of products sold in the environment. The results also suggest that the effects of atmospheric décor schemes on consumers' perceptions may be driven largely by cognitive rather than or in addition to affective mediational routes. We did not find that the mall décors affected shoppers' self-reported pleasure and arousal levels. Yet, we did find that the décor schemes affected consumers' perceptions of the quality of the mall environment, which in turn, affected perceptions of the quality of the products sold in that environment.

Importantly, we also found different effects of the décor schemes by consumer subculture segment, with French-Canadians responding more to the warm color décor manipulations and Anglo-Canadians responding more to the cool color décor manipulations. Clearly, these initial results suggest that additional research should be conducted to explore the reasons why different subculture segments of a population might respond more positively to different décor schemes. Ideally such research should control for the manipulation of potentially culturally based cues. If colors have emotional effects due to their wavelengths, however, it's unlikely that this effect would strongly vary culturewise: this might explain, in part, why no significant emotional mediation effects were observed in the present research.

This research adds to the growing literature on atmospherics and suggests that while some dimensions of the consumer's environment, such as music, may affect consumer response primarily via mood, other dimensions of the environment, such as décor scheme, may affect consumer response primarily via inferential cognitive cueing effects. The results suggest that we may want to broaden our conceptualization of the mediational routes of atmospherics to incorporate the notion that atmospherics may often impact consumers not primarily due to affective mechanisms such as mood but instead due primarily to cognitive processing mechanisms. Of course, it is possible that the scales used to measures shoppers' levels of pleasure and arousal in this study were not capable of capturing an aspect of affective response resulting from the mall décor schemes. Future research could investigate whether alternative scales, with finer-grained measures of affective response, are capable of.

The results of the present research have clear managerial implications for mall developers and mall tenants who are interested in maximizing the product quality perceptions of shoppers. Enhancing the environmental quality of the mall can clearly benefit its tenants. When consumers evaluate the mall's environment more positively, they infer higher product quality among the tenants' wares. In addition, mall developers who build and maintain shopping venues across and within national borders need to be conscious of the differential effects of color décor schemes on consumer segments, such as subculture segments. The example of the current research concerns the Canadian consumer segments of French versus Anglo cultural heritage. In the United States, the African-American subculture may respond differently than the Caucasian subculture to color combinations (Silver, 1988). Another source of subculture differences might be that of the Hispanic population (e.g., Shim and Eastlick, 1998; Penaloza and Gilly, 1999). The fast-growing Asian subculture represents another major force in the U.S. and Canadian economies that could exhibit different responses to atmospheric color hues. Just why different consumer subcultures prefer one color scheme over another also warrants investigation.

Strategically, color décor schemes might serve as a competitive advantage to malls and retail stores, especially if such venues uniquely cater to specific consumer segments. Burns and Warren (1995) discuss the proliferation of suburban shopping malls, and the lack of differentiation among malls, with many containing identical anchor stores and similar sets of specialty stores. Since the Lanham Act in the United States has successfully been used by manufacturers and retailers to protect colors and color combinations (e.g., Two Pesos, Inc. v. Taco Cabana International, Inc. et al., 1992), it is conceivable that malls could similarly create secondary meaning via unique color combinations that would then become protectable intangible assets. Thus, color décors could be used not only to more effectively manage consumers' product quality perceptions, but also as a way to establish a unique competitive advantage vis-a-vis other shopping venues.

A considerable number of avenues for future research in this domain remains. For example, the impact of other dimensions of color, such as saturation level, could be explored. The interactive effects of color with other atmospheric variables such as music, scent, and crowding could also be explored. Examining these issues would provide a more solid theoretical foundation for managerial decision-making by mall developers/owners and their retail tenants.

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