

On Store Design and Affective Consumer Experience

Effects of color and store layout as a function of shopping goals

Thomas J. L. van Rompay*, Karin Tanja-Dijkstra**, Joost W. M. Verhoeven*** and Annemiek F. van Es****

* *University of Twente, Department of Marketing Communication and Consumer Psychology
Enschede, the Netherlands, t.j.l.vanrompay@utwente.nl*

** *University of Twente, Department of Marketing Communication and Consumer Psychology
Enschede, the Netherlands, k.tanja-dijkstra@utwente.nl*

*** *University of Twente, Department of Technical and Professional Communication
Enschede, the Netherlands, j.w.m.verhoeven@utwente.nl*

**** *University of Twente, Department of Marketing Communication and Consumer Psychology
Enschede, the Netherlands, a.f.vanes@utwente.nl*

Abstract: Although a considerable body of literature is available documenting effects of store design, understanding of *how* and *when* store design affects consumer responses is limited. In this paper, it is argued that effects of two important design variables (i.e., color and layout) vary with consumers' shopping goals. After presenting a literature review highlighting the importance of arousal and spatial control in explaining effects of store design, an experimental study is reported in which color and store layout were manipulated in a clothing store. Findings indicate that whereas recreational shoppers are primarily affected by store color, and report positive affect in a high-arousing environment, task-oriented shoppers are mainly affected by store layout and benefit from spacious layout conditions. In terms of practical implications, these findings suggest that an improvement of store atmospherics from recreational shoppers' point of view does not frustrate task-oriented shoppers. Reversely, a more spacious store layout is likely to reduce irritation, nervousness and distress among task-oriented shoppers, without taking away the fun for recreational shoppers.

Key words: *Retail Design, Shopping Motivation, Affective Experience, Store Layout, Color*

1. Introduction

Following the rise of the experience economy [1], retail and service managers generally consider environmental design as an important means to enhance consumer experiences, thereby increasing customer loyalty, sales and the likelihood of return visits. While at first only apparent in specialized settings such as brand stores (e.g., Niketown or the Apple Store), nowadays environmental factors are specifically tailored and designed to delight customers in a wide variety of settings. Hence, whether it is a supermarket, an upscale restaurant or a fashion store, factors such as color, scent, layout, lighting and music are deliberately employed to create the 'right' experience. In line with such developments, research [2] attests to the importance of customer experience management to both the consumer (expecting a rich and satisfying store experience) and the firm (intent on securing customer loyalty)

In line with such developments and research findings, previous research has demonstrated that environmental factors (also referred to as atmospherics) may indeed have a strong impact on consumer experience. For instance, the right combination of background music and scent may boost product evaluations [3], high-arousing colors may increase the likelihood of purchases [4], and a spacious, as opposed to a cluttered, store layout may heighten shopping satisfaction [5,6]. However, research addressing store atmospherics is inconclusive at best; store variables are usually studied in isolation, and understanding of psychological processes underlying effects of store design variables is limited.

Previous research showed that environmental effects vary with consumer personality [6,7]. In addition to such dispositional influences, environmental effects may also vary with situation-specific influences, and more particularly with the customer's shopping motivation [8]. For instance, does a consumer enter a store with a specific product purchase in mind or is (s)he browsing a store just for fun or to kill time? In addition to incorporating two different types of store variables, the objective of this paper is therefore to explore the interaction between store design and consumer goals that are salient during a shopping episode. More specifically, we will zoom in on store color and store layout and argue that their effects vary depending on whether shoppers entertain functional or recreational shopping goals.

2. Environmental Psychology and Emotional Experience

The basis for many research projects addressing effects of environmental stimuli on consumer emotions can be traced back to Mehrabian and Russell's PAD model [9]. In their account, environmental factors affect consumer behaviors via three emotional responses: pleasure (P), arousal (A) and dominance (D). The pleasure dimension refers to the degree to which an individual feels pleased or content, the arousal dimension differentiates between feelings of boredom or drowsiness on the one hand and excitement and stimulation on the other, and dominance reflects the degree to which a person feels in control or 'master' over his or her environment [10].

In previous studies, a large body of evidence has been gathered demonstrating the impact of the pleasantness and arousal dimensions on consumer behavior. The dominance dimension, on the other hand, has received only limited empirical support [11], inspiring some to propose a revised version limited to affective valence (pleasure) and arousal [12,13], factors that resemble the dimensions of Russell's (more general) emotion framework [14]. However, others have shown that dominance (also referred to as control) *does* affect consumer behavior [6,15,16], in particular when studied in (retail) settings in which consumers entertain well-defined goals. For instance, Van Rompay et al. [6] showed that feelings of control mediate the relationship between spatial crowding and shopping pleasure, indicating that environmental factors may negatively impact shopping pleasure by restricting free movement and wayfinding throughout the store.

Arguably then, dominance should be more narrowly defined as the extent to which consumers can engage in, or bring to completion, behaviors and interactions required for goal attainment. Interestingly, with respect to products (where physical interactions and goal fulfillment take precedence), conceptualizations of dominance along these lines are widespread as indicated by Norman's 'routine level' [17] of emotional experience and Jordan's 'psychological pleasure' [18]. In both accounts, smoothness and ease of interaction are considered

important antecedents of affective product experiences. Conversely, blockage of interaction goals is considered an antecedent of negative affect. Based on these notions, we argue that dominance in retail settings foremost relates to whether shoppers can engage in spatial behaviors (e.g., unobstructed movement throughout the store) required for goal fulfillment (e.g., locating and selecting products in the store). By consequence, the importance of dominance (from now on referred to as spatial control) is expected to vary with the degree to which consumers have specific shopping tasks to accomplish in the first place [16].

With respect to arousal, Berlyne's classic writings on the relationship between arousal and preference [19] have been proven valid in the context of retail environments as well. For instance, Donovan and Rossiter's findings [11] revealed that arousal is an important determinant of shopping enjoyment and purchase behaviors, with moderate levels of stimulation (arousal) generally being preferred to excessive stimulation (as they result in stress, information overload or distraction) or low levels of stimulation (giving rise to boredom). Obviously, high arousal is not always detrimental to shopping pleasure. For instance, Sherman, Mathur, and Smith [20] found that in fashion stores, arousal may increase purchase intentions and spending behavior. And for obvious reasons, high arousal is conducive to consumer experiences in hedonic or leisure service such as bars and discos where stimulation and arousal are explicitly valued.

In other words, these combined findings on both control and arousal indicate that effects on shopping pleasure vary depending on the nature of consumer goals (e.g., is arousal explicitly valued or not?), and (of particular importance for current undertaking) on whether consumers entertain a specific shopping task to begin with (i.e., do they have a specific task to accomplish that requires free and unobstructed movement throughout the store?). Depending on whether this is the case, environmental factors may positively or negatively affect shoppers' emotional experiences. Before elaborating on how effects of environmental factors vary with shopping motivations, first we need to elaborate on the environmental factors addressed in this paper: store color and store layout; how do these relate to arousal and (spatial) control respectively?

2.1. Color and Arousal

Over the years, many studies have been conducted addressing effects of color on consumer responses. The most salient color dimension deals with color warmth (or wavelength); with cool (i.e., short wavelength) colors such as green and blue being generally preferred to warm (high-wavelength) colors such as yellow and red. For instance, warm, as opposed to cool colors have been linked to higher levels of anxiety [21] and greater distraction levels [22]. In line with these findings, Wexner [23] showed that high arousing colors such as yellow and red are associated with excitement and stimulation, whereas low arousing colors such as blue and green are readily perceived as secure, calm or soothing.

In the context of store design, Bellizzi, Crowley, and Hasty [24] showed that participants considered red (i.e., high arousing) retail environments unpleasant, tension-inducing, and less attractive compared to cool-colored (i.e., blue and low arousing) retail environments, arguing that high-arousal colors may over-stimulate buyers, thereby impairing purchase deliberations and buying decisions. In short, the foregoing indicates a straightforward relationship between color warmth or wavelength on the one hand and arousal on the other. However, arousal

may differentially affect consumer emotions and behaviors depending on the type of shopping motivations that consumers entertain. We propose that recreational shoppers value high-arousing colors for the excitement they bring, whereas task-oriented shoppers value low-arousal colors, as they are less distracting and therefore do not interfere with task execution.

2.2. Store Layout and Spatial Control

Store layout refers to the positioning of physical elements such as racks and product displays throughout the store environment. Depending on the configuration of such elements, consumers perceive a store environment as either spacious or cluttered. Although antecedents of such store perceptions (e.g., displays, furnishings, facility layout) have been subject to investigation [25], empirical studies explicitly centered on the impact of store layout on consumer behavior are sparse with the exception of studies by Machleit et al. [5] and Van Rompay et al. [6]. Machleit et al. [5] manipulated store layout by moving bookracks into the aisle, reducing available space and restricting movement. Results showed that this manipulation reduced shopping satisfaction. With respect to more permanent elements (i.e., pillars located in shopping aisles), Van Rompay et al. [6] showed that such obstructions reduce control perceptions, thereby lowering shopping pleasure. These combined findings suggest that store layout may negatively affect feelings of control by reducing free movement throughout the store and impairing wayfinding (e.g., location of products).

Similar to how effects of color may vary with shopping goals, effects of store layout may likewise vary depending on the extent to which consumers enter a retail environment with a specific goal (i.e., product purchase) in mind. After all, similar to how high-arousing stimuli (and the distractions they bring) may be experienced as a nuisance in particular when in the process of goal fulfillment, reductions of space and movement may be stressful as well. That is, when fulfilling shopping tasks for which free movement and overview over the store environment are a prerequisite, a cluttered store layout can be considered an obstacle to goal fulfillment. To elaborate on this latter assumption, we will discuss the role of shopping motivations.

3. Shopping Motivations

Consumers go shopping for different reasons; sometimes shopping is a goal-directed activity with a clear end goal (i.e., purchase of a product) in mind, at other times shopping is a recreational activity and the fun is in the shopping activity itself rather than in acquiring a desired product. Stone [26] was among the first to categorize shopping goals, differentiating, for instance, between economic consumers typified by their meticulous approach to shopping (e.g., paying close attention to quality and price differences among products) and personalizing consumers, rather in search of pleasant contact or ‘chit chat’ with retail personnel. Following this classification, different shopping motives were identified in the years that followed. Taken together, two basic, general motives can be distinguished: a task-oriented motivation and a recreational motivational. These two motivations have been labeled in various ways as indicated by the following distinctions: ‘economic’ versus ‘recreational’ shoppers [27], ‘utilitarian’ versus ‘hedonic’ shopping value [28], and ‘run’ versus ‘fun’ shoppers [29].

In general terms, task-oriented shoppers visit a store to obtain a specific product and have little or no interest for non-functional aspects of retail environments such as store atmospherics [30]. Focused on task completion, high-

arousal environments (comprising, for instance, high-arousing colors) are considered unpleasant as they tax the senses and distract from goal fulfillment [31]. For recreational shoppers, on the other hand, high-arousing stimuli may add to the fun of a shopping trip by increasing excitement and sensory stimulation. In other words, for these shoppers, high-arousal environments add to the richness or hedonic value of the shopping episode [8]. In line with these observations, research has demonstrated that recreational shoppers are more likely to continue browsing after making a purchase, and overall place less value on acquiring a product [32]. Based on the foregoing, we expect a blue-colored environment to positively affect shopping pleasure and behavioral intentions for task-oriented shoppers, whereas a red-colored environment should be more appealing to recreational shoppers.

As for the effects of store layout, a similar line of reasoning can be employed. That is, having a specific goal in mind (i.e., shopping for a specific product) for which overview and unobstructed movement are a prerequisite, task-oriented shoppers should be particularly distressed by a cluttered store layout as it decreases perceptions of spatial control. For recreational shoppers, on the other hand, wayfinding, overview, and unobstructed movement are arguably less of an issue as there is no specific route to follow or product to be located. A cluttered store layout may perhaps even render a shopping episode more adventurous. In short, a spacious (as opposed to a cluttered) store layout is expected to increase feelings of spatial control, thereby increasing shopping pleasure and approach behaviors for task-oriented shoppers. For recreational shoppers, a cluttered store layout should not affect shopping pleasure and approach behaviors. To test these hypotheses a scenario experiment was conducted. Store layout and store color were manipulated in videos taken in a Dutch clothing store, resulting in a 2 (store color: red versus blue) x 2 (store layout: spacious versus cluttered) x 2 (shopping motivation: task-oriented versus recreational) between subjects design.

4. Method

4.1. Participants and Procedure

Participants were 123 shoppers (76 female, 47 male; age range: 16 – 71 years; mean age: 38.3 years) of a local Dutch clothing store. No further inclusion or exclusion criteria were applied. They were approached individually upon passing by, leaving or entering the store and asked to participate in an evaluation trial of store designs in the context of a pending store renovation. Next, participants were guided to a quiet corner (near the entrance hall) of the store where they were seated behind a laptop computer, and asked to follow the instructions presented on screen. Instructions explained that store management was interested in recording shoppers' first impressions of a new store design and that participants were therefore about to view a short video presenting a walkabout through the store. Before presentation of the video, participants were presented with a scenario either inducing a task-oriented focus or a recreational focus.

The task-oriented scenario read:

“You have a party tonight and have nothing to wear. It's 14:45 and the store closes in 15 minutes. Imagine yourself entering the clothing store (you are about to see on video) and making a go-around to see if there is anything to your liking.”

The recreational scenario read:

“You are out shopping with a friend. You happen to pass by a clothing store and decide to have a look inside. Imagine yourself entering the clothing store (you are about to see on video) and making a go-around to see if there is anything to your liking.”

After presentation of the video, participants filled out a questionnaire comprising the dependent variables.

4.2. Store Design Manipulations

Four different videos were created comprising the manipulations of store layout and store color. Color selection was based on previous research findings showing that red and blue most clearly differentiate on arousal induction [4]. In order to manipulate store color, the walls of the store were covered with either blue-colored (low arousal) or red-colored (high arousal) fabric. As for store layout, positioning of clothing racks throughout the store was varied. Clothing racks were either placed alongside the walls (spacious store layout) or placed in the center of the store (cluttered layout), thus blocking visual overview and impeding free movement throughout the store (see Figure 1 for examples of the store design manipulations).



Figure 1. Screenshots taken from the videos used in the experiment (left = blue color; cluttered store layout; right = red color; spacious store layout)

Of all four conditions, a 10-second identical walk around was recorded. In all four videos a man and a woman were present in the store so as to create a realistic shopping episode. Furthermore, all videos were shot from the same angle and showed exactly the same scene. In addition, all videos were edited for environmental sound resulting in four videos with identical background ‘store’ noise (i.e., babbling noise).

4.3. Measures

Manipulation checks

Arousal. In order to ensure the effectiveness of the color manipulation, a 4-item arousal measure was used comprising the items ‘In this store I feel stimulated’, ‘In this store I feel activated’, ‘In this store I feel drowsy’ (reverse coded), and ‘In this store I feel bored’ (reverse coded’) (alpha = .82).

Spatial control. As for the store layout manipulation, a 4-item scale was used measuring the extent to which store layout is spacious and allows for free movement, as indicated by the items ‘In this store, I feel obstructed while shopping’, ‘In this store I feel restrained’, ‘In this store I feel suffocated’, and ‘This store is spacious’ (reverse coded) (alpha = .74).

Dependent measures

Pleasure. Shopping pleasure was measured with three items: 'I feel happy in this store', 'I feel cheerful in this store', and 'I enjoy shopping in this store' ($\alpha = .91$).

Behavioral intentions. Participants' behavioral intentions were measured with a scale comprising the 3 items: 'I would have a tendency to buy something here', 'I would like to return to this store' and 'I want to leave this store as soon as possible' (reverse coded) ($\alpha = .77$).

Affect. In order to more specifically zoom in on positively and negatively valenced affect triggered by the store environment, for explorative purposes a short 10-item version of the positive and negative affect schedule (PANAS) was administered [33]. Based on effects of the independent variables on these items, and a factor analysis, two emotion constructs were created: a negative construct comprising the items *nervous*, *distressed* and *irritable* ($\alpha = .80$), and a positive construct comprising the items *inspired*, *interested* and *enthusiastic* ($\alpha = .87$). Analyses of gender effects on the dependent measures revealed no significant relations and are therefore not discussed further.

5. Results

5.1. Manipulation Checks

In order to check the effectiveness of the manipulations, ANOVA's were conducted with color and store layout as independent variables and, respectively, arousal and spatial control as dependent variables. In line with expectations, the main effect of color on arousal was significant ($F(1, 119) = 5.00, p = .027$), indicating that the blue-colored store environment was perceived as less arousing ($M = 2.84; SD = 1.24$) than the red-colored environment ($M = 3.31; SD = 1.16$). The main effect of store layout on arousal did not reach significance ($F(1, 119) = 1.19, p = .28$), neither did the interaction between color and store layout ($F < 1, ns$). With respect to spatial control perceptions, the effect of store layout reached significance ($F(1, 119) = 10.58, p = .001$), indicating that the spacious layout ($M = 4.01; SD = 1.21$) triggered less feelings of behavioral restraint (and hence more feelings of spatial control) compared to the cluttered layout ($M = 4.75; SD = 1.35$). The main effect of store color did not reach significance ($F < 1, ns$), neither did the interaction between store color and store layout ($F(1, 119) = 1.06, p = .31$). These findings confirm the effectiveness of the manipulations and hence the presumed relationship between store color and arousal on the one hand, and store layout and spatial control on the other.

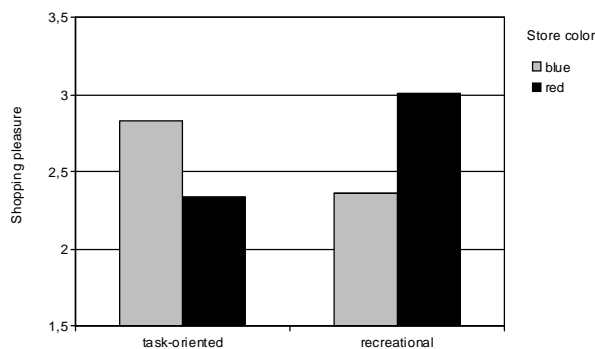


Figure 2. Interaction between shopping motivation and color on shopping pleasure.

5.2. Shopping pleasure

An ANOVA with store color, store layout, and shopping motivation as independent variables revealed no main effects of store color, store layout, and shopping motivation (all F 's < 1). However, a significant interaction between store color and shopping motivation was obtained ($F(1, 115) = 6.42, p = .013$), indicating that the effect of store color on shopping pleasure varies depending on shopping motive (see Figure 2). Pairwise comparisons show that recreational shoppers perceive the red-colored store environment as more attractive ($F(1, 115) = 3.99, p = .048$). For task-oriented shoppers, the difference between the red-colored and blue-colored environment is not significant ($F(1, 115) = 2.48, p = .12$). The expected interaction between store layout and shopping motivation did not reach significance ($F(1, 115) = 2.56, p = .11$).

5.2. Behavioral intentions

Similar to the results for shopping pleasure, no main effects appeared on behavioral intentions (all F 's < 1). Again, the interaction between store color and shopping motivation reached significance ($F(1, 115) = 8.64, p = .004$). Pairwise comparisons (see Figure 3, left panel) show that for recreational shoppers, the red-colored environment positively affects behavioral intentions ($F(1, 115) = 6.04, p = .015$). For task-oriented shoppers, the difference between the red-colored and blue-colored environment did not reach significance ($F(1, 115) = 2.81, p = .10$). This time, the expected interaction between store layout and shopping motivation *did* reach significance ($F(1, 115) = 6.59, p = .012$). Pairwise comparisons (see Figure 3, right panel) show that task-oriented shoppers prefer the spacious store layout ($F(1, 115) = 5.08, p = .026$). For recreational shoppers the difference between the spacious and cluttered store layout did not reach significance ($F(1, 115) = 1.98, p = .16$).

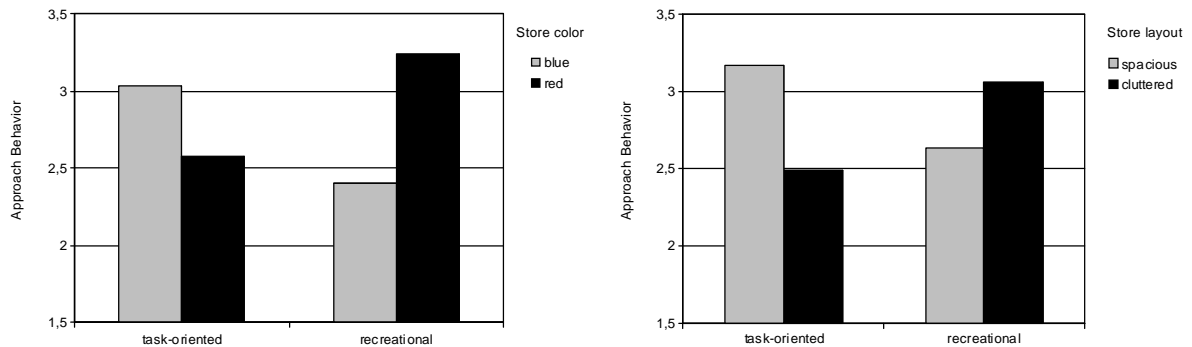


Figure 3. Interaction effects on approach behaviors (left panel: interaction between shopping motivation and store color; right panel: interaction between shopping motivation and store layout).

5.3. Positive and negative affect

Finally, effects of store color, store layout and shopping motivation on the selected items of the positive and negative affect schedule were assessed. With respect to negative affect, the main effects of store color ($F(1, 115) = 4.67, p = .033$) and shopping motivation ($F(1, 115) = 5.65, p = .019$) indicate that, in general, shoppers in the red-colored environment (main effect of color on negative affect) and shoppers with a task-oriented focus (main effect of shopping motivation on negative affect) are susceptible to *nervousness*, *distress* and *irritation*. However, of greater interest is the marginally significant interaction between store layout and shopping motivation on negative affect ($F(1, 115) = 3.06, p = .083$) suggesting that task-oriented shoppers are particularly prone to *nervousness*, *distress* and *irritation* in the cluttered environment (see Figure 4, left panel). The interaction

between color and shopping motivation on negative affect did not reach significance ($F < 1$). With respect to positive effect, a marginally significant interaction between store color and shopping motivation was obtained ($F(1, 115) = 3.01, p = .086$). For recreational shoppers, differences in store color are most pronounced, suggesting that they are more likely to experience *interest*, *inspiration* and *enthusiasm* in the red-colored store environment (see Figure 4, right panel). No other effects were obtained (all F 's < 1). (Note: as the interactions discussed did not reach significance, no pairwise-comparison analyses were conducted).

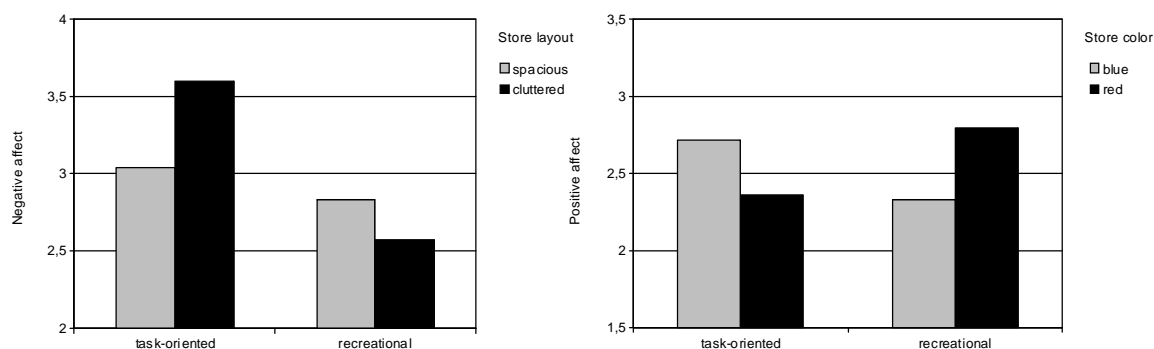


Figure 4. Interaction effects on negative and positive affect (left panel: interaction between shopping motivation and store layout on negative affect; right panel: interaction between shopping motivation and store color on positive affect).

6. General Discussion

The findings reported in this paper stress the relationship between store design and consumers' affective in-store experiences. Most importantly, our findings indicate that effects of store variables vary depending on the goals that consumers entertain upon entering a retail environment. In addition, they suggest that store variables should be distinguished based on whether they actually impact spatial behaviors (e.g., browsing through the store) or whether they primarily affect consumers' sensory perceptions of the store environment (e.g., perceptions of store color). Whereas the former may be referred to as tangible or physical in-store variables, the latter may be labeled atmospheric variables.

Taking note of these distinctions, our findings suggest that task-oriented shoppers are primarily affected by tangible design variables as they most clearly interfere with goal attainment. In other words, since unobstructed movement and (visual) overview are most important for locating a specific product in the store environment, task-oriented shoppers benefit from a well-organized, spacious layout. A cluttered store layout is appraised as an impediment to goal fulfillment and hence triggers negative affect, and in particular those emotions (irritation, distress and nervousness) that result from the combination of an instrumental concern (getting a specific task done) and a design variable appraised as incongruent with this concern [34]. In addition, our findings indicate that for task-oriented shoppers, atmospheric variables that do not have a direct impact on actual behavior (in this study store color) are less influential, thereby confirming that task-oriented shoppers are not interested in non-functional aspects of store design [30], but are not particularly bothered by store atmospherics either.

For recreational shoppers, on the other hand, the pattern is completely reversed. These shoppers (intent on having a good time in an exciting environment) positively respond to atmospherics (in our study color) as they create a store environment that is appraised as exciting and novel, and hence trigger interest and related emotions [34]. In line with this suggestion, our findings indicate that recreational shoppers are particularly prone to experiencing interest, inspiration and enthusiasm in the red-colored store environment. As for store layout, on the other hand, recreational shoppers appear to be somewhat indifferent. Thus, because behaviors of recreational shoppers are not dictated by predefined goals requiring specific actions, obstructions of free movement resulting from store layout are arguably less of a nuisance.

In terms of practical implications, our findings clearly highlight the importance of insight in consumers' shopping motivations in specific retail environments. Of course, one could object that clientele is always mixed with respect to shopping intentions: some customers happen to pass by and enter the store just for fun, or in order to kill time, whereas others visit the store with a specific purchase in mind. Based on our findings, however, the conclusion seems warranted that atmospheric variables (store color) and physical variables (store layout) operate relatively independent from each other. Hence, an improvement of store atmospherics from recreational shoppers' point of view (e.g., more varied and arousing color usage) arguably has little (or at least a less pronounced) impact on affective experiences of task-oriented shoppers. Reversely, a better organized or more spacious store layout is likely to reduce irritation, nervousness and distress of task-oriented shoppers, without taking away (all of) the fun for recreational shoppers.

At this point, we do acknowledge that our data on specific emotions (and the underlying appraisal processes) are preliminary, and that follow-up research is required to substantiate our speculations. In addition, it is of course true that participants in our experiment watched a short video and did not actually browse the store, or were not actually in search of a specific product. However, the usage of videos allowed us to have control over the store variables and extraneous influences such as crowding levels (also influential with respect to perceptions of control and shopping pleasure [6,15]). And although the length of the videos used in the experiment (10 seconds) is not representative of an average shopping trip, it did allow us to capture shoppers' first impressions that are so important when it comes down to the question 'should I stay or should I go?' However, it is of course true that high arousal stimuli that are at first glance entertaining or exciting, for instance, may lead to boredom or irritation in the long run.

Finally, we only addressed two (albeit important) store variables in a specific type of retail environment. Hence, it remains an open question to what extent our findings on store design are generalizable to other retail variables such as music and scent. With respect to the latter, can these also be employed to enrich shopping experiences of recreational shoppers without frustrating task-oriented shoppers? And with respect to store type, to what extent is store atmosphere also important in discount stores, for instance, where customers are generally task-oriented? Awaiting follow-up research addressing these and related questions, in the meantime our findings testify to the importance of store design for creating pleasurable in-store experiences.

7. References

- [1] Pine, B. J., & Gilmore, J. H. (1999). *The Experience Economy: Work is Theatre & Every Business a Stage*. Boston: Harvard Business School Press.
- [2] Verhoef, P. C., Lemon, K. N., Parasuraman, A., Roggeveen, A., Tsiros, M., & Schlesinger, L. A. (2009). Customer experience creation: Determinants, dynamics and management strategies. *Journal of Retailing*, 85(1), 31–41.
- [3] Spangenberg, E. R., Grohmann, B., & Sprott, D. E. (2005). It's beginning to smell (and sound) a lot like Christmas: The interactive effects of ambient scent and music in a retail setting. *Journal of Business Research*, 58(11), 1583-1589.
- [4] Bellizzi, J. A., & Hite, R. E. (1992). Environmental color, consumer feelings, and purchase likelihood. *Psychology & Marketing*, 9(5), 347-363.
- [5] Machleit, K. A., Eroglu, S. A., & Mantel, S. P. (2000). Perceived retail crowding and shopping satisfaction: What modifies this relationship? *Journal of Consumer Psychology*, 9(1), 29-42.
- [6] Van Rompay, T. J. L., Galetzka, M., Pruyn, A. T. H., & Moreno Garcia, J. (2008). Human and spatial dimensions of retail density: Revisiting the role of perceived control. *Psychology & Marketing*, 25(4), 319-335.
- [7] Dijkstra, K., Pieterse, M. E., & Pruyn, A. T. H. (2008). Individual differences in reactions towards color in healthcare environments: The role of stimulus screening ability. *Journal of Environmental Psychology*, 28(3), 268-277.
- [8] Kaltcheva, V. D., & Weitz, B. A. (2006). When should a retailer create an exciting store environment? *Journal of Marketing*, 70(1), 107-118.
- [9] Mehrabian, A., & Russell, J. A. (1974). *An Approach to Environmental Psychology*. Cambridge: MIT Press.
- [10] White, R. (1959). Motivation reconsidered – The concept of competence. *Psychological Review*, 66(5), 297-333.
- [11] Donovan, R. J., & Rossiter, J. R. (1982). Store atmosphere: An environmental psychology perspective. *Journal of Retailing*, 58(1), 34-57.
- [12] Baker, J., Grewal, D., & Levy, M. (1992). An experimental approach to making retail store environmental decisions. *Journal of Retailing*, 68(4), 445-460.
- [13] Donovan, R. J., Rossiter, J. R., Marcoolyn, G., & Nesdale, A. (1994). Store atmosphere and purchasing behavior. *Journal of Retailing*, 70(3), 283-294.
- [14] Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110(1), 145-172.
- [15] Hui, M. K., & Bateson, J. E. G. (1991). Perceived control and the effects of crowding and consumer choice on the service experience. *Journal of Consumer Research*, 18, 175-184.
- [16] Ward, J. C., & Barnes, J. W. (2001). Control and affect: The influence of feeling in control of the retail environment on affect, involvement, attitude, and behavior. *Journal of Business Research*, 54(2), 139-144.

- [17] Norman, D. A. (2005) *Emotional Design: Why We Love (or Hate) Everyday things*. New York: Basic Book.
- [18] Jordan, P. W. (2002). *Designing Pleasurable Products*. New York: Taylor & Francis.
- [19] Berlyne, D. E. (1971). *Aesthetics and Psychobiology*. New York: Appleton-Century-Crofts.
- [20] Sherman, E., Mathur, A. & Smith, R. B. (1997). Store environment and consumer purchase behavior: Mediating role of consumer emotions. *Psychology & Marketing*, 14(4), 361-378.
- [21] Jacobs, K. W., & Suess, J. F. (1975). Effects of four psychological primary colors on anxiety state. *Perceptual and Motor Skills*, 41(1), 207-210.
- [22] Walters, J., Apter, M. J., & Svebak, S. (1982). Color preference, arousal and the theory of psychological reversal. *Motivation and Emotion*, 6(3), 193-215.
- [23] Wexner, L. B. (1954). The degree to which colors (hues) are associated with mood-tones. *Journal of Applied Psychology*, 38(6), 432-436.
- [24] Bellizzi, J. A., Crowley, A. E. & Hasty, R. W. (1983). The effect of color in store design. *Journal of Retailing*, 59(1), 21-45.
- [25] Titus, P. A., & Everett, P. B. (1996). Consumer wayfinding tasks, strategies, and errors: An exploratory field study. *Psychology & Marketing*, 13(3), 265-290.
- [26] Stone, G. P. (1954). City shoppers and urban identification: observations on the social psychology of city life. *American Journal of Sociology*, 60, 36-45.
- [27] Bellenger, D. N., & Korgaonkar, P. K. (1980). Profiling the recreational shopper. *Journal of Retailing*, 56(3), 77-92.
- [28] Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or fun: Measuring hedonic and utilitarian shopping value. *Journal of Consumer Research*, 20, 644-656.
- [29] Gorter, C., Nijkamp, P., & Klamer, P. (2003). The attraction force of out-of-town shopping malls: A case study on run-fun shopping in the Netherlands. *Tijdschrift voor Economische en Sociale Geografie*, 94(2), 219-229.
- [30] Korgaonkar, P. (1981). Shopping orientations of catalog showroom patrons. *Journal of Retailing*, 57(1), 78-90.
- [31] Eroglu, S. A., & Harrell, G. D. (1986). Retail crowding: Theoretical and strategic implications. *Journal of Retailing*, 62(4), 346-363.
- [32] Eroglu, S. A., Machleit, K. A., & Barr, T. F. (2005). Perceived retail crowding and shopping satisfaction: The role of shopping value. *Journal of Business Research*, 58(8), 143-150.
- [33] Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.
- [34] Desmet, P. M. A., & Hekkert, P. (2007). Framework of product experience. *International Journal of Design*, 1(1), 57-66.